FINAL

Groundwater Monitoring Report 2021
Anchorage Fueling and Service Company - Crosstown Pipeline
Arctic Boulevard and Tudor Road Intersection,
Anchorage, Alaska

Prepared For:
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APPROVAL PAGE

This report detailing groundwater monitoring at the Airport Fueling and Service Company's Crosstown Pipeline site located at the intersection of Arctic Boulevard and Tudor Road in Anchorage, Alaska, has been prepared for Menzies Aviation by Ahtna Engineering Services, LLC.

Alaska Department of Environmental Conservation File Number 2100.38.438; Hazard ID 2018

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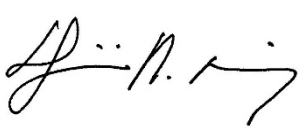

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ACRONYMS AND ABBREVIATIONS

°C .....degrees Celsius
µg/L.....micrograms per liter
AAC .....Alaska Administrative Code
ADEC.....Alaska Department of Environmental Conservation
AFCEE.....Air Force Center for Environmental Excellence
AFSC.....Airport Fueling and Service Company
Ahtna.....Ahtna Engineering Services, LLC
AK.....Alaska Test Method
bgs.....below ground surface
btoc.....below top of casing
CSM .....conceptual site model
CV .....coefficient of variation
DRO .....diesel-range organics
E&E.....Ecology and Environment, Inc
EPA .....United States Environmental Protection Agency
gph.....gallons per hour
GRO .....gasoline-range organics
LNAPL.....light, non-aqueous phase liquids
LV .....low volume
mg/L.....milligrams per liter
M-K.....Mann-Kendall
OASIS.....OASIS Environmental
PAH.....polycyclic aromatic hydrocarbon
SGS .....SGS North America Inc.
SIM .....selected ion monitoring
SVOC.....semivolatile organic compound
SW.....United States Environmental Protection Agency Solid Waste Method
VES .....vacuum enhanced skimming
VOC .....volatile organic compound
VOC-F.....fuel-related volatile organic compound

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1.0 INTRODUCTION

Ahtna Engineering Services, LLC, (Ahtna) has developed this report for Menzies Aviation to detail groundwater monitoring at the Airport Fueling and Service Company's (AFSC's) Crosstown Pipeline site located at the intersection of Arctic Boulevard and Tudor Road in Anchorage, Alaska (Figure 1). Work was conducted to assess current groundwater conditions and water quality at the site. The Alaska Department of Environmental Conservation (ADEC) File Number for the site is 2100.38.438 and the Hazard Identification Number is 2018.

This report provides the site description, brief project history, regulatory framework, project objectives, work performed and site observations, analytical laboratory results, conceptual site model (CSM) summary, and conclusions and recommendations. Appendices include field notes, a completed waste manifest, the complete laboratory report, a data quality review including an ADEC Laboratory Data Review Checklist, a graphical CSM, and ADEC response to comments.

1.1 Background

The following subsections summarize the site location and a brief site history of the AFSC Crosstown Pipeline site.

1.1.1 Site Location

The Crosstown Pipeline project site is located at the intersections of Arctic Boulevard and Tudor Road in Anchorage, Alaska (Figure 1). The work specific to this project is at the northwest corner of the intersection on the southeast corner of the Idle Wheels trailer park (Figure 2).

1.1.2 Site History

Petroleum hydrocarbon impacts beneath the site are a result of a subsurface release of petroleum that originated from a faulty weld in the former Crosstown Pipeline. The pipeline was used to transport Jet A fuel from the Port of Anchorage to Ted Stevens International Airport from 1962 to 1999. In May 2000, approximately 500 feet of the pipeline was excavated and removed (Ecology and Environment, Inc., 2000).

Groundwater monitoring has been conducted at the site since 2001. The light, non-aqueous phase liquid (LNAPL) and dissolved-phase plume have decreased in size over time. The site monitoring wells were last sampled by Ahtna in October 2019 (Ahtna, 2020). Subsurface soil sampling was conducted at the site in June 2021 showing petroleum contaminants to be absent from the soil column from the surface to 30 feet below ground surface (bgs). MW-128 was installed to replace MW-122 that had been destroyed during on site construction activities (Ahtna, report in progress).

A vacuum enhanced skimming (VES) system for recovery of LNAPL operated at the site from 2001 until August of 2009. LNAPL recovery using the system without VES was attempted in 2010. The recovery rate was below 0.001 gallon per hour (gph), which is below the practicable recovery rate of 0.005 gph (OASIS Environmental [OASIS], 2010); therefore, system operations

were ceased. In fall 2017, the aboveground portion of the recovery system, including all the pumps, buildings, and associated piping were removed. In the winter of 2019, an LNAPL transmissivity test was performed at the site on recovery wells RW-1 and RW-115. Results of this test indicated that further product recovery measures were impracticable. Since then, the LNAPL recovery wells and piping have been decommissioned (Ahtna, report in progress).

In the late 2000s, a resident was known to use a drinking water well located at 4303 Cope Street. Based on communication with the Anchorage Water and Wastewater Utility in December 2018, it was confirmed that this house has not been connected to the municipal water system. It is assumed that the drinking well is still in use. However, the impacted groundwater has never posed a direct threat to the water quality at this drinking water well. This drinking water well was sampled in 2009 and no volatile organic compound (VOC) or semivolatile organic compound (SVOC) analytes were detected (OASIS, 2010). The drinking well is not currently monitored (as requested by the resident), but MW-200 acts as a sentinel well between the contamination plume and the drinking water well. MW-200 did not have enough water to sample in 2019, but no analytical exceedances were reported in previous years, indicating the contamination plume does not extend to the drinking well. It should be noted that the drinking water well is not within the same unconfined aquifer monitored at the site. It is in a deeper water bearing zone beneath the Bootlegger Cove formation, a low permeability, silty/clayey unit in this area.

1.2 Regulatory Framework

Based on the petroleum product released and previous groundwater sampling conducted, the contaminants of concern for this site are gasoline-range organics (GRO), diesel-range organics (DRO), polycyclic aromatic hydrocarbons (PAHs), and fuel-related volatile organic compounds (VOC-Fs).

Groundwater sample concentrations were evaluated against Alaska Administrative Code (AAC) Title 18 Chapter 75.345 (18 AAC 75.345), Table C (ADEC, 2021). Groundwater cleanup levels are provided in the attached analytical results tables. Table 1-1 provides the project cleanup levels.

TABLE 1-1: PROJECT GROUNDWATER CLEANUP LEVELS

Analyte	Laboratory Method	Groundwater Cleanup Level [1] (µg/L)
GRO	AK101	2,200
DRO	AK102 LV	1,500
Benzene	VOC-F SW 8260C	4.6
Toluene		1,100
Ethylbenzene		15
Total Xylenes	VOC-F SW 8260C (continued)	190
n-Butylbenzene		1,000
sec-Butylbenzene		2,000

Analyte	Laboratory Method	Groundwater Cleanup Level [1] (µg/L)
tert-Butylbenzene		690
1,2-Dibromoethane		0.075
1,2-Dichloroethane		1.7
Isopropylbenzene (Cumene)		450
Methyl-t-butyl ether		140
Naphthalene		1.7
1,2,4-Trimethylbenzene		56
1,3,5-Trimethylbenzene		60
Acenaphthene	PAH SW 8270D-SIM LV	530
Acenaphthylene		260
Anthracene		43
Benzo(a)anthracene		0.30
Benzo(a)pyrene		0.25
Benzo(b)fluoranthene		2.5
Benzo(g,h,i)perylene		0.26
Benzo(k)fluoranthene		0.8
Chrysene		2.0
Dibenzo(a,h)anthracene		0.25
Fluoranthene		260
Fluorene		290
Indeno(1,2,3-cd)pyrene		0.19
Naphthalene		1.7
1-Methylnaphthalene		11
2-Methylnaphthalene		36
Phenanthrene		170
Pyrene		120

Notes:
[1] 18 AAC 75.345, Table C (ADEC, 2021)

Key:
µg/L micrograms per liter
AAC Alaska Administrative Code
AK Alaska Test Method
DRO diesel-range organics
EPA United States Environmental Protection Agency
GRO gasoline-range organics
LV low volume
PAH polycyclic aromatic hydrocarbon
SIM selected ion monitoring
SW United States Environmental Protection Agency Solid Waste Method
VOC-F fuel-related volatile organic compound

Analytical laboratory reporting limits met or were below project cleanup levels for all analytes.

1.3 Responsible Party

AFSC, operated by Menzies Aviation, is the responsible party for the petroleum impacts associated with this site. The Menzies project manager is Laurie Butler.

1.4 Project Objectives

The objectives of this project are as follows:

- Assess the current site hydrogeologic regime.
- Update current impacts to groundwater quality at the site.

2.0 WORK PERFORMED

This project was managed and executed by Ahtna on behalf of Menzies. The project manager and field scientists performing the sampling meet the definition of "qualified environmental professionals" as per 18 AAC 75 (ADEC, 2021). All fieldwork and laboratory analyses were performed in accordance with 18 AAC 75 and the ADEC *Field Sampling Guidance* (ADEC, 2019).

Groundwater monitoring and sampling activities were conducted on September 14 and 15, 2021, to assess current groundwater quality at the site and to monitor LNAPL thicknesses. Work was conducted in accordance with the September 2021 ADEC-approved work plan (Ahtna, 2021), with exception to the deviations listed in Section 2.6. Field notes are provided in Appendix A.

2.1 Groundwater/LNAPL Measurement and Observations

The groundwater/LNAPL survey was conducted on September 14, 2021. Ahtna measured static groundwater elevations and/or LNAPL thickness in eight monitoring wells (MW-30, MW-123, MW-124, MW-125, MW-126, MW-127, MW-128, and MW-200) and one recovery well (RW-1).

Measured groundwater elevations for this event are provided in Table 1. Groundwater depths ranged from 30.35 feet below top of casing (btoc) in well RW-1 to 32.76 feet btoc in wells MW-126 and MW-200. Figure 4 presents the inferred groundwater contours for September 14, 2021. Groundwater flow direction is to the northwest (Figure 3).

LNAPL was observed in well RW-1 at 30.13 feet btoc. LNAPL was not present in any other well. RW-1 had a strong hydrocarbon odor, and MW-126 had a slight hydrocarbon odor.

The groundwater elevation data in all wells with LNAPL was corrected using the specific gravity of 0.815 for fuel.

2.2 Groundwater Sampling

Groundwater sampling was performed on September 14 and 15, 2021. Prior to sampling, water was purged using low-flow (minimal drawdown) techniques that included a stainless-steel submersible bladder pump and flow-through cell. Water was purged at a rate of 100 milliliters per minute at all seven monitoring wells. The purge water color in all wells was clear, light brown, or gray. Purging continued until groundwater parameters stabilized in accordance with ADEC *Field Sampling Guidance* (ADEC, 2019). Purge water at MW-125 had a slight hydrocarbon odor, but no visible sheen. All other monitoring wells had no odor and no visible sheen.

Groundwater samples were collected from monitoring wells MW-123, MW-124, MW-126, and MW-127 on September 14, 2021, and from monitoring wells MW-30, MW-125, and MW-128 on September 15, 2021.

2.3 Sample Handling

All samples collected during the field event were hand delivered to SGS North America Inc. (SGS) located in Anchorage, Alaska. All samples were placed in a cooler with sufficient gel ice to maintain sample temperatures at 4 degrees Celsius (°C) (plus or minus 2°C) until delivery to the project laboratory under standard chain-of-custody procedures. A trip blank accompanied each cooler containing volatile samples; a temperature blank was also included in each cooler.

2.4 Investigation-Derived Waste

All product and purge water produced during the sampling event was placed into a drum staged at the site. Upon completion of sampling activities, the drum was delivered to US Ecology in Anchorage, Alaska, for disposal. A copy of the waste manifest is provided in Appendix B.

2.5 Site Survey

On September 15, 2021, a level loop survey of monitoring wells MW-123, MW-125, RW-1, and MW-128 was performed by Ahtna. Elevations were determined to the nearest 0.01 foot.

2.6 Deviations from Work Plan

A sample was not collected from monitoring well MW-200 due to insufficient recharge after purging.

At well MW-125, the 1.75-inch bladder pump became stuck at around 28 feet btoc and was covered in bentonite and small pieces of gravel. The 1.75-inch bladder pump was ultimately removed, and a smaller-diameter pump was used to collect a primary and duplicate sample.

3.0 ANALYTICAL RESULTS

Analytical results for the sampling event are summarized in Tables 2 & 3. Historical cumulative analytical data is presented in Table 4. The analytical report is provided in Appendix C and the associated data quality review and ADEC Laboratory Data Review Checklist is provided in Appendix D.

3.1 Groundwater Results

DRO was detected in all samples collected during the 2021 sampling event, however only samples collected from MW-125, MW-126, and MW-128 contained DRO concentrations exceeding the ADEC cleanup level (1.5 milligrams per liter [mg/L]) with results of 10.2 mg/L, 1.55 mg/L, and 3.28 mg/L, respectively.

PAHs were detected in all samples collected during the 2021 sampling event with the exception of the sample collected from MW-126, however all PAH concentrations were less than their respective ADEC groundwater cleanup levels.

Additionally, VOC-Fs were detected in MW-30 and MW-125. All concentrations of VOC-Fs were less than their respective ADEC groundwater cleanup levels in MW-30. Benzene was detected at a concentration above its cleanup level (4.6 micrograms per liter [µg/L]) in MW-125 at 11.2 µg/L.

3.2 Data Quality Review

A review of laboratory data quality along with an ADEC Laboratory Data Review Checklist is provided in Appendix D and is summarized in this section. The data quality review includes a review, where appropriate, of the following parameters:

- Chain-of-custody and sample receipt conditions
- Holding times and preservation
- Analytical reporting limits (limits of quantitation and limits of detection)
- Blank analysis results
- Surrogate recoveries (organics only)
- Field duplicates
- Laboratory control sample/laboratory control sample duplicate results
- Matrix spike and matrix spike duplicate results

Each analysis that was performed is evaluated in the following sections, and only the criteria exceedances that impact data qualification or require assessment beyond laboratory documentation are discussed.

All data necessary to complete this review were provided. Based on the data review completed, minimal data were qualified, no data were rejected, and the project completeness goal was met. All samples were collected in accordance with the work plan (Ahtna, 2021) and considered

representative of site conditions. All analytical data are considered usable for the purpose of evaluating the presence or absence and magnitude of the suspected site contaminants.

3.3 Mann-Kendall Trend Analyses

To evaluate the stability of the petroleum hydrocarbon plume at the site, Ahtna has previously performed a trend analysis using the historical monitoring results for DRO (the only regular analytical detection). The analytical data were compared to historical data using the non-parametric Mann-Kendall (M-K) test (Gilbert, 1987) to analyze whether concentrations of DRO exhibit an increasing or decreasing trend over time in each well. The M-K test compares a later-measured value to each earlier-measured value and assigns the integer value of -1, 0, or 1, indicating that the later value is lower, equal, or higher than each earlier value. The M-K test does not assume a distribution and is resistant to the influence of outliers. Data from November 2007 through September 2021 were used for the analysis. This data range was selected because older data had higher concentrations likely due to the presence of LNAPL. These high LNAPL concentrations are not representative of the dissolved-phase concentration and bias the M-K analysis toward a negative trend, thus providing an accurate representation of the dissolved-phase contaminant trend. The M-K analysis was calculated for MW-125 and MW-126 for this event. A summary for each well is provided as follows:

- MW-125 – Historically, MW-125 has continuously exceeded cleanup levels for DRO. M-K data-trend analysis was performed using DRO concentrations from the past 14 sampling events and has been found to indicate a stable trend in DRO concentrations over time.
- MW-126 – Recently, DRO has been either not detected, or detected at concentration below the cleanup level in this well. However, DRO was detected just above the cleanup level during the 2019 and 2021 sampling events. M-K data-trend analysis was performed using DRO concentrations from the past 14 sampling events and has been found to indicate that there is no trend in DRO concentrations over time.

The M-K test assumes the null hypothesis of no trend unless the data indicate the alternative. Ahtna selected a significance level of $\alpha = 0.10$, or 10%. If the probability (p) of obtaining the computed M-K statistic (S) is less than 0.10 (or 10%), the confidence level is greater than 90%. If $p < 0.10$, the null hypothesis is rejected and there is evidence to conclude that constituent "x" in well point "y" exhibits a trend. If the probability of obtaining S is greater than 0.10 ($p > 0.10$), then the confidence level is less than 90% and the null hypothesis is not rejected. If the confidence level is greater than 90%, then the sign of the S value indicates the trend direction, with a positive S value indicating an increasing trend and a negative S value indicating a decreasing trend.

The coefficient of variation (CV) was computed to determine the stability of the contaminant regardless of the trend. The CV value identifies the degree of variation in concentration between sampling events and is defined as the sample standard deviation divided by the sample mean. The lower the value of the CV, the less variation exists and the more stable the concentration is in the well. Ahtna assigned a benchmark CV value of 1 based on Table 3.2 in the Air Force Center for

Environmental Excellence (AFCEE) document *Designing Monitoring Programs to Effectively Evaluate the Performance of Natural Attenuation* (AFCEE, 2000). For a negative S value with a confidence level of < 90%, a CV less than 1 (CV < 1) indicates that the concentration at that location is stable, and CV > 1 indicates no trend.

The results of the regression analysis and the M-K test for DRO concentrations in MW-125 and MW-126 are presented in Tables 5 and 6, respectively. Also included is a table providing the M-K confidence levels for various sample sizes and S values (Table 7). The table shows the range of confidence levels that have been calculated using S values and sample size. If the S value and sample size falls in the blue shaded area, then the confidence level is greater than 90% and the concentration exhibits a trend at that location.

Results of the M-K trend analysis indicate a stable concentration trend in MW-125 and no trend in MW-126. The confidence levels for both wells were less than 90%, and the CVs were less than 1. These analyses suggest that the dissolved-phase DRO plume is stable. Variations in analytical results are expected because changing groundwater elevations can affect LNAPL plume configuration, and groundwater levels generally increased since monitoring began in 2001 until 2017, followed by an observed drop in groundwater elevations since 2017. Figure 4 provides monitoring well locations in relation to the inferred dissolved-phase DRO plume.

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4.0 CONCEPTUAL SITE MODEL

As stated by ADEC in the *Guidance on Developing Conceptual Site Models* (ADEC, 2017), the purpose of a CSM is to show the current and potential spread of contamination in the environment and is considered a critical step in the cleanup process. As part of moving this site toward eventual closure, a CSM was generated in accordance with ADEC guidance for this report. A graphic depiction of the CSM is included in Appendix E. This section summarizes the updated CSM.

4.1 Sources and Release Mechanisms

A release of jet fuel from an AFSC pipeline, which is now properly plugged and abandoned is the source of contamination at this site.

4.2 Contaminants of Potential Concern

Based on the petroleum product released and groundwater sampling conducted, the contaminants of concern for this site have historically been GRO, DRO, PAHs, and VOC-Fs. Sampling results for 2021 indicate the primary contaminants of concern in groundwater are DRO and benzene.

4.3 Impacted Media

Groundwater is considered the medium directly impacted for the purposes of this CSM. Although not covered in this report, recent soil sampling at this site showed no petroleum-impacted soil to be present above 30 feet bgs.

4.4 Potential Receptors

Potential receptors at this site include adult or child residents, site visitors and trespassers, and construction and commercial workers.

4.5 Exposure Media Pathways

Exposure pathways include direct contact, ingestion, and inhalation. Each pathway is described in the following subsections in relation to the contaminated groundwater.

4.5.1 Direct Contact

According to ADEC's CSM Guidance Document (ADEC, 2017), incidental soil ingestion is considered complete if contaminants are present in surface soil between 0 and 2 feet bgs and subsurface soil (2–15 feet bgs). Contaminants are not present in soil above 30 feet bgs. For this reason, incidental soil ingestion is considered incomplete.

Dermal absorption of contaminants from soil is considered complete when contaminants in the soil can permeate the skin and reach the blood stream. Recent soil sampling at the site showed no impacted soil above 15 feet bgs. For this reason, dermal absorption of contaminants is incomplete.

4.5.2 Ingestion

Ingestion of groundwater is considered a complete pathway if contaminants have been detected in the groundwater or if the potentially affected groundwater is used as a current or future drinking water source (ADEC, 2017). Groundwater is considered a potential future drinking water source unless ADEC has determined the groundwater is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350 (ADEC, 2021). Contaminants have been detected in the groundwater. The contamination plume appears stable and analytical results have demonstrated the impacted groundwater has never posed a threat to water quality at the drinking well located at 4303 Cope Street. Ingestion of groundwater is considered a potentially complete pathway.

There is no surface water at or near the site, so ingestion of surface water is considered an incomplete pathway.

Ingestion of wild and farmed foods is considered an incomplete pathway. None of the contaminants that have been detected in the groundwater have the potential to bioaccumulate (ADEC, 2017; Appendix C) and the urban nature of the site is not conducive to gathering or cultivating wild or farmed foods. Additionally, because the groundwater level is approximately 30 feet bgs, biota does not have potential to take up contaminants.

4.5.3 Inhalation

Inhalation of outdoor air is considered an incomplete pathway because contaminants are not present in surface soil between 0 and 15 feet bgs.

Inhalation of indoor air is considered complete but insignificant. Buildings have the potential to be within 30 horizontal or vertical feet from impacted soils or groundwater. The soil/groundwater contamination located at a depth of 28 to 32 feet bgs below potential site buildings makes impacts to indoor air unlikely.

4.5.4 Additional Exposure Pathways

Contaminants have been detected in the groundwater. The contamination plume appears stable and analytical results have demonstrated the impacted groundwater has never posed a threat to water quality at the drinking well located at 4303 Cope Street. The dermal absorption pathway is considered complete but insignificant.

Inhalation of volatile compounds in tap water is considered a potentially complete pathway because of the drinking water wells to the northwest of the site. Inhalation of fugitive dust is considered an incomplete pathway. The top 2 centimeters of soil are not contaminated and therefore do not pose a direct threat to air quality. Direct contact with sediment is considered an incomplete pathway because there is no sediment at the site.

5.0 CONCLUSIONS AND RECOMONDATIONS

LNAPL was detected in recovery well RW-1 in 2021. The dissolved-phase DRO plume continues to be present in and around MW-125 and MW-126 and is present in new monitoring well MW-128. The DRO level observed in MW-125 was in the range of previously observed concentrations. Benzene is also present above the cleanup level in MW-125. The sentinel well, MW-200, for the Cope Street (northwestern most) drinking water well was not able to be sampled due to low water levels.

Figure 4 depicts the September 2021 configuration of inferred LNAPL and dissolved-phase petroleum plumes. Figure 4 also demonstrates that the dissolved-phase DRO plume has not migrated past monitoring well MW-127. Monitoring well MW-127 is between the plume and the Cope Street drinking water well. The impacted groundwater has never posed a direct threat to water quality at the drinking water well located downgradient of the site.

GRO, PAHs, and VOC-Fs (except for benzene in MW-125) remain below cleanup levels in all wells.

In 2021, sampling activities continued to support the development of an appropriate path forward toward eventual site closure. The CSM was updated and demonstrated that this site does not pose an unacceptable risk to human health or the environment.

Sampling of all monitoring wells at the site should continue to be conducted on at least a biennial basis to ensure plume configuration does not significantly changed and to ensure no contaminants are migrating toward the drinking water well on Cope Street. Prior to sampling, MW-125 should be inspected for damage to assess why bentonite was present within the well casing.

In addition, a plan for the mitigation of the remaining petroleum contaminants in groundwater should be formulated and implemented.

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6.0 REFERENCES

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TABLES

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TABLE 1: GROUNDWATER ELEVATION AND LNAPL MEASUREMENTS
AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR
GROUNDWATER MONITORING REPORT 2021

Location	Date	Well Elevation (TOC)	Depth from Well TOC			Screened Interval (ft bgs)	LNAPL Thickness		GW Elevation [5]
			To Product (ft)	To Water (ft)	Total Depth (ft)		Apparent[3]	Actual (Estimated)[4]	
MW-30	9/14/2021	140.23	-	30.45	39.4	25-40[1]	-	-	109.78
MW-123	9/14/2021	137.32	-	30.89	34.0	29-44[1]	-	-	106.43
MW-124	9/14/2021	138.19	-	31.56	36.7	29-44[1]	-	-	106.63
MW-125	9/14/2021	138.16	-	31.56	36.7	28-43[1]	-	-	106.60
MW-126	9/14/2021	139.37	-	32.67	42.6	28-43[1]	-	-	106.70
MW-127	9/14/2021	139.28	-	32.76	39.6	28-43[1]	-	-	106.52
MW-128	9/14/2021	138.76	-	32.15	37.8	28-38	-	-	106.61
MW-200	9/14/2021	137.91	-	32.76	34.7	25-35[2]	-	-	105.15
RW-1	9/14/2021	139.43	30.13	30.35	37.8	28-38[1]	0.22	0.04	109.26

Note: All measurement units are feet.

[1] Interval of monitoring well screen obtained from *Site Characterization Report Crosstown Pipeline* prepared by Ecology and Environment, Inc. in November 2002.

[2] Interval of monitoring well screen obtained from *2013 Final Fall Groundwater Monitoring Report* prepared by Ahtna Engineering Services, LLC in May 2014.

[3] Apparent thickness is defined as the thickness of floating product measured in the well via interface probe.

[4] Actual thickness provides a reasonable estimate of product thickness in the surrounding formation. This value is calculated by applying a site-specific correction factor (0.2) to the product thickness measured in the well (i.e., apparent thickness).

[5] Specific gravity of 0.815 for fuel used for calculation of groundwater elevation in wells with LNAPL.

Key:

AFSC - Airport Fueling and Service Company
bgs - below ground surface
ft - feet
GW - groundwater
LNAPL - light non-aqueous phase liquids
MW - monitoring well
NC - not calculated
NM - not measured
RW - recovery well
TOC - top of casing

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TABLE 2: ANALYTICAL RESULTS GRO AND VOC-F
AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR
GROUNDWATER MONITORING REPORT 2021

Method	Analyte	ADEC Groundwater Cleanup Level	Sample Name	AT-21-MW-123	AT-21-MW-124	AT-21-MW-125	AT-21-MW-925	AT-21-MW-126	AT-21-MW-127	AT-21-MW-128	AT-21-MW-30	AT-TB-091421
			Sample Date	9/14/2021	9/14/2021	9/15/2021	9/15/2021	9/14/2021	9/14/2021	9/15/2021	9/15/2021	9/14/2021
			Location	MW-123	MW-124	MW-125	MW-125 Duplicate	MW-126	MW-127	MW-128	MW-30	Trip Blank
			Units									
AK Fuel Method												
AK101	Gasoline Range Organics	2.2	mg/L	0.0500 U	0.0500 U	**0.125**	**0.121**	0.0500 U	0.0500 U	**0.0522 J**	**0.0451 J**	0.0500 U
VOC-F												
SW8260D	1,2,4-Trimethylbenzene	56	ug/L	0.500 U	0.500 U	**1.42**	**1.35**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
	1,2-Dibromoethane	0.075	ug/L	0.0375 U	0.0375 U	0.0375 U	0.0375 U	0.0375 U	0.0375 U	0.0375 U	0.0375 U	0.0375 U
	1,2-Dichloroethane	1.7	ug/L	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U	0.250 U
	1,3,5-Trimethylbenzene	60	ug/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
	Benzene	4.6	ug/L	0.200 U	0.200 U	**11.2**	**10.5**	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
	Isopropylbenzene (Cumene)	450	ug/L	0.500 U	0.500 U	**1.89**	**1.73**	0.500 U	0.500 U	0.500 U	**1.23**	0.500 U
	Ethylbenzene	15	ug/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
	Methyl-t-butyl ether	140	ug/L	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U	5.00 U
	Naphthalene	1.7	ug/L	0.500 U	0.500 U	**0.550 J QN**	**0.760 J QN**	0.500 U	0.500 U	0.500 U	**0.570 J**	0.500 U
	n-Butylbenzene	1000	ug/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**0.390 J**	0.500 U
	sec-Butylbenzene	2000	ug/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**1.79**	0.500 U
	tert-Butylbenzene	690	ug/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
	Toluene	1100	ug/L	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
	P & M -Xylene	-	ug/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
	o-Xylene	-	ug/L	0.500 U	0.500 U	**0.760 J**	**0.730 J**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
	Xylenes (total)	190	ug/L	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U

Notes:
Detected results are **bolded**.
Results greater than ADEC cleanup levels are **underlined & shaded.**
Cleanup levels from 18 AAC 75.345, Table C

Key:
"-" - Not applicable
µg/L = micrograms per liter
AAC - Alaska Administrative Code
ADEC - Alaska Department of Environmental Conservation
AFSC - Airport Fueling and Service Company
AK - Alaska Test Method
DRO - diesel-range organics
J - analyte detected below reporting limit
ND = non-detect
GRO - gasoline-range organics
mg/L = milligrams per liter
MW - Monitoring well
QN - result qualified as estimated with unknown bias due to duplicate precision
SW - United States Environmental Protection Agency Solid Waste Method
U - analyte not detected at reporting limit
VOC-F - fuel-related volatile organic compounds

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TABLE 3: ANALYTICAL RESULTS DRO AND PAH
AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR
GROUNDWATER MONITORING REPORT 2021

Method	Analyte	ADEC Groundwater Cleanup Level	Units	Sample Name	AT-21-MW-123	AT-21-MW-124	AT-21-MW-125	AT-21-MW-925	AT-21-MW-126	AT-21-MW-127	AT-21-MW-128	AT-21-MW-30
				Sample Date	9/14/2021	9/14/2021	9/15/2021	9/15/2021	9/14/2021	9/14/2021	9/15/2021	9/15/2021
				Location	MW-123	MW-124	MW-125	MW-125 Dup	MW-126	MW-127	MW-128	MW-30
AK Fuel Method												
AK102 LV	Diesel Range Organics	1.5	mg/L		**0.387 J**	**0.679**	**10.2**	**9.96**	**1.55**	**0.328 J**	**3.28**	**0.469 J**
PAH												
8270D SIM LV	1-Methylnaphthalene	11	ug/L		0.0255 U	0.0245 U	**0.223**	**0.212**	0.0250 U	0.0250 U	0.0250 U	**0.0239 J**
	2-Methylnaphthalene	36	ug/L		0.0255 U	**0.0177 J**	0.0255 U	0.0250 U	0.0250 U	0.0250 U	**0.0386 J**	**0.0144 J**
	Acenaphthene	530	ug/L		0.0255 U	0.0245 U	0.0255 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	**0.0524**
	Acenaphthylene	260	ug/L		0.0255 U	0.0245 U	0.0255 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0232 U
	Anthracene	43	ug/L		0.0255 U	0.0245 U	0.0255 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0232 U
	Benzo(a)anthracene	0.3	ug/L		0.0255 U	0.0245 U	0.0255 U QL	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0232 U
	Benzo[a]pyrene	0.25	ug/L		0.0102 U	0.00980 U	0.0102 U QL	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.00925 U
	Benzo[b]fluoranthene	2.5	ug/L		0.0255 U	0.0245 U	0.0255 U QL	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0232 U
	Benzo[g,h,i]perylene	0.26	ug/L		0.0255 U	0.0245 U	0.0255 U QL	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0232 U
	Benzo[k]fluoranthene	0.8	ug/L		0.0255 U	0.0245 U	0.0255 U QL	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0232 U
	Chrysene	2	ug/L		0.0255 U	0.0245 U	0.0255 U QL	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0232 U
	Dibenzo[a,h]anthracene	0.25	ug/L		0.0102 U	0.00980 U	0.0102 U QL	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.00925 U
	Fluoranthene	260	ug/L		0.0255 U	0.0245 U	0.0255 U QL	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0232 U
	Fluorene	290	ug/L		0.0255 U	0.0245 U	0.0255 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	**0.0419 J**
	Indeno[1,2,3-c,d] pyrene	0.19	ug/L		0.0255 U	0.0245 U	0.0255 U QL	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0232 U
	Naphthalene	1.7	ug/L		0.0510 U	0.0490 U	0.0510 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	**0.124**
	Phenanthrene	170	ug/L		**0.0187 J B**	**0.0237 J B**	0.0255 U	0.0250 U	0.0250 U	**0.0158 J B**	**0.0169 J B**	0.0232 U
	Pyrene	120	ug/L		0.0255 U	0.0245 U	0.0255 U QL	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0232 U

Notes:
Detected results are **bolded**.
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Cleanup levels from 18 AAC 75.345, Table C

Key:
"-" - Not applicable
µg/L = micrograms per liter
AAC - Alaska Administrative Code
ADEC - Alaska Department of Environmental Conservation
AFSC - Airport Fueling and Service Company
AK - Alaska Test Method
B- result qualified as estimated with high bias due to blank contamination
DRO - diesel-range organics
J - analyte detected below reporting limit
ND = non-Detect
GRO - gasoline-range organics
LV - low volume
mg/L = milligrams per liter
MW - monitoring well
PAH - polycyclic aromatic hydrocarbon
QL - result qualified as estimated with low bias due to surrogate recovery
SIM - selected ion monitoring
U - analyte not detected at reporting limit

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TABLE 4: CUMULATIVE GROUNDWATER ANALYTICAL RESULTS, 2001 - 2021

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR
GROUNDWATER MONITORING REPORT 2021

Sample Location (Well Status):	Sample Number	Sample Date	DRO (mg/L)	GRO (mg/L)	BTEX (mg/L)				PAH (µg/L)											VOC-F (µg/L)									
					Benzene	Toluene	Ethylbenzene	Total Xylenes	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Benzo(a)Anthracene	Benzo[a]pyrene	Benzo[b]Fluoranthene	Benzo[g,h,i]perylene	Chrysene	Fluoranthene	Fluorene	Indeno[1,2,3-c,d]pyrene	Naphthalene	Pyrene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Chloromethane	Dichlorodifluoromethane	Cumene	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	tert-Butylbenzene
	ADEC Groundwater Cleanup Levels:		*1.5*	*2.2*	*0.0046*	*1.1*	*0.015*	*0.19*	11	36	530	0.12	0.034	0.34	0.26	2	260	290	0.19	1.7	120	15	120	--	190	200	450	1.7	1000		2000	690
MW-4 (Status Unknown)	160-GW	6/24/2001	2.31	0.49 J	0.0006 J	(0.002) U	0.042 J	0.033 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	038-WA	2/2/2002	7.32	0.90	0.0007	(0.002) U	0.076	0.074	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	112-GW	4/24/2002	1.15	0.60	0.0008	(0.002) U	0.067	0.056	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	330-GW	7/9/2002	1.57	0.42 J	0.0006 J	(0.0005) U	0.042 J	0.033 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	429-GW	10/1/2002	1.79	0.22	0.518	(0.0005) U	0.020	0.014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	214-GW	4/21/2003	2.62	0.30	0.0006	(0.0005) U	0.040	0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	304-GW	9/23/2003	3.85	0.07	0.0006	(0.0005) U	0.027	0.024	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	111-GW	4/29/2004	5.12	0.26	0.0006	(0.0005) U	0.038	0.030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	206-GW	12/8/2004	0.75	0.28 J	(0.0005) U	(0.0005) U	0.039 J	0.038 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	118-GW	4/7/2005	1.25	0.21	(0.0005) U	(0.0005) U	0.035	0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	213-GW	10/11/2005	3.1	0.48 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	108-GW	4/27/2006	8.52	0.53	(0.0005) U	(0.0005) U	0.053	0.091	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	211-GW	9/28/2006	3.64	0.71	(0.0005) U	0.000966	0.056	0.123	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	112-GW	4/18/2007	2.67	0.72	(0.0005) U	(0.0005) U	0.059	0.107	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	203-GW	10/31/2007	4.49	0.68	(0.0005) U	(0.0005) U	0.067	0.134	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	112-GW	6/18/2008	1.65	0.51	(0.0005) U	(0.0005) U	0.058	0.124	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	112-GW	9/30/2008	0.74	0.23	(0.0005) U	(0.0005) U	0.034	0.059	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-110	8/28/2009	0.79	0.74	(0.0005) U	(0.0005) U	0.034	0.058	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-4	7/14/2010	0.53	0.36	(0.001) U	(0.001) U	0.027	0.043	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-4-01-GW	6/17/2011	0.59 J	0.48	(0.0005) U	0.0085	0.033	0.084	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW4-12	8/6/2012	1.73 J	0.35	(0.0005) U	(0.001) U	0.023	0.052	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-MW4	7/2/2013	1.05	0.223	(0.0005) U	0.0014	0.031	0.048	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW4	9/2/2014	0.52	0.26	(0.0005) U	0.00084	0.022	0.052	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW201 (dup)	9/2/2014	0.5	0.27	(0.0005) U	0.00093	0.022	0.051	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7 (Decommissioned in 2015)	102-GW	3/15/2001	(0.11) U	(0.067) U	(0.001) U	(0.001) U	(0.001) U	(0.0032) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	147-GW	6/20/2001	(0.5) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	191-GW	9/26/2001	(0.495) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	041-WA	2/2/2002	(0.5) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.004) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	102-GW	4/23/2002	(0.5) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	318-GW	7/8/2002	0.13	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	411-GW	9/28/2002	(0.1) R	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	204-GW	4/17/2003	0.11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	301-GW	9/23/2003	(0.32) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	105-GW	4/29/2004	(0.5) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	202-GW	12/7/2004	(0.4) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	113-GW	4/6/2005	(0.4) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	207-GW	10/11/2005	(0.4) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	104-GW	4/27/2006	(0.394) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	208-GW	9/28/2006	(0.397) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	105-GW	4/18/2007	(0.435) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	105-GW	6/18/2008	(0.391) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	105-GW	9/30/2008	(0.397) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-104	8/28/2009	(0.385) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-8 (Decommissioned in 2013)	112-GW	3/16/2001	(0.11) U	(0.067) U	(0.001) U	(0.001) U	(0.001) U	(0.0032) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	412-GW	9/28/2002	(0.1) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	208-GW	4/18/2003	0.161	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	301GW	8/1/2003	(0.05) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	302-GW	9/23/2003	(0.320 U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	107-GW	4/24/2004	(0.05) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	203-GW	12/7/2004	(0.4) U	(0.08) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	114-GW	4/6/2005	(0.4) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	208-GW[2]	10/11/2005	0.47	(0.08) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	105-GW	4/27/2006	(0.397) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	209-GW	9/28/2006	(0.400 U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	106-GW	4/18/2007	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	106-GW	6/18/2008	(0.417) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	106-GW	9/30/2008	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-105	8/28/2009	0.43	(0.0500) U	(0.0005) U	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-10 (Lost since 2012, believed to be destroyed)	204-GW	10/31/2007	29.9	1.29 J	(0.0005) U	(0.0005) U	0.064	0.211	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-30 (Active)	110-GW	3/15/2001	0.19 J	(0.067) U	(0.001) U	(0.001) U	(0.001) U	(0.0032) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	161-GW	6/24/2001	(0.532) U	(0.09) U	(0.0005) U	(0.0002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	200-GW	10/2/2001	(0.495) U	0.131	(0.0005) U	(0.0002) U	(0.002) U	(0.00443) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	105-GW	4/24/2002	(0.505) U	(0.09) U	(0.0005) U	0.0021	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	324-GW	7/8/2002	0.13	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	427-GW	10/1/2002	0.12	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	212-GW	4/19/2003	(0.1) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	306-GW	9/23/2003	(0.32) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	102-GW	4/24/2004	(0.05) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	208-GW	12/9/2004	(0.4) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	120-GW	4/7/2005	(0.4) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	204-GW	10/11/2005	(0.417) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	101-GW	4/26/2006	(0.391) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	218-GW	9/28/2006	0.47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	108-GW	4/18/2007	(0.4) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	202-GW	10/31/2007	(0.417) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	103-GW	6/17/2008	(0.391) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	103-GW	9/30/2008	(0.397) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-101	8/27/2009	(0.388) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-30	7/14/2010	(0.41) U	(0.50) U	(0.001) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-30-01-GW	6/16/2011	(0.42) U, J	(0.50) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW30-12	8/6/2012	(0.42)	(0.05) U	(0.0005)	(0.001)	(0.001)	(0.003)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-MW30	7/2/2013	(0.40) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW30	9/2/2014	(0.39) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW30	7/31/2015	(0.40) U	0.058	(0.0005) U	(0.0005) U	0.0015	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-17-MW-30	10/5/2017	(0.349) U	0.0349 J	(0.0002) U	(0.0005) U	0.00034	(0.0015) U	(0.0277) U	(0.0277) U	0.0948	(0.0277) U	(0.0111) U	(0.0277) U	(0.0277) U	(0.0277) U	(0.0277) U	0.0677	(0.0277) U	(0.0555) U	(0.0277) U	0.41 J	(0.500) U	3.2	(0.500) U	(0.500) U	3.33	(0.500) U	(0.500) U	7.46	2.5	(0.500) U
	A-T-18-MW-30	8/13/2018	0.349	(0.00005) U	(0.0002) U	(0.0005) U	0.00047	(.0015) U	(0.0250) U	(0.0250) U	0.136	(0.0250) U	(0.0100) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	0.0998	(0.0250) U	0.149	(0.0250) U	0.94	0.64	NA	NA	NA	NA	4.61	(0.500) U	1.43	NA	4.17	0.38
	A-T-19-MW-30	10/14/2019	0.352 J	(0.05) U	(0.0002) U	(0.0005) U	0.00041 J	(.0015) U	(0.0261) U	(0.0261) U	0.0850	(0.0261) U	(0.0104) U	(0.0261) U	(0.0261) U	(0.0261) U	(0.0261) U	(0.0261) U	(0.0261) U	(0.0520) U	(0.0261) U	0.520 J	(0.500) U	NA	NA	NA	NA	4.19	(0.500) U	1.29	NA	4.16	0.370 J
	AT-21-MW-30	9/14/2021	0.469 J	0.0451 J	(0.002) U	(0.005) U	(0.005) U	(0.0015) U	0.0239 J	0.0144 J	0.0524	(0.0232) U	0.00925 U	(0.0232) U	(0.0232) U	(0.0232) U	(0.0232) U	0.0419 J	(0.0232) U	0.124	(0.0232) U	(0.500) U	(0.500) U	NA	NA	NA	NA	1.23	0.570 J	0.390 J	NA	1.79	(0.500) U

TABLE 4: CUMULATIVE GROUNDWATER ANALYTICAL RESULTS, 2001 - 2021

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR

GROUNDWATER MONITORING REPORT 2021

Sample Location (Well Status):	Sample Number	Sample Date	DRO (mg/L)	GRO (mg/L)	BTEX (mg/L)				PAH (µg/L)												VOC-F (µg/L)									
					Benzene	Toluene	Ethylbenzene	Total Xylenes	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Benzo(a)Anthracene	Benzo[a]pyrene	Benzo[b]Fluoranthene	Benzo[g,h,i]perylene	Chrysene	Fluoranthene	Fluorene	Indeno[1,2,3-c,d]pyrene	Naphthalene	Pyrene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Chloromethane	Dichlorodifluoromethane	Cumene	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	tert-Butylbenzene
	ADEC Groundwater Cleanup Levels:		*1.5*	*2.2*	***0.0046***	***1.1***	***0.015***	***0.19***	11	36	530	0.12	0.034	0.34	0.26	2	260	290	0.19	1.7	120	15	120	--	190	200	450	1.7	1000		2000	690
MW-100 (Decommissioned in 2016)	103-GW	3/13/2001	(0.11) U	(0.067) U	(0.001) U	(0.001) U	(0.001) U	(0.0032) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	149-GW	6/20/2001	(0.538) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	195-GW	9/28/2001	(0.549) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	026-WA	2/2/2002	(0.495) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.004) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	108-GW	4/24/2002	(0.543) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	313-GW	7/8/2002	**0.13**	(0.05) U	0.000383	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	417-GW	9/30/2002	**0.15**	(0.05) U	0.0002	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	202-GW	4/17/2003	**0.20**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	303-GW	9/23/2003	(0.32) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	104-GW	4/29/2004	(0.5) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	204-GW	12/8/2004	(0.417) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	111-GW	4/6/2005	(0.4) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	212-GW	10/11/2005	(0.4) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	106-GW	4/27/2006	(0.394) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	210-GW	9/28/2006	(0.394) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	107-GW	4/18/2007	(0.391) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	104-GW	6/18/2008	**0.68**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	104-GW	9/30/2008	**0.75**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-103	8/28/2009	**0.62**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-102 (Status Unknown)	105-GW	3/15/2001	(0.1) U	(0.067) U	(0.001) U	(0.001) U	(0.001) U	(0.0032) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	152-GW	6/21/2001	(0.495) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	197-GW	10/1/2001	(0.5) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	033-WA	2/2/2002	(0.495) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.004) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	100-GW	4/23/2002	(0.538) U	**0.16**	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	327-GW	7/9/2002	(0.1) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	408-GW	9/28/2002	(0.1) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	205-GW	4/18/2003	**0.12**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	101-GW	4/29/2004	(0.5) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	110-GW	4/6/2005	(0.4) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	107-GW	4/26/2006	**4.69**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	206-GW	9/28/2006	(0.394) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	111-GW	4/18/2007	**1.09**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-107 (Status Unknown)	107-GW	3/15/2001	(0.1) U	(0.067) U	(0.001) U	(0.001) U	(0.001) U	(0.0032) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	158-GW	6/24/2001	(0.515) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	198-GW	10/1/2001	(0.549) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	029-WA	2/2/2002	(0.495) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	114-GW	4/25/2002	(0.495) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	326-GW	7/9/2002	(0.1) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	410-GW	9/28/2002	(0.22) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	203-GW	4/17/2003	**0.12**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	300-GW	9/23/2003	(0.32) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	103-GW	4/29/2004	(0.5) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	201-GW	12/7/2004	(0.417) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	112-GW	4/6/2005	(0.4) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	205-GW	10/11/2005	(0.4) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	103-GW	4/27/2006	(0.391) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	219-GW	9/28/2006	(0.397) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	114-GW	4/18/2007	(0.431) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	102-GW	6/17/2008	(0.391) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	102-GW	9/30/2008	(0.391) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-109 (Status Unknown)	100-GW	3/12/2001	(0.11) U	(0.067) U	(0.001) U	(0.001) U	(0.001) U	(0.0032) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	145-GW	6/19/2001	(0.5) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	190-GW	9/25/2001	(0.5) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	036-WA	2/2/2002	(0.495) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.004) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	106-GW	4/24/2002	(0.532) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	325-GW	7/9/2002	(0.1) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	406-GW	9/28/2002	(0.153) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	211-GW	4/18/2003	(0.144) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	109-GW	4/29/2004	(0.529) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	119-GW	4/6/2005	(0.391) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	113-GW	4/18/2007	(0.391) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	111-GW	6/18/2008	(0.391) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-113 (Decommissioned in 2015)	141-GW	5/10/2001	(0.8) U	**0.657**	(0.00268) U	(0.00343) U	(0.002) U	(0.0699) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	159-GW	6/24/2001	(0.51) U	**0.347**	**0.004**	(0.002) U	(0.002) U	**0.033**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	207-GW	10/2/2001	(0.495) U	**0.214 J**	(0.000597) U	(0.002) U	(0.002) U	**0.014**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	048-WA	2/3/2002	**0.56**	**0.187**	**0.00109**	(0.002) U	(0.002) U	**0.013**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	120-GW	4/25/2002	(0.5) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	304-GW	7/6/2002	**0.34**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	**0.001 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	423-GW	9/30/2002	**0.42**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	**0.001 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	227-GW	4/22/2003	**0.26**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	319-GW	9/24/2003	(0.32) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	120-GW	4/30/2004	(0.5) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	219-GW	12/10/2004	(0.417) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	115-GW	4/6/2005	(0.4) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	216-GW2	10/12/2005	(0.5) U	(0.05) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	115-GW	4/27/2006	**0.52**	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	213-GW	9/28/2006	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	119-GW	4/19/2007	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	207-GW	10/31/2007	(0.417) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	116-GW	6/19/2008	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	116-GW	10/1/2008	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-109	8/28/2009	**1.08**	(0.0500) U	(0.0005) U	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-113	7/9/2010	**0.42**	(0.50) U	(0.001) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-113	6/16/2011	**0.521 J**	(0.50) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW113-12	8/7/2012	**1.11**	(0.05) U	(0.0005) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-MW113	7/2/2013	**2.37**	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-MW213(dup)	7/2/2013	**2.1**	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW113	9/3/2014	**25**	**0.37**	**0.007**	**0.0048**	**0.003**	**0.066**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW213 (dup)	9/3/2014	**24**	**0.35**	**0.0067**	**0.0054**	**0.0038**	**0.067**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW113	7/30/2015	**63**	**0.55**	**0.0037**	**0.0046**	**0.0034**	**0.11**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW299 (dup)	7/30/2015	**55**	**0.57**	**0.004**	**0.005**	**0.0037**	**0.12**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 4: CUMULATIVE GROUNDWATER ANALYTICAL RESULTS, 2001 - 2021

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR

GROUNDWATER MONITORING REPORT 2021

Sample Location (Well Status):	Sample Number	Sample Date	DRO (mg/L)	GRO (mg/L)	BTEX (mg/L)				PAH (µg/L)											VOC-F (µg/L)									
					Benzene	Toluene	Ethylbenzene	Total Xylenes	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Benzo(a)Anthracene	Benzo[a]pyrene	Benzo[b]Fluoranthene	Benzo[g,h,i]perylene	Chrysene	Fluoranthene	Fluorene	Indeno[1,2,3-c,d]pyrene	Naphthalene	Pyrene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Chloromethane	Dichlorodifluoromethane	Cumene	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	tert-Butylbenzene
	ADEC Groundwater Cleanup Levels:		*1.5*	*2.2*	*0.0046*	*1.1*	*0.015*	*0.19*	11	36	530	0.12	0.034	0.34	0.26	2	260	290	0.19	1.7	120	15	120	--	190	200	450	1.7	1000		2000	690
MW-117 (Decommissioned in 2015)	179-GW	7/9/2001	**17.8**	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	192-GW	9/27/2001	**14**	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	025-WA	1/29/2002	**1.7**	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.004) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	123-GW	4/26/2002	**0.6**	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	305-GW	7/6/2002	**0.46**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	424-GW	9/30/2002	**0.29**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	225-GW	4/22/2003	**0.14**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	305-GW	8/1/2003	(0.5) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	315-GW	9/24/2003	(0.32) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	118-GW	4/30/2004	(0.5) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	218-GW	12/10/2004	(0.4) U	(0.08) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	107-GW	4/5/2005	(0.4) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	202-GW[2]	10/10/2005	(0.5) U	(0.08) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	116-GW	4/28/2006	(0.391) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	212-GW	9/28/2006	(0.397) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	117-GW	4/19/2007	(0.394) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	208-GW	4/19/2007	(0.413) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	115-GW	6/19/2008	(0.410) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	115-GW	9/30/2008	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-108	8/28/2009	(0.385) U	(0.0500) U	(0.0005) U	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-117	7/9/2010	(0.41) U	(0.50) U	(0.001) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-117-01-GW	6/16/2011	(0.42) U, J	(0.50) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW117-12	8/6/2012	(0.391) U	(0.05) U	(0.0005) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-MW117	7/2/2013	(0.403) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW117	9/3/2014	(0.40) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW117	7/30/2015	(0.40) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-118 (Status Unknown)	177-GW	7/9/2001	(0.521) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	201-GW	10/2/2001	(0.495) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	**0.004**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	027-WA	2/2/2002	(0.505) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.004) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	113-GW	4/25/2002	(0.532) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	319-GW	7/8/2002	(0.1) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	415-GW	9/28/2002	(0.1) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	209-GW	4/18/2003	**0.10**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	300-GW	8/1/2003	(0.5) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	305-GW	9/23/2003	(0.33) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	108-GW	4/29/2004	(0.5) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	205-GW	12/8/2004	(0.4) U	(0.08) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	116-GW	4/7/2005	(0.4) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	201-GW[2]	10/10/2005	(0.4) U	(0.08) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	102-GW	4/26/2006	(0.403) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	205-GW	9/28/2006	(0.424) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	109-GW	4/18/2007	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	201-GW	10/31/2007	(0.403) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	101-GW	6/17/2008	(0.397) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	101-GW	9/30/2008	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-119 (Decommissioned in 2013)	042-WA	2/3/2002	(0.5) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.004) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	127-GW	4/26/2002	(0.5) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	302-GW	7/6/2002	**0.10**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	405-GW	9/27/2002	**0.17 J**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	215-GW	4/21/2003	(0.1) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	311-GW	9/24/2003	(0.32) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	112-GW	4/30/2004	(0.5) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	207-GW	12/8/2004	(0.4) U	(0.08) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	102GW	4/5/2005	(0.4) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	215-GW[2]	10/12/2005	(0.4) U	(0.08) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	110-GW	4/27/2006	(0.397) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	203-GW	9/27/2006	(0.394) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	102-GW	4/17/2007	(0.427) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	215-GW	11/1/2007	(0.455) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	108-GW	6/18/2008	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	108-GW	10/1/2008	(0.391) U	**0.11** [1]	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-111	8/29/2009	(0.407) U	(0.0500) U	(0.0005) U	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-MW119	10/15/2009	(0.394) U	(0.0500) U	(0.0005) U	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-119	7/14/2010	(0.40) U	(0.50) U	(0.001) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-119	10/8/2010	(0.41) U	(0.50) U	(0.001) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-119-01-GW	6/17/2011	(0.40) U, J	(0.50) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW119-12	8/6/2012	(0.41) U	(0.50) U	(0.0005) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-122 (Decommissioned in 2018)	045-WA	2/3/2002	**3.07**	(0.09) U	**0.003**	(0.002) U	(0.002) U	**0.002 B**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	118-GW	4/25/2002	**3.27**	**0.104**	**0.008**	(0.002) U	(0.002) U	**0.010**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	309-GW	7/6/2002	**6.58**	**0.0962**	**0.009**	(0.002) U	(0.0005) U	**0.010**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	420-GW	9/30/2002	**8.88**	**0.0927**	**0.008**	**0.002**	(0.0005) U	**0.010**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	224-GW	4/22/2003	**17.7**	**0.0583**	**0.004**	**0.001**	(0.0005) U	**0.004**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	316-GW	9/24/2003	**19**	**0.0526**	(0.0005) U	(0.0005) U	**0.001**	**0.002**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	117-GW	4/30/2004	**26**	**0.1**	**0.004**	**0.001**	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	217-GW	12/10/2004	**10.7**	(0.08) U	**0.003**	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	106-GW	4/5/2005	**4.97**	**0.0525**	**0.003**	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	203-GW	10/10/2005	**6.73**	**0.08 U, J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	119-GW	4/28/2006	**7.23**	(0.05) U	**0.0026**	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	217-GW	9/28/2006	**6.1**	**0.0666**	**0.0023**	(0.0005) UJ	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	206-GW	10/31/2007	**2.48**	(0.05) U	**0.0008**	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	117-GW	6/19/2008	**4.37**	(0.05) U	**0.0017**	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	117-GW	9/30/2008	**6.41**	**0.685**	**0.0023**	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-102	8/28/2009	**21.8**	**0.1**	**0.0025**	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-122	7/9/2010	**21.5**	**0.125**	**0.0041**	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-122-01-GW	6/16/2011	**16.1 J**	**0.11**	**0.0033**	(0.001) U	**0.001**	**0.002**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW122-12	8/7/2012	**29.80**	**0.10**	**0.0045**	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-MW122	7/2/2013	**2.49**	(0.05) U	**0.0017**	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW122	9/3/2014	**1.2**	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW122	7/31/2015	**6.8**	**0.05**	**0.0014**	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-17-MW-122	8/22/2017	**11.4**	(0.052) U	**0.00328**	(0.0005) U	(0.0005) U	(0.0015) U	(0.0232) U	(0.0232) U	(0.0232) U	(0.0232) U	(0.00925) U	(0.0232) U	(0.0232) U	(0.0232) U	(0.0232) U	(0.0232) U	(0.0232) U	**0.308**	(0.0232) U	**0.550 J**	(0.500) U	**5.9**	**0.320 J**	**2.5**	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U

TABLE 4: CUMULATIVE GROUNDWATER ANALYTICAL RESULTS, 2001 - 2021

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR
GROUNDWATER MONITORING REPORT 2021

Sample Location (Well Status):	Sample Number	Sample Date	DRO (mg/L)	GRO (mg/L)	BTEX (mg/L)				PAH (µg/L)											VOC-F (µg/L)										
					Benzene	Toluene	Ethylbenzene	Total Xylenes	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Benzo(a)Anthracene	Benzo[a]pyrene	Benzo[b]Fluoranthene	Benzo[g,h,i]perylene	Chrysene	Fluoranthene	Fluorene	Indeno[1,2,3-c,d]pyrene	Naphthalene	Pyrene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Chloromethane	Dichlorodifluoromethane	Cumene	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	tert-Butylbenzene
	ADEC Groundwater Cleanup Levels:		*1.5*	*2.2*	*0.0046*	*1.1*	*0.015*	*0.19*	11	36	530	0.12	0.034	0.34	0.26	2	260	290	0.19	1.7	120	15	120	--	190	200	450	1.7	1000		2000	690
MW-123 (Destroyed)	044-WA	2/3/2002	(0.505) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.004) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	124-GW	4/26/2002	(0.556) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	303-GW	7/6/2002	**0.10**	(0.005) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	419-GW[c]	9/30/2002	**0.13**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	220-GW	4/21/2003	(0.1) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	306-GW	8/1/2003	(0.5) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	308-GW	9/23/2003	(0.32) U	(0.05) U	(0.0005) U	(0.0005) U	**0.00133**	**0.00227**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	115-GW	4/30/2004	(0.5) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	214-GW	12/9/2004	(0.4) U	(0.08) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	101-GW	4/5/2005	(0.4) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	206-GW[c]	10/11/2005	(0.4) U	(0.08) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	118-GW	4/28/2006	**0.44**	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	214-GW	9/28/2006	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	115-GW	4/18/2007	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	210-GW	11/1/2007	(0.41) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	113-GW	6/18/2008	(0.400) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	113-GW	10/1/2008	(0.391) U	**0.051**	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-117	8/29/2009	(0.420) U	(0.0500) U	(0.0005) U	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-123	7/12/2010	(0.40) U	(0.50) U	(0.001) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-123-GW-01	6/16/2011	(0.40) U, J	(0.50) U	(0.001) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW123-12	8/6/2012	(0.41)	(0.050) U	(0.0005) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-MW123	7/9/2013	(0.42) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW123	9/3/2014	(0.40) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW123	7/30/2015	**0.52**	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-17-MW-123	8/22/2017	(0.283) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.0015) U	(0.0232) U	(0.0232) U	(0.0232) U	(0.0232) U	(0.00925) U	(0.0232) U	(0.0232) U	(0.0232) U	(0.0232) U	(0.0232) U	(0.0232) U	(0.0463) U	(0.0232) U	(0.500) U	(0.500) U	(0.500) U	**0.410 J**	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U
	A-T-18-MW-123	8/15/2018	(0.300) U	(0.0500) U	(0.0002) U	(0.0005) U	(0.0005) U	(.0015) U	(0.0259) U	(0.0259) U	(0.0259) U	(0.0259) U	(0.0104) U	(0.0259) U	(0.0259) U	(0.0259) U	(0.0259) U	(0.0259) U	(0.0259) U	(0.0515) U	(0.0259) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
	A-T-19-MW-123	10/11/2019	(0.288) U	(0.0500) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.0015) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.00960) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0481) U	(0.0240) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
	AT-21-MW-123	9/14/2021	**0.387 J**	(0.0500) U	(0.0025) U	(0.005) U	(0.005) U	(0.0015) U	(0.0255) U	(0.0255) U	(0.0255) U	(0.0255) U	(0.0102) U	(0.0255) U	(0.0255) U	(0.0255) U	(0.0255) U	(0.0255) U	(0.0255) U	(0.0510) U	(0.0255) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
MW-124 (Active)	043-WA	2/3/2002	(0.505) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.004) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	126-GW	4/26/2002	(0.505) U	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	(0.002) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	301-GW	7/6/2002	**0.45**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	401-GW	9/27/2002	**0.25 J**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	216-GW	4/21/2003	**0.32**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	302-GW	8/1/2003	(0.5) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	313-GW	9/24/2003	(0.32) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	111-GW	4/30/2004	(0.5) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	210-GW	12/9/2004	(0.4) U	(0.08) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	109-GW	4/6/2005	(0.4) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	211-GW[c]	10/11/2005	(0.4) U	(0.08) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	113-GW	4/27/2006	(0.4) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	204-GW	9/27/2006	(0.407) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	101-GW	4/17/2007	(0.417) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	212-GW	11/1/2007	(0.417) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	107-GW	6/18/2008	(0.400) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	107-GW	10/1/2008	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-114	8/29/2009	(0.388) U	(0.0500) U	(0.0005) U	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-124	7/14/2010	(0.40) U	(0.50) U	(0.001) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-124-01-GW	6/17/2011	(0.40) U, J	(0.50) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW124-12	8/6/2012	(0.391) U	(0.050) U	(0.0005) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-MW124	7/2/2013	(0.40) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW124	9/3/2014	(0.39) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW124	7/30/2015	(0.40) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-17-MW-124	8/22/2017	(0.283) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.0015) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.00945) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0471) U	(0.0236) U	(0.500) U	(0.500) U	(0.500) U	**0.380 J**	**0.960 J**	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U
	A-T-18-MW-124	8/13/2018	(0.315) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(.0015) U	(0.025) U	(0.025) U	(0.025) U	(0.025) U	(0.0100) U	(0.025) U	(0.025) U	(0.025) U	(0.025) U	(0.025) U	(0.025) U	(0.050) U	(0.0250) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U
	A-T-19-MW-124	10/11/2019	**0.257 J**	(0.05) U	(0.0002) U	**0.00033**	(0.0005) U	(.0015) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.00980) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0490) U	(0.0245) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
	AT-21-MW-124	9/14/2021	**0.679**	(0.0500) U	(0.0025) U	(0.005) U	(0.005) U	(0.0015) U	(0.0245) U	**0.0177 J**	(0.0245) U	(0.0245) U	(0.00980) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0490) U	(0.0245) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
MW-125 (Active)	046-WA	2/3/2002	**3.73**	**0.232**	**0.0033**	**0.008**	(0.002) U	**0.060**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	116-GW	4/25/2002	**1.95**	(0.09) U	(0.0005) U	(0.002) U	(0.002) U	**0.002**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	308-GW	7/6/2002	**3.93**	**0.0534**	(0.0002) U	(0.0005) U	(0.0005) U	**0.002**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	421-GW	9/30/2002	**4.21**	**0.05**	(0.0002) U	(0.0005) U	(0.0005) U	**0.002 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	223-GW	4/22/2003	**23.0**	**1.86**	**0.0037**	**0.007**	**0.003**	**0.532**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	318-GW	9/24/2003	**10.3**	**0.199**	**0.0057**	**0.004**	**0.003**	**0.053**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	116-GW	4/30/2004	**13.1**	**0.196**	**0.0114**	**0.001**	**0.006**	**0.042**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	216-GW	12/9/2004	**17.2**	**1.28**	**0.048 J**	**0.041**	**0.038 J**	**0.357 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	108-GW	4/6/2005	**24.6**	**1.86**	**0.0320**	**0.055**	**0.050**	**0.531**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	214-GW[c]	10/11/2005	**17.7**	**0.705**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	120-GW	4/28/2006	**7.26**	**0.13**	**0.0089**	(0.0005) U	**0.006**	**0.013**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	211-GW	9/28/2006	**9.25**	**0.311**	**0.0176**	**0.001**	**0.016**	**0.043**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	116-GW	4/18/2007	**8.29**	**0.243**	**0.0117**	(0.0005) U	**0.009**	**0.023**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	209-GW	11/1/2007	**7.98**	**0.316**	**0.0139**	**0.001**	**0.024**	**0.042**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	118-GW	6/19/2008	**7.66**	**0.173**	**0.0159**	(0.0005) U	**0.015**	**0.016**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	118-GW	10/1/2008	**9.37**	**0.162**	**0.0129**	(0.0005) U	**0.015**	**0.011**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-106	8/28/2009	**3.86**	**0.171**	**0.0091**	(0.0010) U	**0.009**	**0.006**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-125	7/9/2010	**2.80**	**0.102**	**0.0059**	(0.0010) U	**0.007**	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-125-01-GW	6/16/2011	**4.51 J**	**0.09**	**0.0045**	(0.0010) U	**0.001**	**0.003**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW125-12	8/7/2012	**2.30**	**0.06**	**0.0086**	(0.001) U	**0.004**	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-MW125	7/2/2013	**4.28**	**0.055**	**0.0056**	(0.0005) U	**0.006**	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW125	9/3/2014	**6.5**	**0.16**	**0.013**	(0.0005) U	**0.0099**	**0.0068**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW125	7/30/2015	**7.3**	**0.088**	**0.0032**	(0.0005) U	**0.0012**	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-17-MW-125	10/5/2017	**4.6**	**0.0575**	**0.004**	(0.0005) U	**0.00095 J**	(0.0015) U	(0.0282) U	(0.0282) U	(0.0282) U	**0.0291 J, Q**	(0.0113) U	**0.0966 Q**	**0.104 Q**	**0.0518 J, Q**	**0.0513 J**	(0.0282) U	**0.0679 Q**	**0.822**	**0.0451 J, Q**	**1.04**	(0.500) U	**1.68**	(0.500) U	**0.43**	**1.82**	**2.49**	(0.500) U	**0.37**	**0.81**	**0.39**
	A-T-17-MW-225 (dup)	10/5/2017	**3.57**	**0.0586**	**0.00405**	(0.0005) U	**0.00096 J**	(0.0015) U	(0.0274) U	(0.0274) U	(0.0274) U	**0.0187 J, Q**	**0.0333**	**0.0579 Q**	**0.0592 Q**	**0.0324 J, Q**	(0.0274) U	(0.0274) U	**0.0394 J, Q**	**0.779**	**0.0286 J, Q**	**1.07**	(0.500) U	**1.74**	(0.500) U	**0.44**	**1.81**	**2.34**	(0.500) U	**0.39**	**0.85**	**0.38**
	A-T-18-MW-125	8/14/2018	**4.69**	(0.0500) U	**0.00384**	(0.0005) U	**0.00051**	(0.0015) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0100) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	**0.609**	(0.0250) U	**0.91**	(0.500) U	NA	NA	NA	**1.21**	**0.96**	(0.500) U	NA	**0.83**	**0.42**
	A-T-18-MW-99 (dup)	8/14/2018	**5.6**	(0.0500) U	**0.00373**	(0.0005) U	**0.00037**	(0.0015) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0100) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	**0.67**	(0.0250) U	**0.89**	(0.500) U	NA	NA	NA	**0.98**	**0.81**	(0.500) U	NA	**0.79**	**0.41**
	A-T-19-MW-125	10/11/2019	**4.18**	**0.0595 J**	**0.00523**	(0.0005) U	(0.0005) U	(0.0015) U	(0.0252) U	(0.0252) U	(0.0252) U	(0.0252) U	(0.0101) U	(0.0252) U	(0.0252) U	(0.0252) U	(0.0252) U	(0.0252) U	(0.0252) U	**0.342**	(0.0252) U	**0.970 J**	(0.500) U	NA	NA	NA	**0.730 J**	**0.650 J**	(0.500) U	NA	**0.690 J**	**0.330 J**
	AT-21-MW-125	9/15/2021	**10.2**	**0.125**	**0.0112**	(0.005) U	(0.005) U	(0.0015) U	**0.223**	(0.0255) U	(0.0255) U	(0.0255) U QL	(0.0102) U QL	(0.0255) U QL	(0.0255) U QL	(0.0255) U QL	(0.0255) U QL	(0.0255) U	(0.0255) U QL	(0.0510) U	(0.0255) U QL	**1.42**	(0.500) U	NA	NA	NA	**1.89**	**0.550 J QN**	(0.500) U	NA	(0.500) U	(0.500) U
	AT-21-MW-925	9/15/2021	**9.96**	**0.121**	**0.0105**	(0.005) U	(0.005) U	(0.0015) U	**0.212**	(0.0250) U	(0.0250) U	(0.0250) U	(0.0100) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0500) U	(0.0250) U	**1.35**	(0.500) U	NA	NA	NA	**1.73**	**0.760 J QN**	(0.500) U	NA	(0.500) U	(0.500) U

TABLE 4: CUMULATIVE GROUNDWATER ANALYTICAL RESULTS, 2001 - 2021

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR
GROUNDWATER MONITORING REPORT 2021

Sample Location (Well Status):	Sample Number	Sample Date	DRO (mg/L)	GRO (mg/L)	BTEX (mg/L)				PAH (µg/L)										VOC-F (µg/L)									
					Benzene	Toluene	Ethylbenzene	Total Xylenes	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Benzo(a)Anthracene	Benzo[a]pyrene	Benzo[b]Fluoranthene	Benzo[g,h,i]perylene	Chrysene	Fluoranthene	Fluorene	Indeno[1,2,3-c,d]pyrene	Naphthalene	Pyrene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Chloromethane	Dichlorodifluoromethane	Cumene	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	tert-Butylbenzene
	ADEC Groundwater Cleanup Levels:		***1.5***	***2.2***	***0.0046***	***1.1***	***0.015***	***0.19***	11	36	530	0.12	0.034	0.34	0.26	2	260	290	0.19	1.7	120	15	120	--	190	200	450	1.7	1000		2000	690
MW-126 (Active)	339-GW	7/19/2002	**6.45 J**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	402-GW	9/27/2002	**2.84**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	217-GW	4/21/2003	**2.6**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	314-GW	9/24/2003	**1.19**	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	113-GW	4/30/2004	**1.25**	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	211-GW	12/9/2004	**0.47**	(0.08) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	103-GW	4/5/2005	**0.49**	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	209-GW[2]	10/11/2005	**0.73**	(0.08) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	114-GW	4/27/2006	**0.80**	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	202-GW	9/27/2006	**0.47**	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	104-GW	4/17/2007	**0.60**	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	211-GW	11/1/2007	**0.58**	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	110-GW	6/18/2008	**0.46**	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	110-GW	10/1/2008	**0.67**	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-116	8/29/2009	**0.46**	(0.0500) U	(0.0005) U	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-126	7/12/2010	(0.40) U	(0.50) U	(0.001) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-126-01-GW	6/17/2011	**0.546 J**	(0.50) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW126-12	8/6/2012	(0.391) U	(0.050) U	(0.0005) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-MW126	7/2/2013	**0.57**	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW126	9/3/2014	(0.39) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW126	7/31/2015	0.64	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-17-MW-126	8/22/2017	0.478 J	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.0015) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.00945) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0471) U	(0.0236) U	(0.500) U	(0.500) U	(0.500) U	**0.380 J**	**7.5**	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U
	A-T-18-MW-126	8/14/2018	**0.716**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.0015) U	(0.0282) U	(0.0282) U	(0.0282) U	(0.0282) U	(0.0113) U	(0.0282) U	(0.0282) U	(0.0282) U	(0.0282) U	(0.0282) U	(0.0282) U	(0.0565) U	(0.0282) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U
	A-T-19-MW-126	10/11/2019	**1.63**	(0.05) U	(0.0002) U	**0.0004 J**	(0.0005) U	(0.0015) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.00980) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0490) U	(0.0245) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
	A-T-19-MW-9126	10/11/2019	**1.46**	(0.05) U	(0.0002) U	**(0.0005) U**	(0.0005) U	(0.0015) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.00980) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0490) U	(0.0245) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
	AT-21-MW-126	9/14/2021	**1.55**	(0.0500) U	(0.002) U	(0.005) U	(0.005) U	(0.0015) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0100) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0500) U	(0.0250) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
MW-127 (Active)	341-GW	7/19/2002	**0.17 J**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	404-GW	9/27/2002	**0.15 J**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	218-GW	4/21/2003	**0.32**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	303-GW	8/1/2003	(0.5) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	312-GW	9/24/2003	**0.46**	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	114-GW	4/30/2004	**1.15**	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	212-GW	12/9/2004	(0.4) U	(0.08) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.001) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	104-GW	4/5/2005	(0.4) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	217-GW[2]	10/12/2005	(0.4) U	(0.08) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	112-GW	4/27/2006	(0.394) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	201-GW	9/27/2006	(0.394) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	103-GW	4/17/2007	(0.413) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	214-GW	11/1/2007	(0.446) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	109-GW	6/18/2008	(0.391) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	109-GW	10/1/2008	(0.400) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09-ATI-115	8/29/2009	**0.81**	(0.0500) U	(0.0005) U	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-127	7/14/2010	(0.40) U	(0.50) U	(0.001) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-127	6/17/2011	(0.41) U, J	(0.50) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW127-12	8/7/2012	(0.403)	(0.050) U	(0.0005) U	(0.001) U	(0.001) U	(0.003) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	13-MW127	7/2/2013	(0.39) U	(0.050) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-A&T-MW127	9/3/2014	(0.39) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW127	7/30/2015	(0.40) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-17-MW-127	8/22/2017	**0.321 J**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.0015) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.00945) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0471) U	(0.0236) U	(0.500) U	(0.500) U	(0.500) U	**0.360 J**	**0.510 J**	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U
	A-T-17-MW-099 (dup)	8/22/2017	**0.258 J**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.0015) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.00960) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0481) U	(0.0240) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U
	A-T-18-MW-127	8/13/2018	(.332) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.0015) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.00960) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0240) U	(0.0481) U	(0.0240) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
	A-T-19-MW-127	10/11/2019	(0.288) U	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.0015) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.00945) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0236) U	(0.0471) U	(0.0236) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
	AT-21-MW-127	9/14/2021	**0.328 J**	(0.05) U	(0.002) U	(0.005) U	(0.005) U	(0.0015) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0100) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0500) U	(0.0250) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
MW-128[6] (Active)	AT-21-MW-128	9/15/2021	**3.28**	**0.0522 J**	(0.002) U	(0.005) U	(0.005) U	(0.0015) U	(0.0250) U	**0.0386 J**	(0.0250) U	(0.0250) U	(0.0100) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0250) U	(0.0500) U	(0.0250) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	(0.500) U	(0.500) U	NA	(0.500) U	(0.500) U
MW-200 (Active)	14-A&T-MW200	9/2/2014	(0.38) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-MW200-2	10/6/2014	(0.39) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	14-MW201-2 (dup)	10/6/2014	(0.39) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW200	7/31/2015	(0.40) U	(0.05) U	(0.0005) U	(0.0005) U	(0.0005) U	(0.0015) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW200-F	10/1/2015	(0.40) U	(0.05) U	(0.0002) U	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-15-MW300-F (dup)	10/1/2015	(0.40) U	(0.05) U	(0.0002) U	(0.0010) U	(0.0010) U	(0.0030) U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	A-T-17-MW-200	8/22/2017	0.431 J	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.0015) U	(0.0272) U	(0.0272) U	(0.0272) U	(0.0272) U	(0.0109) U	(0.0272) U	(0.0272) U	(0.0272) U	(0.0272) U	(0.0272) U	(0.0272) U	(0.0545) U	(0.0272) U	(0.500) U	(0.500) U	(0.500) U	**0.370 J**	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U	(0.500) U
	A-T-18-MW-200	8/13/2018	**0.226**	(0.05) U	(0.0002) U	(0.0005) U	(0.0005) U	(0.0015) U	**0.0157**	**0.0201**	(0.0245) U	(0.0245) U	(0.00980) U	(0.0245) U	(0.0245) U	(0.0245) U	(0.0245) U	**0.0174**	(0.0245) U	(0.0490) U	(0.0245) U	(0.500) U	(0.500) U	NA	NA	NA	(0.500) U	0.48	(0.500) U	NA	(0.500) U	(0.500) U

Notes:
Detected results are **bolded**.
Results greater than ADEC cleanup levels are **underlined & shaded.**
Cleanup levels from 18 AAC 75.345, Table C
Results may be rounded.
[1] Interpreted by the laboratory as isopropyl alcohol
[2] This groundwater sample was analyzed for DRO and GRO only.
[4] This groundwater sample consisted of a duplicate analyzed for DRO only.
[5] This groundwater sample was also submitted for phenol and dichlorodifluoromethane.
[6] Replaced MW-123

Key:
AAC - Alaska Administrative Code
ADEC - Alaska Department of Environmental Conservation
AFSC - Airport Fueling and Service Company
ATI - Intersection of Arctic Boulevard and Tudor Road
B - blank contamination, the analyte was detected within 5 times (X) of an associated blank sample.
BTEX - benzene, toluene, ethylbenzene, and total xylenes
DRO - diesel-range organics
dup - duplicate sample
GRO - Gasoline-range organics
GW - Groundwater
J - The value is an estimate; refer to QA review for more details.
mg/L - milligrams per liter
NA - Not analyzed
PAH - polycyclic aromatic hydrocarbon
U - The analyte was not detected at or above the method reporting limit, the associated value is reporting limit or the limit of detection.
VOC-F - fuel-related volatile organic compounds

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TABLE 5: MANN-KENDALL TREND ANALYSIS (MW-125)

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR

GROUNDWATER MONITORING REPORT 2021

Monitoring Well: MW-125

Contaminant: DRO

Trend Analysis			
S-Statistic	**Confidence Level**	**CV**	**Result**
-11	83.7%	0.43	Stable

Result above Reporting Limit (Y/N)?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Monitoring date:	**Nov-07**	**Jun-08**	**Oct-08**	**Aug-09**	**Jul-10**	**Jun-11**	**Aug-12**	**Jul-13**	**Sep-14**	**Jul-15**	**Oct-17**	**Aug-18**	**Oct-19**	**Sep-21**	
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13	Event 14	**S-Statistic**
Concentration (mg/L):	7.98	7.66	9.37	3.86	2.80	4.51	2.30	4.28	6.50	7.30	4.6	5.6	4.18	10.2	
Row 1: Compare to Event 1		-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-7
Row 2: Compare to Event 2			1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-6
Row 3: Compare to Event 3				-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1	-7
Row 4: Compare to Event 4					-1	1	-1	1	1	1	1	1	1	1	2
Row 5: Compare to Event 5						1	-1	1	1	1	1	1	1	1	3
Row 6: Compare to Event 6							-1	-1	1	1	1	1	-1	1	0
Row 7: Compare to Event 7								1	1	1	1	1	1	1	3
Row 8: Compare to Event 8									1	1	1	1	-1	1	2
Row 9: Compare to Event 9										1	-1	-1	-1	1	1
Row 10: Compare to Event 10											-1	-1	-1	1	-2
Row 11: Compare to Event 11												-1	-1	1	-1
Row 12: Compare to Event 12													-1	1	0
Row 13: Compare to Event 13														1	1

Notes:

A minimum of four (4) independent sampling events are required for the Mann-Kendall test to be valid.
Non-detects are listed as 1/2 of the Reporting Limit (RL)
A negative S-Statistic value with confidence > 90% and < 95% indicates a probable decreasing concentration trend.
A negative S-Statistic value with confidence > 95% indicates a decreasing concentration trend.
A positive S-Statistic value with confidence > 90% and < 95% indicates a probable increasing concentration trend.
A positive S-Statistic value with confidence > 95% indicates an increasing concentration trend.
A positive S-Statistic value with confidence < 90% indicates that there is likely no concentration trend.
A negative S-Statistic value with confidence < 90% and CV > 1 indicates that there is likely no concentration trend.
A negative S-Statistic value with confidence < 90% and CV < 1 indicates a stable concentration trend.
The closer to zero the CV is, the less variation in concentrations between sampling events.
Effects of CV based on Table 3.2 (AFCEE, 2000)

Mann-Kendall Statistic (S) = Total	**-11**
Confidence Level	**83.7%**
Coefficient of Variance (CV)	**0.43**
Number of Events (n)	**14**

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TABLE 6: MANN-KENDALL TREND ANALYSIS (MW-126)

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR

GROUNDWATER MONITORING REPORT 2021

Monitoring Well: MW-126

Contaminant: DRO

Trend Analysis			
S-Statistic	**Confidence Level**	**CV**	**Result**
2	<90%	0.20	No Trend

Result above Reporting Limit (Y/N)?	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	
Monitoring date:	**Nov-07**	**Jun-08**	**Oct-08**	**Aug-09**	**Jul-10**	**Jun-11**	**Aug-12**	**Jul-13**	**Sep-14**	**Jul-15**	**Aug-17**	**Aug-18**	**Oct-19**	**Sep-21**	**S-Statistic**
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Event 11	Event 12	Event 13	Event 14	
Concentration (mg/L):	0.58	0.46	0.67	0.46	0.40	0.55	0.39	0.57	0.39	0.64	0.478	0.716	1.63	1.55	
Row 1: Compare to Event 1		-1	1	-1	-1	-1	-1	-1	-1	1	-1	1	1	1	-4
Row 2: Compare to Event 2			1	0	-1	1	-1	1	-1	1	1	1	1	1	4
Row 3: Compare to Event 3				-1	-1	-1	-1	-1	-1	-1	-1	1	1	1	-6
Row 4: Compare to Event 4					-1	1	-1	1	-1	1	1	1	1	1	3
Row 5: Compare to Event 5						1	-1	1	-1	1	1	1	1	1	4
Row 6: Compare to Event 6							-1	1	-1	1	-1	1	1	1	1
Row 7: Compare to Event 7								1	0	1	1	1	1	1	5
Row 8: Compare to Event 8									-1	1	-1	1	1	1	1
Row 9: Compare to Event 9										1	1	1	1	1	4
Row 10: Compare to Event 10											-1	-1	-1	-1	-4
Row 11: Compare to Event 11												-1	-1	-1	-3
Row 12: Compare to Event 12													-1	-1	-2
Row 13: Compare to Event 13														-1	-1

Notes:

A minimum of four (4) independent sampling events are required for the Mann-Kendall test to be valid.
Non-detects are listed as 1/2 of the Reporting Limit (RL)
A negative S-Statistic value with confidence > 90% and < 95% indicates a probable decreasing concentration trend.
A negative S-Statistic value with confidence > 95% indicates a decreasing concentration trend.
A positive S-Statistic value with confidence > 90% and < 95% indicates a probable increasing concentration trend.
A positive S-Statistic value with confidence > 95% indicates an increasing concentration trend.
A positive S-Statistic value with confidence < 90% indicates that there is likely no concentration trend.
A negative S-Statistic value with confidence < 90% and CV > 1 indicates that there is likely no concentration trend.
A negative S-Statistic value with confidence < 90% and CV < 1 indicates a stable concentration trend.
The closer to zero the CV is, the less variation in concentrations between sampling events.
Effects of CV based on Table 3.2 (AFCEE, 2000)

Mann-Kendall Statistic (S) = Total	**2**
Confidence Level	**<90%**
Coefficient of Variance (CV)	**0.20**
Number of Events (n)	**14**

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TABLE 7: MANN-KENDALL S-STATISTIC 90% CONFIDENCE LEVELS

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR

GROUNDWATER MONITORING REPORT 2021

Confidence Levels for Mann-Kendall S-Statistic and Sample Size, from Standard Normal Z-Score

Total Number of Sampling Events

S (+/-)	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
4	0.912884306	0.836406561	0.77381482	0.725997214	0.689654641	0.661671339	0.639742606	0.622251563	0.60806919	0.596398357	0.58666702	0.5784574	0.57145907	0.5654377	0.5602136	0.5556472	0.55162862
5	0.95528532	0.889664319	0.826220982	0.773655395	0.731906614	0.698916236	0.672639577	0.651454195	0.634149138	0.619833846	0.60785181	0.5977145	0.589054154	0.5815901	0.5751058	0.5694318	0.56443425
6	0.979229966	0.929177655	0.870171822	0.816239631	0.771049472	0.734192712	0.704247482	0.679785606	0.659623309	0.642837358	0.62872159	0.6167374	0.606471841	0.5976062	0.5898916	0.5831324	0.57717267
7	0.991291435	0.956794634	0.905756981	0.853443022	0.806761885	0.767243915	0.734375007	0.707105793	0.68438909	0.665332993	0.64921954	0.6354828	0.623679009	0.61346	0.6045507	0.5967327	0.58983089
8	0.996710793	0.974978239	0.933572522	0.885221893	0.838850202	0.797875753	0.762862825	0.733291743	0.708353275	0.68725026	0.66929204	0.6539096	0.640643785	0.6291266	0.6190633	0.610217	0.60239619
9	0.99888273	0.986256832	0.95456303	0.911762855	0.867244806	0.825958688	0.78958568	0.75823897	0.731433071	0.708524721	0.68888913	0.671979	0.657335722	0.644582	0.6334103	0.6235699	0.61485614
10	0.999659145	0.992847061	0.969855413	0.933435758	0.89198971	0.851426735	0.814453315	0.781862536	0.753556882	0.729098532	0.70796482	0.6896546	0.673725955	0.6598033	0.6475733	0.6367765	0.62719861
11	0.999906706	0.996474635	0.980611248	0.95073949	0.913226889	0.874273907	0.83741026	0.804097573	0.774664857	0.748920874	0.72647743	0.7069027	0.689787353	0.6747684	0.6615345	0.6498225	0.63941185
12	0.999977111	0.998355693	0.987914726	0.964247292	0.931177077	0.894548537	0.858434565	0.824899305	0.794709202	0.767948263	0.74438983	0.7236924	0.705494648	0.6894569	0.6752772	0.662694	0.6514845
13	0.99999497	0.999274569	0.992702483	0.974557129	0.946118855	0.91234596	0.877535611	0.844242598	0.813654255	0.786144745	0.76166963	0.739996	0.720824545	0.7038494	0.6887853	0.6753779	0.66340563
14	0.999999011	0.999697414	0.99573254	0.982250934	0.958367742	0.927800104	0.89475115	0.862121076	0.831476337	0.803481974	0.7782893	0.7557888	0.735755822	0.7179278	0.7020438	0.6878616	0.67516475
15	0.999999826	0.999880718	0.99758388	0.98786468	0.968256735	0.941074552	0.910143753	0.87854587	0.848163393	0.819939176	0.79422623	0.7710495	0.750269398	0.7316759	0.7150387	0.7001332	0.68675186
16	0.999999973	0.999955575	0.998675918	0.991869532	0.976119379	0.952353581	0.923796858	0.893544049	0.863714441	0.835503	0.80946276	0.7857598	0.764348397	0.7450785	0.727757	0.7121815	0.69815748
17	0.999999996	0.999984373	0.999297797	0.994662991	0.982276054	0.96183363	0.935810614	0.907156815	0.878138858	0.850167276	0.82398608	0.799905	0.77797818	0.7581221	0.7401866	0.7239963	0.70937262
18	1	0.99999481	0.99963969	0.996568103	0.987023772	0.96971557	0.946297682	0.919437525	0.891455525	0.86393268	0.83778815	0.8134734	0.791146365	0.7707949	0.7523169	0.7355677	0.72038887
19	1	0.999998372	0.999821154	0.997838444	0.990629432	0.976198023	0.955379177	0.930449617	0.903691863	0.87680632	0.85086557	0.8264569	0.803842826	0.7830866	0.7641378	0.7468871	0.73119838
20	1	0.999999518	0.999914137	0.998666659	0.993326212	0.981471891	0.963180865	0.940264507	0.91488279	0.888801251	0.86321929	0.8388502	0.816059679	0.7949883	0.775641	0.7579462	0.74179387
21	1	0.999999865	0.999960135	0.999194603	0.995312616	0.985716159	0.969829734	0.948959519	0.925069626	0.899935941	0.87485447	0.8506512	0.827791239	0.806493	0.7868188	0.768738	0.75216864
22	1	0.999999965	0.999982103	0.999523646	0.996753571	0.98909494	0.975451009	0.956615914	0.934298979	0.910233697	0.8857801	0.8618608	0.839033975	0.817595	0.7976649	0.7792559	0.76231661
23	1	0.999999991	0.999992232	0.999724159	0.997782996	0.991755672	0.980165665	0.963317037	0.942621633	0.919722054	0.89600876	0.8724825	0.849786442	0.8282903	0.808174	0.7894944	0.77223229
24	1	0.999999998	0.99999674	0.999843628	0.998507265	0.99382832	0.984088436	0.969146655	0.950091469	0.928432162	0.90555626	0.8825226	0.860049198	0.8385762	0.818342	0.7994487	0.78191082
25	1	1	0.999998678	0.999913224	0.999009105	0.995425426	0.987326341	0.974187483	0.956764436	0.936398156	0.91444131	0.8919897	0.869824715	0.8484517	0.828166	0.8091149	0.79134792
26	1	1	0.999999482	0.999952865	0.999351552	0.996642805	0.989977666	0.978519927	0.962697589	0.94365655	0.92268512	0.9008947	0.879117274	0.8579172	0.8376438	0.8184898	0.80053993
27	1	1	0.999999804	0.999974941	0.999581686	0.997560718	0.992131389	0.982221047	0.967948212	0.950245634	0.9303111	0.9092504	0.887932849	0.8669741	0.8467747	0.8275711	0.80948381
28	1	1	0.999999928	0.999986961	0.999733997	0.998245355	0.993866969	0.985363745	0.97257303	0.956204911	0.93734444	0.9170717	0.896278993	0.8756256	0.8555586	0.8363572	0.81817709
29	1	1	0.999999975	0.99999336	0.999833273	0.998750486	0.995254452	0.98801616	0.976627529	0.961574564	0.9438118	0.9243747	0.904164704	0.8838756	0.8639967	0.8448473	0.82661791
30	1	1	0.999999991	0.999996691	0.999896998	0.999119149	0.996354821	0.990241259	0.980165372	0.966394961	0.94974091	0.9311771	0.911600299	0.8917296	0.872091	0.8530414	0.83480498
31	1	1	0.999999997	0.999998387	0.999937283	0.999385308	0.99722054	0.992096613	0.983237917	0.970706212	0.95516033	0.9374977	0.918597275	0.8991938	0.8798443	0.8609401	0.84273757
32	1	1	0.999999999	0.99999923	0.999962364	0.999575387	0.997896224	0.993634318	0.985893849	0.974547776	0.96009904	0.9433564	0.925168175	0.9062756	0.8872604	0.8685447	0.8504155
33	1	1	1	0.999999641	0.999977741	0.999709667	0.998419389	0.994901062	0.988178891	0.977958108	0.96458621	0.9487735	0.931326452	0.9129832	0.8943437	0.8758573	0.85783914
34	1	1	1	0.999999836	0.999987027	0.999803503	0.998821236	0.995938288	0.990135616	0.980974372	0.96865094	0.9537702	0.93708633	0.9193256	0.9010995	0.8828804	0.86500936
35	1	1	1	0.999999927	0.999992549	0.99986837	0.999127441	0.996782454	0.991803342	0.983632195	0.97232198	0.9583677	0.942462676	0.9253124	0.9075337	0.8896172	0.87192752
36	1	1	1	0.999999968	0.999995783	0.999912725	0.999358908	0.997465345	0.993218085	0.985965475	0.97562754	0.9625877	0.947470869	0.9309541	0.9136528	0.8960716	0.87859545
37	1	1	1	0.999999986	0.999997648	0.999942728	0.999532487	0.998014436	0.994412594	0.988006233	0.9785951	0.9664516	0.952126672	0.9362615	0.919464	0.9022478	0.88501546

> 90% and < 95% Confidence

> 95% Confidence

Notes:

– The test statistic, tau, is computed as $\tau = S/(n(n-1)/2)$

Donald W. Meals, Jean Spooner, Steven A. Dressing, and Jon B. Harcum. 2011. Statistical analysis for monotonic trends, Tech Notes 6, November 2011. Developed for U.S. Environmental Protection Agency by Tetra Tech, Inc., Fairfax, VA, 23 p. Available online at www.bae.ncsu.edu/programs/extension/wqg/319monitoring/tech_notes.htm.

– The standard normal z-score is defined as $z = \tau((9n(n-1))/(2(2n+5)))^{1/2}$

Ajit C. Tamhane and Dorothy D. Dunlop. 2000. Statistics and Data Analysis, from Elementary to Intermediate. Prentice Hall, Upper Saddle River, NJ 07458. p. 591

Key:

AFSC - Airport Fueling and Service Company

S - Mann-Kendall Statistic

Ahtna Engineering Services, LLC

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FIGURES

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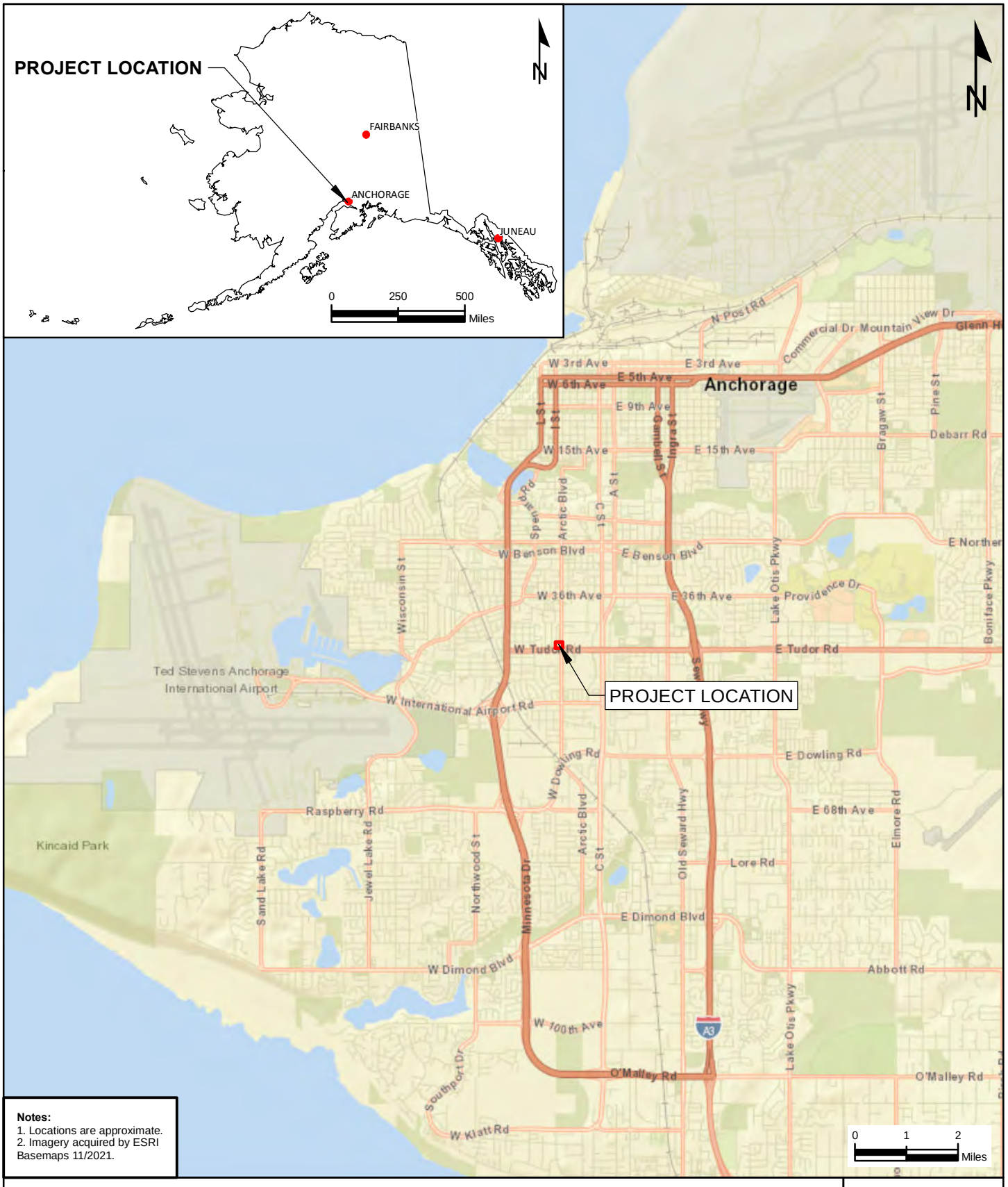

Notes:
1. Locations are approximate.
2. Imagery acquired by ESRI Basemaps 11/2021.

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR GROUNDWATER MONITORING REPORT 2021

Ahtna Engineering Services, LLC

STATE AND SITE VICINITY

Project Number:	Figure Number:
20204.064	1
Date: 11/5/2021	
Drafted By: R.H.	

Prepared by rhuelson, 11/5/2021; \\200-data01\AutoCAD-GIS\Anchorage\20204.064\GIS\MXD\F1_StatesSiteVicinity.mxd

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LEGEND

- Monitoring Well
- Recovery Well
- Recovery Well to be Decomissioned
- Former Pipeline
- Former Remediation Conex

Notes:
1. All locations are approximate.
2. Images acquired from ESRI basemaps 11/2021.
3. Former trailer on corner lot of Arctic and Tudor has been removed

Document Path: \\200-dat01\Jobs\CAD-GIS\Anchorage\20204.064\GIS\MXD\F2_SiteMap.mxd

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR
GROUNDWATER MONITORING REPORT 2021

Ahtna Engineering Services, LLC

SITE MAP

Project Number: 20204.064	Figure Number: 2
Date: 11/29/2021	
Drafted By: R.H.	

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LEGEND

- Drinking Water Well
- Monitoring Well
- Recovery Well
- Groundwater Contour
- Former Pipeline
- Former Remediation Conex

Notes:
1. All locations are approximate.
2. Images acquired from ESRI basemaps 11/2021.
3. Former trailer on corner lot of Arctic and Tudor has been removed.
4. 0.22 feet of LNAPL measured in RW-1.

Document Path: V:\20\Active\AHTNA CAD-GIS\Anchorage\20204.064\GIS\MXD\P3_GroundwaterElevationContours.mxd

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR
GROUNDWATER MONITORING REPORT 2021

Ahtna Engineering Services, LLC

GROUNDWATER ELEVATION CONTOURS

Project Number: 20204.064
Date: 11/29/2021
Drafted By: R.H.

Figure Number: 3

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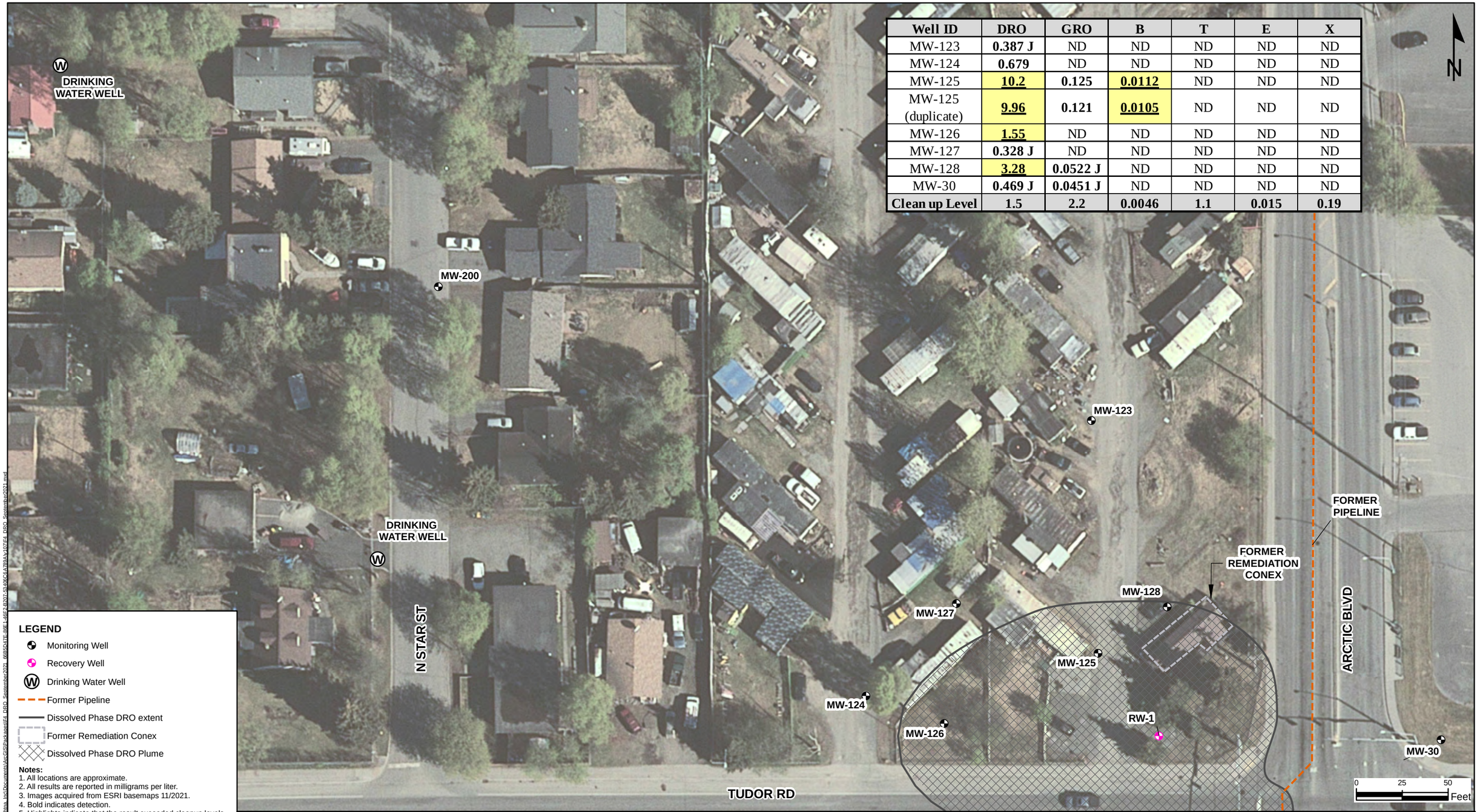
Well ID	DRO	GRO	B	T	E	X
MW-123	**0.387 J**	ND	ND	ND	ND	ND
MW-124	**0.679**	ND	ND	ND	ND	ND
MW-125	**10.2**	**0.125**	**0.0112**	ND	ND	ND
MW-125 (duplicate)	**9.96**	**0.121**	**0.0105**	ND	ND	ND
MW-126	**1.55**	ND	ND	ND	ND	ND
MW-127	**0.328 J**	ND	ND	ND	ND	ND
MW-128	**3.28**	**0.0522 J**	ND	ND	ND	ND
MW-30	**0.469 J**	**0.0451 J**	ND	ND	ND	ND
Clean up Level	**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**



LEGEND

- Monitoring Well
- Recovery Well
- Drinking Water Well
- Former Pipeline
- Dissolved Phase DRO extent
- Former Remediation Conex
- Dissolved Phase DRO Plume

Notes:
1. All locations are approximate.
2. All results are reported in milligrams per liter.
3. Images acquired from ESRI basemaps 11/2021.
4. Bold indicates detection.
5. Highlights indicate that the result exceeded cleanup levels.
6. Results are compared to ADEC 18 AAC 75 Table C Groundwater Cleanup Levels.
7. Former trailer on corner lot of Arctic and Tudor has been removed.

Key:
1. DRO - Diesel range organics
2. GRO - Gasoline range organics
3. BTEX - Benzene, Toluene, Ethylbenzene, Total Xylenes
4. J - Results are estimated
5. ND - Non-detect
6. LNAPL - Light Non-Aqueous Phase Liquid

Document Path: C:\Users\mwilson\OneDrive - Ahtna Inc\Documents\ArcGIS\Packages\FE DRO_September 2021_20f8b47f78f84e4b92a9f7c84b0c4a7d\p14\FE DRO_September 2021.mxd

AFSC CROSSTOWN PIPELINE, ARCTIC AND TUDOR
GROUNDWATER MONITORING REPORT 2021

EXTENTS OF DISSOLVED PHASE DRO, SEPTEMBER 2021

Ahtna Engineering Services, LLC

Project Number:	Figure Number:
20204.064	4
Date: 12/1/2021	
Drafted By: R.H.	

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APPENDIX A

FIELD NOTES

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B West wk — 9/1/21 — 50 mg 65

1245 finish purging well, Turbidity Meter not functioning properly Not able to get a ~~reading~~ reading. water was clear after pumping 15 gallons of water out of well

1305 Met with US Ecology to pick up drums from site. Soil and water Drum were picked up.

1315 all Field activities complete and Field team leaves site for Demob

L. Hoffmann — Arctic & Tudor — 9/14/21
C. Memikunian — Sunny 55°F

0830 Arrive @ warehouse to calibrate YSI and turbidimeter. Load field gear into Ahtna truck.

0915 Depart warehouse.

0945 Arrive @ Arctic & Tudor site.

0950 Conduct tailgate safety meeting.

1000 Conduct LNAPL / GW level survey

Well ID	LNAPL (btoc)	GW (btoc)	TD
RW-1	30.13'	30.35'	37.83'
MW-30	N/A	30.45'	39.44'
MW-123	N/A	~~30.45'~~ 30.89'	~~39.44'~~ 39.44' ~~33.97'~~
MW-124	N/A	31.56'	36.71'
MW-125*	N/A	31.56'	36.06'
MW-126*	N/A	32.67'	42.63'
MW-127	N/A	32.76'	39.64'
MW-128	N/A	32.15'	37.80'
MW-200	N/A	32.76'	34.106'

notes: * MW-125 has bentonite in well @ ~28' bgs
* MW-126 has slight POL odor
* RW-1 has strong POL odor

1130 Break for lunch

1145 Begin set up sampling equipment @ MW-124.

1220 Begin purging @ MW-124.

1257 Parameters stabilized @ MW-124.

L. Hoffman
G. Manikinson

Arctic & Tundra

9/14/21

55 Sunny

1257	Begin collecting sample @ MW-124.
1315	Begin setting up sampling equipment @ MW-126.
1335	Begin groundwater purge @ MW-126.
1414	Groundwater parameters stabilized. Begin collecting sample @ MW-126.
1445	Begin packing up sampling equipment @ MW-126
1500	Begin setting up sampling equipment @ MW-127.
1530	Begin groundwater purge @ MW-127.
1552	Begin collecting sample @ MW-127. AT-21-MW-127, 1552
1605	Begin decon and cleaning up sampling equipment @ MW-127.
1625	Begin setting up sampling equipment @ MW-123
1635	Begin groundwater purge @ MW-123.
1700	Parameters stabilize, begin collecting sample @ MW-123. AT-21-MW-123 1700
1730	Depart Arctic & Tundra site.
1740	Arrive @ Alpha warehouse and unpack gear.

L. Hoffman
G. Manikinson

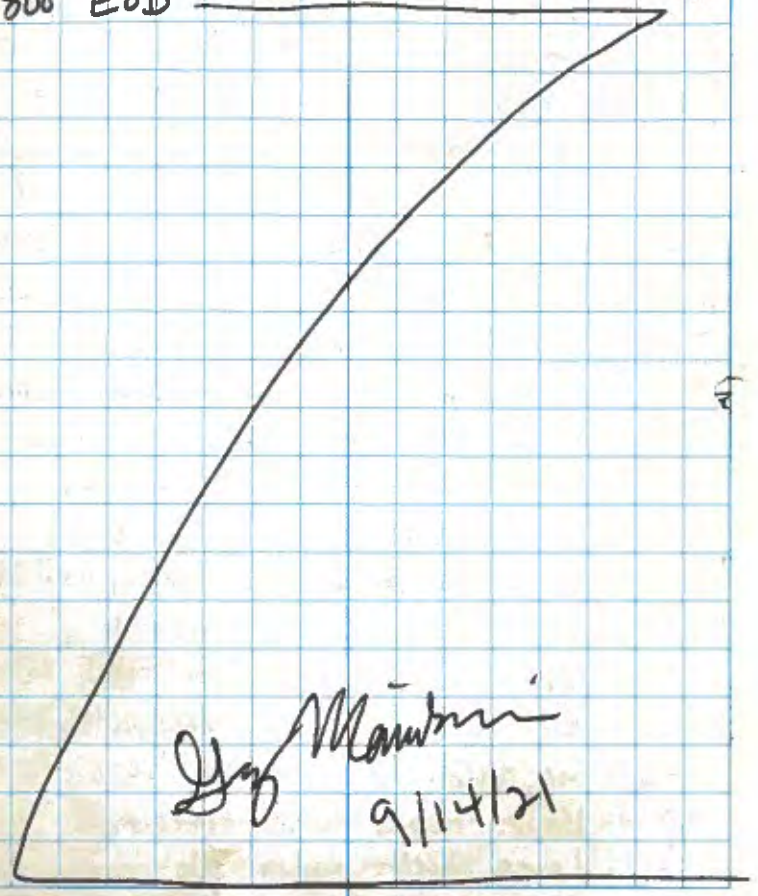
A+T

9/14/21

55° Sunny

Sample IDs	Time	QC Type
AT-21-MW-124	1257	Primary
AT-21-MW-126	1414	Primary
AT-21-MW-127	1552	Primary
AT-21-MW-123	1700	Primary

1800 EOD



G. Manikinson
9/14/21

L. Hoffman
G. Manikonian

Arctic & Tudor

9/15/21
Cloudy, 50°F

0730	Arrive @ warehouse and calibrate YSI and turbidmeter. Load gear into truck.
0810	Depart warehouse.
0820	Arrive @ Aktua office to grab level loop tripods
0835	Arrive @ TTT to return rentals and rent level.
0900	Arrive on-site @ Arctic & Tudor
0920	Begin daily tailgate safety brief
0930	Set up sampling equipment @ MW-200.
0940	Begin groundwater purge @ MW-200.
notes:	Used different pump (Geotech) with intake @ bottom of pump in attempt to pull water out of 1.92' water column.
0959	Well MW-200 purged dry after 1 well volume pulled out. NO sample collected @ MW-200. No recovery after 1 well volume pulled out.
1010	Pack up gear and move to MW-30.
1015	Begin unpacking sampling equipment. Set up safety cones @ MW-30.
1030	Laurie Butler visits the site.
1055	Laurie Butler departs site.
1105	Begin groundwater purge @ MW-30.

L. Hoffman
G. Manikonian

Arctic & Tudor

9/15/21
55° Sunny

1123	Groundwater parameters stabilize @ MW-30.
1126	Collect sample @ MW-30: AT-21-MW-30
1140	Start cleaning up sampling equipment.
1200	Arrive @ MW-128. Begin setting up sampling equipment.
1210	Begin purging @ MW-128
1228	Parameters stabilize.
1230	Collect primary sample: AT-21-MW-128
1235	~~Collect duplicate sample: AT-21-MW-929~~ (Dup)
1300	Begin packing up sampling equipment @ MW-128 and move to MW-125.
1325	The 1.75" bladder pump got stuck down the well @ ~28 ft btoc. Once pump was removed, bentonite and small pieces of gravel covered the pump and tubing. Well is likely compromised near the screen.
1410	Smaller diameter pump was placed down the well.
1420	Begin groundwater purge @ MW-125.
1445	Groundwater parameters stabilize.
1450	Begin collecting primary: AT-21-MW-125
1455	Begin collecting ~~primary~~ duplicate: AT-21-MW-925
note:	duplicate collected @ MW-125.

36 L. Hoffman
G. Mauritsen
A3T
9/15/21
55 sunny

1520 Begin cleaning up all groundwater sampling supplies and decon all pumps.
1600 Consolidate purge water into 55gal poly drum from 5-gallon buckets.
1630 Finish loading all gear and get level loop survey equipment out.
1635 Perform level loop survey.
1700 Load up all remaining gear and seal up wells.
1710 Depart site Arctic & Tudor
1720 Arrive @ warehouse and unload gear.
1745 Depart warehouse.
1750 EOD.

G. Mauritsen 9/15/21

37
L. Hoffman A3T
9/16/21
55 clouds

1230 - Drop samples off @ SGS Laboratory in Anchorage, AK. EOR

LH

Z. Hoffmann
N. Muniz

A & T

33. Survey
9/17/21

1530 – Arrive onsite to perform Level loop Survey of MW-123, MW-125, MW-28, & RW-1.

STA	BS	H_i	FS	Elev	Elev actual
MW-123	~~6.32~~			Ø	130.26
MW-128	6.32		4.88	1.44	131.70
RW-1	4.94	6.38	4.27	2.11	132.37
MW-125	4.86	6.97	6.13	0.84	131.10
MW-123	5.26	6.1	6.1	Ø	

1640 Andy Bough walked through the site & talked w/ us about what we were doing. We told him measuring groundwater well elevations. Mr. Bough was ok with that & left the site

1650 finish level loop survey & left A & T. EOD

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Ahtna Engineering Services, LLC

GROUNDWATER SAMPLING FORM

PROJECT NUMBER: 20204.64

WELL NUMBER: MW-124

SHEET: 1 of 1

PROJECT NAME	Arctic and Tudor GW Sampling
CLIENT	Menzies/AFSC
DATE	9/14/21
AOC	Arctic and Tudor
SCIENTIST	G. Mamikunian / L. Hoffman
WEATHER/ TEMPERATURE	Sunny, 55°F
WIND	2 mph
WELL CONDITION	Good
DEPTH TO BASE (ft FROM TOC)	36.71
DEPTH TO WATER (ft FROM TOC)	31.56'
HEIGHT OF WATER COLUMN (ft)	5.15'
WELL VOLUME (gal)	0.875
3 WELL VOLUMES (gal)	2.627

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
1"	1.315"	1.049"	0.04
1.5"	1.9"	1.610"	0.11
(2")	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66

SAMPLING DATA

DEPTH OF PUMP INTAKE: 32.5'

SAMPLE COLLECTED WITH: __ Bailer; X Pump, Type: Bladder; __ Other, Specify:

MADE OF: X Stainless Steel; __ PVC; __ Teflon; __ Disposable LDPE; __ Other, Specify:

SAMPLING DECON PROCEDURE: Alconox and DI

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity) Clear water, no POL odor, no sheen

FIELD WATER QUALITY PARAMETERS

						Stabilization Requirements (3 must be stable)						
						± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Purged Volume (Gal)	Purge Rate (mL/min)	Water Level	Draw Down (ft)	Temperature (°C)	Spec. Cond. (µS/cm)[c]	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
1228	0.1	300	31.60	0	8.3	645	1.46	7.53	161.8	608	light brown	none
1233	0.3	300	32.25	-0.65	6.4	739	1.29	8.41	124.7	459	↓	none
1238	0.5	100	31.78	-0.18	8.3	750	1.40	8.60	109.4	289	↓	none
1243	0.6	100	31.78	-0.18	8.0	740	1.08	8.74	98.1	195	↓	none
1248	0.9	100	31.78	-0.18	7.9	760	1.25	8.44	90.1	147	clear	none
1252	1.1	100	31.78	-0.18	8.1	770	1.24	8.35	86.9	121	clear	none
1255	1.2	100	31.78	-0.18	8.0	770	1.21	8.21	83.2	103	clear	none

ANALYTICAL SAMPLE INFORMATION

Sample ID	Time	Analytes	Sampling Notes:
AT-21-MW-124	1257	(DRO) RRO (GRO) BTEX (PAH) (VOCs) PEST HERB	
		DRO RRO GRO BTEX PAH VOCs PEST HERB	
		DRO RRO GRO BTEX PAH VOCs PEST HERB	

Ahtna Engineering Services, LLC

GROUNDWATER SAMPLING FORM

PROJECT NUMBER:	WELL NUMBER:	SHEET:
20204.64	MW-126	1 of 1

PROJECT NAME	Arctic and Tudor GW Sampling
CLIENT	Menzies/AFSC
DATE	9/14/21
AOC	Arctic and Tudor
SCIENTIST	G. Mamikunian / L. Hoffman
WEATHER/ TEMPERATURE	Sunny, 57°F
WIND	2 mph
WELL CONDITION	Good
DEPTH TO BASE (ft FROM TOC)	42.63'
DEPTH TO WATER (ft FROM TOC)	32.67'
HEIGHT OF WATER COLUMN (ft)	9.96'
WELL VOLUME (gal)	1.693
3 WELL VOLUMES (gal)	5.08

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
1"	1.315"	1.049"	0.04
1.5"	1.9"	1.610"	0.11
(2")	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66

SAMPLING DATA

DEPTH OF PUMP INTAKE: 33.65'

SAMPLE COLLECTED WITH: __ Bailer; X Pump, Type: Bladder; __ Other, Specify:

MADE OF: X Stainless Steel; __ PVC; __ Teflon; __ Disposable LDPE; __ Other, Specify:

SAMPLING DECON PROCEDURE: Alconox and DI

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity) Clear, no odor, no sheen

FIELD WATER QUALITY PARAMETERS

						Stabilization Requirements (3 must be stable)						
						± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Purged Volume (Gal)	Purge Rate (mL/min)	Water Level	Draw Down (ft)	Temperature (°C)	Spec. Cond. (µS/cm)[C]	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
1353	0.4	100	32.74	-0.07	10.5	870	1.63	8.11	81.5	29.0	clear	
1357	0.5	100	32.74	-0.07	7.9	890	1.55	8.55	79.7	14.7	clear	
1401	0.6	100	32.74	-0.07	7.7	910	1.31	8.54	77.0	11.2	clear	
1404	0.7	100	32.75	-0.08	7.5	930	1.05	8.48	77.9	7.31	clear	
1407	0.8	100	32.74	-0.07	7.6	950	1.66	8.31	76.7	6.91	clear	
1410	0.9	100	32.74	-0.07	7.7	960	1.35	8.34	75.5	6.77	clear	

ANALYTICAL SAMPLE INFORMATION

Sample ID	Time	Analytes
AT-21-MW-126	1414	DRO RRO (GRO) BTEX (PAH) (VOCs) PEST HERB
		DRO RRO GRO BTEX PAH VOCs PEST HERB
		DRO RRO GRO BTEX PAH VOCs PEST HERB

Sampling Notes:

Ahtna Engineering Services, LLC

GROUNDWATER SAMPLING FORM

PROJECT NUMBER: 20204.64

WELL NUMBER: MW-127

SHEET: 1 of 1

PROJECT NAME	Arctic and Tudor GW Sampling
CLIENT	Menzies/AFSC
DATE	9/14/21
AOC	Arctic and Tudor
SCIENTIST	G. Manikunian / L. Hoffman
WEATHER/ TEMPERATURE	Cloudy 55F
WIND	2-5mph
WELL CONDITION	Good
DEPTH TO BASE (ft FROM TOC)	39.64'
DEPTH TO WATER (ft FROM TOC)	32.77'
HEIGHT OF WATER COLUMN (ft)	6.87
WELL VOLUME (gal)	1.17
3 WELL VOLUMES (gal)	3.51

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
1"	1.315"	1.049"	0.04
1.5"	1.9"	1.610"	0.11
(2")	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66

SAMPLING DATA

DEPTH OF PUMP INTAKE: 33.79

SAMPLE COLLECTED WITH: __ Bailer; X Pump, Type: Bladder; __ Other, Specify:

MADE OF: X Stainless Steel; __ PVC; __ Teflon; __ Disposable LDPE; __ Other, Specify:

SAMPLING DECON PROCEDURE: Alconox and DI

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity): clear water, no visible sheen, no POL odor

FIELD WATER QUALITY PARAMETERS

						Stabilization Requirements (3 must be stable)						
						± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Purged Volume (Gal)	Purge Rate (mL/min)	Water Level	Draw Down (ft)	Temperature (°C)	Spec. Cond. (µS/cm)[C]	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
1539	0.1	100	32.77	0	10.8	930	3.31	7.25	94.3	15.1	clear	
1543	0.2	100	32.85	-0.08	8.6	950	2.86	7.50	92.5	12.4	↓	
1547	0.3	100	32.85	-0.08	8.1	950	2.30	7.60	90.9	17.5		
1551	0.4	100	32.85	-0.08	7.9	960	2.03	7.60	89.8	24.1	↓	

ANALYTICAL SAMPLE INFORMATION

Sample ID	Time	Analytes	Sampling Notes:
AT-21-MW-127	1552	(DRO) RRO (GRO) BTEX (PAH) (VOCs) PEST HERB	
		DRO RRO GRO BTEX PAH VOCs PEST HERB	
		DRO RRO GRO BTEX PAH VOCs PEST HERB	

Ahtna Engineering Services, LLC

GROUNDWATER SAMPLING FORM

PROJECT NUMBER: 20204.64

WELL NUMBER: MW-123

SHEET: 1 of 1

PROJECT NAME	Arctic and Tudor GW Sampling
CLIENT	Menzies/AFSC
DATE	9/14/21
AOC	Arctic and Tudor
SCIENTIST	G. Mamikunian / L. Hoffman
WEATHER/ TEMPERATURE	Cloudy 55°F
WIND	5 mph
WELL CONDITION	Good
DEPTH TO BASE (ft FROM TOC)	33.97'
DEPTH TO WATER (ft FROM TOC)	30.89'
HEIGHT OF WATER COLUMN (ft)	3.08'
WELL VOLUME (gal)	0.524
3 WELL VOLUMES (gal)	1.571

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
1"	1.315"	1.049"	0.04
1.5"	1.9"	1.610"	0.11
(2")	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66

SAMPLING DATA

DEPTH OF PUMP INTAKE: 31.95

SAMPLE COLLECTED WITH: __ Bailer; X Pump, Type: Bladder; __ Other, Specify:

MADE OF: X Stainless Steel; __ PVC; __ Teflon; __ Disposable LDPE; __ Other, Specify:

SAMPLING DECON PROCEDURE: Alconox and DI

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity): clean, no sheen, no odor

FIELD WATER QUALITY PARAMETERS

						Stabilization Requirements (3 must be stable)						
						± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Purged Volume (Gal)	Purge Rate (mL/min)	Water Level	Draw Down (ft)	Temperature (°C)	Spec. Cond. (µS/cm)[C]	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
1645	0.5	100	30.95	-0.06	8.3	8.762	5.19	7.15	86.1	36.7	Clear	None
1649	0.6	100	30.95	-0.06	7.7	697	5.23	7.19	84.5	35.3	clear	↓
1653	0.7	100	30.95	-0.06	7.6	696	5.24	7.17	83.8	29.7	clear	
1657	0.8	100	30.95	-0.06	7.4	696	5.45	7.17	83.3	24.3	clear	

ANALYTICAL SAMPLE INFORMATION

Sample ID	Time	Analytes	Sampling Notes:
AT-21-MW-123	1700	(DRO) RRO (GRO) BTEX (PAH) (VOCs) PEST HERB	
		DRO RRO GRO BTEX PAH VOCs PEST HERB	
		DRO RRO GRO BTEX PAH VOCs PEST HERB	

Ahtna Engineering Services, LLC

GROUNDWATER SAMPLING FORM

PROJECT NUMBER: 20204.64

WELL NUMBER: MW-200

SHEET: 1 of 1

PROJECT NAME	Arctic and Tudor GW Sampling
CLIENT	Menzies/AFSC
DATE	9/15/21
AOC	Arctic and Tudor
SCIENTIST	G Mamikunian / L Hoffman
WEATHER/ TEMPERATURE	Cloudy 58°F
WIND	2 mph

WELL CONDITION	Good
DEPTH TO BASE (ft FROM TOC)	34.66
DEPTH TO WATER (ft FROM TOC)	32.74
HEIGHT OF WATER COLUMN (ft)	1.92
WELL VOLUME (gal)	0.3264
3 WELL VOLUMES (gal)	0.979

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
1"	1.315"	1.049"	0.04
1.5"	1.9"	1.610"	0.11
(2")	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66

SAMPLING DATA

DEPTH OF PUMP INTAKE: 33.4

SAMPLE COLLECTED WITH: __ Bailer; X Pump, Type: Bladder; __ Other, Specify:

MADE OF: X Stainless Steel; __ PVC; __ Teflon; __ Disposable LDPE; __ Other, Specify:

SAMPLING DECON PROCEDURE: Alconox and DI

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity) NO Sample collected.

FIELD WATER QUALITY PARAMETERS

						Stabilization Requirements (3 must be stable)						
						± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Purged Volume (Gal)	Purge Rate (mL/min)	Water Level	Draw Down (ft)	Temperature (°C)	Spec. Cond. (µS/cm)[c]	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
0945					7.0	355	6.34	6.58	130.6	573	light brown	
0949					7.0	349	8.15	6.74	124.1	591	light brown	

ANALYTICAL SAMPLE INFORMATION

Sample ID	Time	Analytes
		DRO RRO GRO BTEX PAH VOCs PEST HERB
		DRO RRO GRO BTEX PAH VOCs PEST HERB
		DRO RRO GRO BTEX PAH VOCs PEST HERB

Sampling Notes: No Sample Collected

Notes: Well purged dry after 1 well volume and did not recharge. No Groundwater Sample collected.

Ahtna Engineering Services, LLC

GROUNDWATER SAMPLING FORM

PROJECT NUMBER: 20204.64

WELL NUMBER: MW-30

SHEET: 1 of 1

PROJECT NAME	Arctic and Tudor GW Sampling
CLIENT	Menzies/AFSC
DATE	9/15/21
AOC	Arctic and Tudor
SCIENTIST	G. Mamikunn / L. Hoffman
WEATHER/ TEMPERATURE	Cloudy 50°F
WIND	5 mph
WELL CONDITION	Good
DEPTH TO BASE (ft FROM TOC)	39.44'
DEPTH TO WATER (ft FROM TOC)	30.45'
HEIGHT OF WATER COLUMN (ft)	8.99'
WELL VOLUME (gal)	1.528
3 WELL VOLUMES (gal)	4.585

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
1"	1.315"	1.049"	0.04
1.5"	1.9"	1.610"	0.11
(2")	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66

SAMPLING DATA

DEPTH OF PUMP INTAKE: 31.40

SAMPLE COLLECTED WITH: __ Bailer; X Pump, Type: Bladder; ___ Other, Specify:

MADE OF: X Stainless Steel; ___ PVC; ___ Teflon; ___ Disposable LDPE; ___ Other, Specify:

SAMPLING DECON PROCEDURE: Alconox and DI

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity) clear water, no sheen, no odor.

FIELD WATER QUALITY PARAMETERS

						Stabilization Requirements (3 must be stable)						
						± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Purged Volume (Gal)	Purge Rate (mL/min)	Water Level	Draw Down (ft)	Temperature (°C)	Spec. Cond. (µS/cm)[c]	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
1111	0.3	100	30.79	0.26	9.0	1.12	1.14	7.06	104.8	182	Hazy	None
1115	0.4	100	30.74	0.29	7.8	1.15	1.04	7.35	89.9	115	Hazy	None
1119	0.5	100	"	"	7.6	1.15	1.05	7.38	85.5	58.5	"	"
1123	0.6	100	"	"	7.5	1.15	1.06	7.42	80.5	31.4	"	"

ANALYTICAL SAMPLE INFORMATION

Sample ID	Time	Analytes
AT-21-MW-30	1126	(DRO) RRO (GRO) BTEX (PAH) (VOCs) PEST HERB
		DRO RRO GRO BTEX PAH VOCs PEST HERB
		DRO RRO GRO BTEX PAH VOCs PEST HERB

Sampling Notes:

Ahtna Engineering Services, LLC

GROUNDWATER SAMPLING FORM

PROJECT NUMBER:	WELL NUMBER:	SHEET:
20204.64	MW-128	1 of 1

PROJECT NAME	Arctic and Tudor GW Sampling
CLIENT	Menzies/AFSC
DATE	9/15/21
AOC	Arctic and Tudor
SCIENTIST	G. Manikkuman / L. Heffman
WEATHER/ TEMPERATURE	Partly Cloudy 52°F
WIND	5 mph

WELL CONDITION	Good
DEPTH TO BASE (ft FROM TOC)	37.80
DEPTH TO WATER (ft FROM TOC)	32.12'
HEIGHT OF WATER COLUMN (ft)	5.68'
WELL VOLUME (gal)	0.966
3 WELL VOLUMES (gal)	2.897

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
1"	1.315"	1.049"	0.04
1.5"	1.9"	1.610"	0.11
(2")	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66

SAMPLING DATA

DEPTH OF PUMP INTAKE: 33.20'

SAMPLE COLLECTED WITH: __ Bailer; X Pump, Type: Bladder; __ Other, Specify:

MADE OF: X Stainless Steel; ____ PVC; __ Teflon; ____ Disposable LDPE; __ Other, Specify:

SAMPLING DECON PROCEDURE: Alconox and DI

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity): clear, no odor, no sheen

FIELD WATER QUALITY PARAMETERS

						Stabilization Requirements (3 must be stable)						
						± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Purged Volume (Gal)	Purge Rate (mL/min)	Water Level	Draw Down (ft)	Temperature (°C)	Spec. Cond. (µS/cm)[c]	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
1216	0.1	100	32.26	-0.14	9.0	970	2.46	7.17	90.6	171	clear	none
1220	0.2	100	32.26	-0.14	8.0	980	2.14	7.30	87.3	133	↓	↓
1224	0.3	100	32.27	-0.15	7.7	980	1.55	7.37	84.1	99.2		
1228	0.4	100	32.26	-0.14	7.5	980	1.39	7.41	81.3	68.5		

ANALYTICAL SAMPLE INFORMATION

Sample ID	Time	Analytes	Sampling Notes:
AT-21-MW-128	1230	(DRO) RRO (GRO) BTEX (PAH) (VOCs) PEST HERB	~~928~~ 128
~~AT-21-MW-928~~	~~1235~~	(DRO) RRO (GRO) BTEX (PAH) (VOCs) PEST HERB	~~Duplicate Sample~~
		DRO RRO GRO BTEX PAH VOCs PEST HERB	

note: no duplicate collected. dup collected @ MW-125 instead

Ahtna Engineering Services, LLC

GROUNDWATER SAMPLING FORM

PROJECT NUMBER:	WELL NUMBER:	SHEET:
20204.64	MW-125	1 of 1

PROJECT NAME	Arctic and Tudor GW Sampling
CLIENT	Menzies/AFSC
DATE	9/15/21
AOC	Arctic and Tudor
SCIENTIST	G. Manikunnian / L. Hoffman
WEATHER/ TEMPERATURE	Cloudy 52°F
WIND	5-10 mph

WELL CONDITION	Poor
DEPTH TO BASE (ft FROM TOC)	36.00'
DEPTH TO WATER (ft FROM TOC)	31.54'
HEIGHT OF WATER COLUMN (ft)	4.46'
WELL VOLUME (gal)	0.76
3 WELL VOLUMES (gal)	2.28 gal

NOMINAL DIAMETER	O.D.	I.D.	VOLUME (GAL/LIN FT)
1"	1.315"	1.049"	0.04
1.5"	1.9"	1.610"	0.11
(2")	2.375"	2.067"	0.17
3"	3.5"	3.068"	0.38
4"	4.5"	4.026"	0.66

SAMPLING DATA

DEPTH OF PUMP INTAKE: 32.4'

SAMPLE COLLECTED WITH: __ Bailer; X Pump, Type: Bladder; __ Other, Specify:

MADE OF: X Stainless Steel; __ PVC; __ Teflon; __ Disposable LDPE; __ Other, Specify:

SAMPLING DECON PROCEDURE: Alconox and DI

SAMPLE DESCRIPTION: (color, free product thickness, odor, turbidity): Light gray color, no sheen, faint POL odor

FIELD WATER QUALITY PARAMETERS

						Stabilization Requirements (3 must be stable)						
						± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Purged Volume (Gal)	Purge Rate (mL/min)	Water Level	Draw Down (ft)	Temperature (°C)	Spec. Cond. (µS/cm)[c]	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Color	Odor
1432	0.1	100	31.55	-0.01	10.5	940	0.67	7.90	64.8	>R	Gray	Slight POL
1436	0.2	100	31.55	-0.01	9.7	940	0.76	7.87	54.4	941	↓	↓
1440	0.3	100	31.55	-0.01	9.6	930	0.79	7.81	48.5	494		
1444	0.4	100	31.55	-0.01	9.4	920	0.83	7.81	45.4	500		

ANALYTICAL SAMPLE INFORMATION

Sample ID	Time	Analytes
AT-21-MW-125	1450	(DRO) RRO (GRO) BTEX (PAH) (VOCs) PEST HERB
AT-21-MW-925	1455	(DRO) RRO (GRO) BTEX (PAH) (VOCs) PEST HERB
		DRO RRO GRO BTEX PAH VOCs PEST HERB

Sampling Notes:
faint POL odor
MW-925 is a duplicate

APPENDIX B

WASTE MANIFEST

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*** IN CASE OF EMERGENCY CALL 800-899-4672 ***

170662MK

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EXEMPT

Manifest Document No.: 170662A

2. Page 1 of 1

3. Generator's Name and Mailing Address:
MENZIES AVIATION
6900 WEST END ROAD
ANCHORAGE, AK 99502

MENZIES AVIATION
6000 DE HAVILLAND AVENUE
ANCHORAGE, AK 99502

4. Generator's Phone (907-248-5000

5. Transporter 1 Company Name: CLIENT DELIVERED

6. US EPA ID Number:

A. State Transporter's ID:

B. Transporter 1 Phone:

7. Transporter 2 Company Name:

8. US EPA ID Number:

C. State Transporter's ID:

D. Transporter 2 Phone:

9. Designated Facility Name and Site Address:
US ECOLOGY ALASKA LLC
2020 VIKING DRIVE
ANCHORAGE, AK 99501

10. US EPA ID Number: AKR000004184

E. State Facility's ID:

F. Facility's Phone: 907-258-1558

GENERATOR

HM	11. WASTE DESCRIPTION	Containers No.	Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a.	MATERIAL NOT REGULATED BY D.O.T.	1	DF	80	P
b.					
c.					
d.					

G. Additional Descriptions for Materials Listed Above:
1) EA0302 IDW DECON WATER / GROUNDWATER (DFIS)

H. Handling Codes for Wastes Listed Above:
~~D38579~~
D38579

15. Special Handling Instructions and Additional Information:
Shipper's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: X Luke Hoffmann on behalf of Menzies
Signature:
Date: Month 9 Day 23 Year 21

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: X Luke Hoffmann obo Menzies
Signature:
Date: Month 9 Day 23 Year 21

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name:
Signature:
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name:
Signature:
Date: Month Day Year

NON-HAZARDOUS WASTE

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APPENDIX C

LABORATORY REPORT

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Laboratory Report of Analysis

To: Ahtna Engineering Svs
110 W 38th Ave
Anchorage, AK 99503
(907)744-6973

Report Number: **1216108**

Client Project: **20204.064.02 AT GW**

Dear Melissa Kottke,

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.

Sincerely,
SGS North America Inc.

_____

Justin Nelson Date
Project Manager
Justin.Nelson@sgs.com

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

Case Narrative

SGS Client: **Ahtna Engineering Svs**
SGS Project: **1216108**
Project Name/Site: **20204.064.02 AT GW**
Project Contact: **Melissa Kottke**

Refer to sample receipt form for information on sample condition.

AT-21-MW-123 (1216108001) PS

8260D - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria, however the associated samples were not detected above the LOQ.

AT-21-MW-125 (1216108003) PS

8270D SIM - PAH surrogate recovery for 2-methylnaphthalene-d10 does not meet QC criteria due to matrix interference.

AT-21-MW-925 (1216108004) PS

8270D SIM - PAH surrogate recovery for 2-methylnaphthalene-d10 does not meet QC criteria due to matrix interference.

AT-21-MW-127 (1216108006) PS

8270D SIM - PAH surrogate recovery for fluoranthene-d10 does not meet QC criteria. The sample was re-extracted outside of hold time to confirm results and results are comparable. In-hold data is reported.

1216157001MSD (1636915) MSD

8270D SIM - PAH MS/MSD RPDs for multiple analytes do not meet QC criteria. These analytes are not detected above the LOQ in the parent sample.

Revised Report - This report has been reissued to report only Petroleum-related VOCs.

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

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
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Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
8270D SIM LV (PAH)				
1636913	LCS for HBN 1825832 [XXX/45585	XMS12903	Benzo[k]fluoranthene	RP
1636914	1216157001MS	XMS12903	Benzo[k]fluoranthene	RP
1636915	1216157001MSD	XMS12903	Benzo[k]fluoranthene	RP
1637923	CVC for HBN 1826077 [XMS/12903	XMS12903	Benzo[k]fluoranthene	RP

Manual Integration Reason Code Descriptions

Code	Description
O	Original Chromatogram
M	Modified Chromatogram
SS	Skimmed surrogate
BLG	Closed baseline gap
RP	Reassign peak name
PIR	Pattern integration required
IT	Included tail
SP	Split peak
RSP	Removed split peak
FPS	Forced peak start/stop
BLC	Baseline correction
PNF	Peak not found by software

All DRO/RRO analysis are integrated per SOP.

Print Date: 10/20/2021 11:15:10AM

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 <http://www.sgs.com/en/Terms-and-Conditions.aspx>. 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.
B	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.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
AT-21-MW-123	1216108001	09/14/2021	09/16/2021	Water (Surface, Eff., Ground)
AT-21-MW-124	1216108002	09/14/2021	09/16/2021	Water (Surface, Eff., Ground)
AT-21-MW-125	1216108003	09/15/2021	09/16/2021	Water (Surface, Eff., Ground)
AT-21-MW-925	1216108004	09/15/2021	09/16/2021	Water (Surface, Eff., Ground)
AT-21-MW-126	1216108005	09/14/2021	09/16/2021	Water (Surface, Eff., Ground)
AT-21-MW-127	1216108006	09/14/2021	09/16/2021	Water (Surface, Eff., Ground)
AT-21-MW-128	1216108007	09/15/2021	09/16/2021	Water (Surface, Eff., Ground)
AT-21-MW-30	1216108008	09/15/2021	09/16/2021	Water (Surface, Eff., Ground)
AT-TB-091421	1216108009	09/14/2021	09/16/2021	Water (Surface, Eff., Ground)

Method	Method Description
8270D SIM LV (PAH)	8270 PAH SIM GC/MS LV
AK102	DRO Low Volume (W)
AK101	Gasoline Range Organics (W)
SW8260D	Volatile Organic Compounds (W) FULL

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Detectable Results Summary

Client Sample ID: **AT-21-MW-123**
Lab Sample ID: 1216108001

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Phenanthrene	0.0187J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.387J	mg/L

Client Sample ID: **AT-21-MW-124**
Lab Sample ID: 1216108002

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	2-Methylnaphthalene	0.0177J	ug/L
	Phenanthrene	0.0237J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.679	mg/L

Client Sample ID: **AT-21-MW-125**
Lab Sample ID: 1216108003

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.223	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	10.2	mg/L
Volatile Fuels	Gasoline Range Organics	0.125	mg/L
Volatile GC/MS- Petroleum VOC Group	1,2,4-Trimethylbenzene	1.42	ug/L
	Benzene	11.2	ug/L
	Isopropylbenzene (Cumene)	1.89	ug/L
	Naphthalene	0.550J	ug/L
	o-Xylene	0.760J	ug/L

Client Sample ID: **AT-21-MW-925**
Lab Sample ID: 1216108004

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.212	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	9.96	mg/L
Volatile Fuels	Gasoline Range Organics	0.121	mg/L
Volatile GC/MS- Petroleum VOC Group	1,2,4-Trimethylbenzene	1.35	ug/L
	Benzene	10.5	ug/L
	Isopropylbenzene (Cumene)	1.73	ug/L
	Naphthalene	0.760J	ug/L
	o-Xylene	0.730J	ug/L

Client Sample ID: **AT-21-MW-126**
Lab Sample ID: 1216108005

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	1.55	mg/L

Client Sample ID: **AT-21-MW-127**
Lab Sample ID: 1216108006

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	Phenanthrene	0.0158J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.328J	mg/L

Client Sample ID: **AT-21-MW-128**
Lab Sample ID: 1216108007

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	2-Methylnaphthalene	0.0386J	ug/L
	Phenanthrene	0.0169J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	3.28	mg/L
Volatile Fuels	Gasoline Range Organics	0.0522J	mg/L

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Detectable Results Summary

Client Sample ID: **AT-21-MW-30**
Lab Sample ID: 1216108008

	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	0.0239J	ug/L
	2-Methylnaphthalene	0.0144J	ug/L
	Acenaphthene	0.0524	ug/L
	Fluorene	0.0419J	ug/L
	Naphthalene	0.124	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.469J	mg/L
Volatile Fuels	Gasoline Range Organics	0.0451J	mg/L
Volatile GC/MS- Petroleum VOC Group	Isopropylbenzene (Cumene)	1.23	ug/L
	Naphthalene	0.570J	ug/L
	n-Butylbenzene	0.390J	ug/L
	sec-Butylbenzene	1.79	ug/L

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Results of **AT-21-MW-123**

Client Sample ID: **AT-21-MW-123**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108001
Lab Project ID: 1216108

Collection Date: 09/14/21 17:00
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
2-Methylnaphthalene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Acenaphthene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Acenaphthylene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Anthracene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Benzo(a)Anthracene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Benzo[a]pyrene	0.0102	U	0.0204	0.00633	ug/L	1		09/23/21 17:30
Benzo[b]Fluoranthene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Benzo[g,h,i]perylene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Benzo[k]fluoranthene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Chrysene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Dibenzo[a,h]anthracene	0.0102	U	0.0204	0.00633	ug/L	1		09/23/21 17:30
Fluoranthene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Fluorene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Indeno[1,2,3-c,d] pyrene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Naphthalene	0.0510	U	0.102	0.0316	ug/L	1		09/23/21 17:30
Phenanthrene	0.0187	J	0.0510	0.0153	ug/L	1		09/23/21 17:30
Pyrene	0.0255	U	0.0510	0.0153	ug/L	1		09/23/21 17:30
Surrogates								
2-Methylnaphthalene-d10 (surr)	55		42-86		%	1		09/23/21 17:30
Fluoranthene-d10 (surr)	64.8		50-97		%	1		09/23/21 17:30

Batch Information

Analytical Batch: XMS12906
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 09/23/21 17:30
Container ID: 1216108001-I

Prep Batch: XXX45585
Prep Method: SW3535A
Prep Date/Time: 09/19/21 12:32
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-123**

Client Sample ID: **AT-21-MW-123**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108001
Lab Project ID: 1216108

Collection Date: 09/14/21 17:00
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.387	J	0.600	0.200	mg/L	1		09/28/21 17:27
Surrogates								
5a Androstane (surr)	81.5		50-150		%	1		09/28/21 17:27

Batch Information

Analytical Batch: XFC16089
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 09/28/21 17:27
Container ID: 1216108001-G

Prep Batch: XXX45588
Prep Method: SW3520C
Prep Date/Time: 09/19/21 15:23
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-123**

Client Sample ID: **AT-21-MW-123**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108001
Lab Project ID: 1216108

Collection Date: 09/14/21 17:00
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0450	mg/L	1		09/22/21 04:15
Surrogates								
4-Bromofluorobenzene (surr)	95		50-150		%	1		09/22/21 04:15

Batch Information

Analytical Batch: VFC15833
Analytical Method: AK101
Analyst: IJV
Analytical Date/Time: 09/22/21 04:15
Container ID: 1216108001-A

Prep Batch: VXX37884
Prep Method: SW5030B
Prep Date/Time: 09/21/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **AT-21-MW-123**

Client Sample ID: **AT-21-MW-123**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108001
Lab Project ID: 1216108

Collection Date: 09/14/21 17:00
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/24/21 18:46
1,2-Dibromoethane	0.0375 U		0.0750	0.0180	ug/L	1		09/24/21 18:46
1,2-Dichloroethane	0.250 U		0.500	0.200	ug/L	1		09/24/21 18:46
1,3,5-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/24/21 18:46
Benzene	0.200 U		0.400	0.120	ug/L	1		09/24/21 18:46
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/24/21 18:46
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		09/24/21 18:46
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		09/24/21 18:46
Naphthalene	0.500 U		1.00	0.310	ug/L	1		09/24/21 18:46
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/24/21 18:46
o-Xylene	0.500 U		1.00	0.310	ug/L	1		09/24/21 18:46
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		09/24/21 18:46
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/24/21 18:46
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/24/21 18:46
Toluene	0.500 U		1.00	0.310	ug/L	1		09/24/21 18:46
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		09/24/21 18:46
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		09/24/21 18:46
4-Bromofluorobenzene (surr)	122	*	85-114		%	1		09/24/21 18:46
Toluene-d8 (surr)	99.5		89-112		%	1		09/24/21 18:46

Batch Information

Analytical Batch: VMS21217
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 09/24/21 18:46
Container ID: 1216108001-D

Prep Batch: VXX37911
Prep Method: SW5030B
Prep Date/Time: 09/24/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-124**

Client Sample ID: **AT-21-MW-124**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108002
Lab Project ID: 1216108

Collection Date: 09/14/21 12:57
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
2-Methylnaphthalene	0.0177	J	0.0490	0.0147	ug/L	1		09/23/21 17:51
Acenaphthene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Acenaphthylene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Anthracene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Benzo(a)Anthracene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Benzo[a]pyrene	0.00980	U	0.0196	0.00608	ug/L	1		09/23/21 17:51
Benzo[b]Fluoranthene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Benzo[g,h,i]perylene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Benzo[k]fluoranthene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Chrysene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Dibenzo[a,h]anthracene	0.00980	U	0.0196	0.00608	ug/L	1		09/23/21 17:51
Fluoranthene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Fluorene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Indeno[1,2,3-c,d] pyrene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Naphthalene	0.0490	U	0.0980	0.0304	ug/L	1		09/23/21 17:51
Phenanthrene	0.0237	J	0.0490	0.0147	ug/L	1		09/23/21 17:51
Pyrene	0.0245	U	0.0490	0.0147	ug/L	1		09/23/21 17:51
Surrogates								
2-Methylnaphthalene-d10 (surr)	63.4		42-86		%	1		09/23/21 17:51
Fluoranthene-d10 (surr)	54.3		50-97		%	1		09/23/21 17:51

Batch Information

Analytical Batch: XMS12906
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 09/23/21 17:51
Container ID: 1216108002-I

Prep Batch: XXX45585
Prep Method: SW3535A
Prep Date/Time: 09/19/21 12:32
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-124**

Client Sample ID: **AT-21-MW-124**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108002
Lab Project ID: 1216108

Collection Date: 09/14/21 12:57
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.679		0.588	0.196	mg/L	1		09/29/21 01:37
Surrogates								
5a Androstane (surr)	80.9		50-150		%	1		09/29/21 01:37

Batch Information

Analytical Batch: XFC16089
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 09/29/21 01:37
Container ID: 1216108002-G

Prep Batch: XXX45588
Prep Method: SW3520C
Prep Date/Time: 09/19/21 15:23
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-124**

Client Sample ID: **AT-21-MW-124**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108002
Lab Project ID: 1216108

Collection Date: 09/14/21 12:57
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0450	mg/L	1		09/22/21 04:50
Surrogates								
4-Bromofluorobenzene (surr)	92.2		50-150		%	1		09/22/21 04:50

Batch Information

Analytical Batch: VFC15833
Analytical Method: AK101
Analyst: IJV
Analytical Date/Time: 09/22/21 04:50
Container ID: 1216108002-A

Prep Batch: VXX37884
Prep Method: SW5030B
Prep Date/Time: 09/21/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-124**

Client Sample ID: **AT-21-MW-124**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108002
Lab Project ID: 1216108

Collection Date: 09/14/21 12:57
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:26
1,2-Dibromoethane	0.0375 U		0.0750	0.0180	ug/L	1		09/28/21 16:26
1,2-Dichloroethane	0.250 U		0.500	0.200	ug/L	1		09/28/21 16:26
1,3,5-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:26
Benzene	0.200 U		0.400	0.120	ug/L	1		09/28/21 16:26
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:26
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:26
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		09/28/21 16:26
Naphthalene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:26
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:26
o-Xylene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:26
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		09/28/21 16:26
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:26
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:26
Toluene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:26
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		09/28/21 16:26
Surrogates								
1,2-Dichloroethane-D4 (surr)	99.5		81-118		%	1		09/28/21 16:26
4-Bromofluorobenzene (surr)	104		85-114		%	1		09/28/21 16:26
Toluene-d8 (surr)	100		89-112		%	1		09/28/21 16:26

Batch Information

Analytical Batch: VMS21226
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 09/28/21 16:26
Container ID: 1216108002-D

Prep Batch: VXX37934
Prep Method: SW5030B
Prep Date/Time: 09/28/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-125**

Client Sample ID: **AT-21-MW-125**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108003
Lab Project ID: 1216108

Collection Date: 09/15/21 14:50
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.223		0.0510	0.0153	ug/L	1		09/23/21 18:11
2-Methylnaphthalene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Acenaphthene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Acenaphthylene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Anthracene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Benzo(a)Anthracene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Benzo[a]pyrene	0.0102 U		0.0204	0.00633	ug/L	1		09/23/21 18:11
Benzo[b]Fluoranthene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Benzo[g,h,i]perylene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Benzo[k]fluoranthene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Chrysene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Dibenzo[a,h]anthracene	0.0102 U		0.0204	0.00633	ug/L	1		09/23/21 18:11
Fluoranthene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Fluorene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Indeno[1,2,3-c,d] pyrene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Naphthalene	0.0510 U		0.102	0.0316	ug/L	1		09/23/21 18:11
Phenanthrene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Pyrene	0.0255 U		0.0510	0.0153	ug/L	1		09/23/21 18:11
Surrogates								
2-Methylnaphthalene-d10 (surr)	95.7	*	42-86		%	1		09/23/21 18:11
Fluoranthene-d10 (surr)	49.5	*	50-97		%	1		09/23/21 18:11

Batch Information

Analytical Batch: XMS12906
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 09/23/21 18:11
Container ID: 1216108003-I

Prep Batch: XXX45585
Prep Method: SW3535A
Prep Date/Time: 09/19/21 12:32
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-125**

Client Sample ID: **AT-21-MW-125**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108003
Lab Project ID: 1216108

Collection Date: 09/15/21 14:50
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	10.2		0.588	0.196	mg/L	1		09/29/21 01:46
Surrogates								
5a Androstane (surr)	83.9		50-150		%	1		09/29/21 01:46

Batch Information

Analytical Batch: XFC16089
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 09/29/21 01:46
Container ID: 1216108003-G

Prep Batch: XXX45588
Prep Method: SW3520C
Prep Date/Time: 09/19/21 15:23
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-125**

Client Sample ID: **AT-21-MW-125**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108003
Lab Project ID: 1216108

Collection Date: 09/15/21 14:50
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.125		0.100	0.0450	mg/L	1		09/22/21 05:08
Surrogates								
4-Bromofluorobenzene (surr)	107		50-150		%	1		09/22/21 05:08

Batch Information

Analytical Batch: VFC15833
Analytical Method: AK101
Analyst: IJV
Analytical Date/Time: 09/22/21 05:08
Container ID: 1216108003-A

Prep Batch: VXX37884
Prep Method: SW5030B
Prep Date/Time: 09/21/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Results of **AT-21-MW-125**

Client Sample ID: **AT-21-MW-125**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108003
Lab Project ID: 1216108

Collection Date: 09/15/21 14:50
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	1.42		1.00	0.310	ug/L	1		09/28/21 19:08
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/28/21 19:08
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		09/28/21 19:08
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:08
Benzene	11.2		0.400	0.120	ug/L	1		09/28/21 19:08
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:08
Isopropylbenzene (Cumene)	1.89		1.00	0.310	ug/L	1		09/28/21 19:08
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		09/28/21 19:08
Naphthalene	0.550	J	1.00	0.310	ug/L	1		09/28/21 19:08
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:08
o-Xylene	0.760	J	1.00	0.310	ug/L	1		09/28/21 19:08
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		09/28/21 19:08
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:08
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:08
Toluene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:08
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		09/28/21 19:08
Surrogates								
1,2-Dichloroethane-D4 (surr)	101		81-118		%	1		09/28/21 19:08
4-Bromofluorobenzene (surr)	103		85-114		%	1		09/28/21 19:08
Toluene-d8 (surr)	101		89-112		%	1		09/28/21 19:08

Batch Information

Analytical Batch: VMS21226
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 09/28/21 19:08
Container ID: 1216108003-D

Prep Batch: VXX37934
Prep Method: SW5030B
Prep Date/Time: 09/28/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-925**

Client Sample ID: **AT-21-MW-925**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108004
Lab Project ID: 1216108

Collection Date: 09/15/21 14:55
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.212		0.0500	0.0150	ug/L	1		09/23/21 18:32
2-Methylnaphthalene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Acenaphthene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Acenaphthylene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Anthracene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Benzo(a)Anthracene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Benzo[a]pyrene	0.0100 U		0.0200	0.00620	ug/L	1		09/23/21 18:32
Benzo[b]Fluoranthene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Benzo[g,h,i]perylene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Benzo[k]fluoranthene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Chrysene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Dibenzo[a,h]anthracene	0.0100 U		0.0200	0.00620	ug/L	1		09/23/21 18:32
Fluoranthene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Fluorene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Indeno[1,2,3-c,d] pyrene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Naphthalene	0.0500 U		0.100	0.0310	ug/L	1		09/23/21 18:32
Phenanthrene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Pyrene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 18:32
Surrogates								
2-Methylnaphthalene-d10 (surr)	87.6	*	42-86		%	1		09/23/21 18:32
Fluoranthene-d10 (surr)	55		50-97		%	1		09/23/21 18:32

Batch Information

Analytical Batch: XMS12906
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 09/23/21 18:32
Container ID: 1216108004-I

Prep Batch: XXX45585
Prep Method: SW3535A
Prep Date/Time: 09/19/21 12:32
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-925**

Client Sample ID: **AT-21-MW-925**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108004
Lab Project ID: 1216108

Collection Date: 09/15/21 14:55
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	9.96		0.588	0.196	mg/L	1		09/29/21 01:56
Surrogates								
5a Androstane (surr)	81.1		50-150		%	1		09/29/21 01:56

Batch Information

Analytical Batch: XFC16089
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 09/29/21 01:56
Container ID: 1216108004-G

Prep Batch: XXX45588
Prep Method: SW3520C
Prep Date/Time: 09/19/21 15:23
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-925**

Client Sample ID: **AT-21-MW-925**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108004
Lab Project ID: 1216108

Collection Date: 09/15/21 14:55
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.121		0.100	0.0450	mg/L	1		09/22/21 05:26
Surrogates								
4-Bromofluorobenzene (surr)	107		50-150		%	1		09/22/21 05:26

Batch Information

Analytical Batch: VFC15833
Analytical Method: AK101
Analyst: IJV
Analytical Date/Time: 09/22/21 05:26
Container ID: 1216108004-A

Prep Batch: VXX37884
Prep Method: SW5030B
Prep Date/Time: 09/21/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-925**

Client Sample ID: **AT-21-MW-925**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108004
Lab Project ID: 1216108

Collection Date: 09/15/21 14:55
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	1.35		1.00	0.310	ug/L	1		09/28/21 19:23
1,2-Dibromoethane	0.0375	U	0.0750	0.0180	ug/L	1		09/28/21 19:23
1,2-Dichloroethane	0.250	U	0.500	0.200	ug/L	1		09/28/21 19:23
1,3,5-Trimethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:23
Benzene	10.5		0.400	0.120	ug/L	1		09/28/21 19:23
Ethylbenzene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:23
Isopropylbenzene (Cumene)	1.73		1.00	0.310	ug/L	1		09/28/21 19:23
Methyl-t-butyl ether	5.00	U	10.0	3.10	ug/L	1		09/28/21 19:23
Naphthalene	0.760	J	1.00	0.310	ug/L	1		09/28/21 19:23
n-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:23
o-Xylene	0.730	J	1.00	0.310	ug/L	1		09/28/21 19:23
P & M -Xylene	1.00	U	2.00	0.620	ug/L	1		09/28/21 19:23
sec-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:23
tert-Butylbenzene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:23
Toluene	0.500	U	1.00	0.310	ug/L	1		09/28/21 19:23
Xylenes (total)	1.50	U	3.00	1.00	ug/L	1		09/28/21 19:23
Surrogates								
1,2-Dichloroethane-D4 (surr)	103		81-118		%	1		09/28/21 19:23
4-Bromofluorobenzene (surr)	104		85-114		%	1		09/28/21 19:23
Toluene-d8 (surr)	100		89-112		%	1		09/28/21 19:23

Batch Information

Analytical Batch: VMS21226
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 09/28/21 19:23
Container ID: 1216108004-D

Prep Batch: VXX37934
Prep Method: SW5030B
Prep Date/Time: 09/28/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-126**

Client Sample ID: **AT-21-MW-126**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108005
Lab Project ID: 1216108

Collection Date: 09/14/21 14:14
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
2-Methylnaphthalene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Acenaphthene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Acenaphthylene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Anthracene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Benzo(a)Anthracene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Benzo[a]pyrene	0.0100	U	0.0200	0.00620	ug/L	1		09/23/21 18:53
Benzo[b]Fluoranthene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Benzo[g,h,i]perylene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Benzo[k]fluoranthene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Chrysene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Dibenzo[a,h]anthracene	0.0100	U	0.0200	0.00620	ug/L	1		09/23/21 18:53
Fluoranthene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Fluorene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Indeno[1,2,3-c,d] pyrene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Naphthalene	0.0500	U	0.100	0.0310	ug/L	1		09/23/21 18:53
Phenanthrene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Pyrene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 18:53
Surrogates								
2-Methylnaphthalene-d10 (surr)	53.1		42-86		%	1		09/23/21 18:53
Fluoranthene-d10 (surr)	67.7		50-97		%	1		09/23/21 18:53

Batch Information

Analytical Batch: XMS12906
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 09/23/21 18:53
Container ID: 1216108005-I

Prep Batch: XXX45585
Prep Method: SW3535A
Prep Date/Time: 09/19/21 12:32
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-126**

Client Sample ID: **AT-21-MW-126**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108005
Lab Project ID: 1216108

Collection Date: 09/14/21 14:14
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	1.55		0.625	0.208	mg/L	1		09/28/21 17:37
Surrogates								
5a Androstane (surr)	75.5		50-150		%	1		09/28/21 17:37

Batch Information

Analytical Batch: XFC16089
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 09/28/21 17:37
Container ID: 1216108005-G

Prep Batch: XXX45588
Prep Method: SW3520C
Prep Date/Time: 09/19/21 15:23
Prep Initial Wt./Vol.: 240 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-126**

Client Sample ID: **AT-21-MW-126**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108005
Lab Project ID: 1216108

Collection Date: 09/14/21 14:14
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0450	mg/L	1		09/22/21 05:44
Surrogates								
4-Bromofluorobenzene (surr)	95.1		50-150		%	1		09/22/21 05:44

Batch Information

Analytical Batch: VFC15833
Analytical Method: AK101
Analyst: IJV
Analytical Date/Time: 09/22/21 05:44
Container ID: 1216108005-A

Prep Batch: VXX37884
Prep Method: SW5030B
Prep Date/Time: 09/21/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-126**

Client Sample ID: **AT-21-MW-126**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108005
Lab Project ID: 1216108

Collection Date: 09/14/21 14:14
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:41
1,2-Dibromoethane	0.0375 U		0.0750	0.0180	ug/L	1		09/28/21 16:41
1,2-Dichloroethane	0.250 U		0.500	0.200	ug/L	1		09/28/21 16:41
1,3,5-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:41
Benzene	0.200 U		0.400	0.120	ug/L	1		09/28/21 16:41
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:41
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:41
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		09/28/21 16:41
Naphthalene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:41
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:41
o-Xylene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:41
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		09/28/21 16:41
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:41
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:41
Toluene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:41
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		09/28/21 16:41
Surrogates								
1,2-Dichloroethane-D4 (surr)	105		81-118		%	1		09/28/21 16:41
4-Bromofluorobenzene (surr)	102		85-114		%	1		09/28/21 16:41
Toluene-d8 (surr)	99.4		89-112		%	1		09/28/21 16:41

Batch Information

Analytical Batch: VMS21226
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 09/28/21 16:41
Container ID: 1216108005-D

Prep Batch: VXX37934
Prep Method: SW5030B
Prep Date/Time: 09/28/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-127**

Client Sample ID: **AT-21-MW-127**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108006
Lab Project ID: 1216108

Collection Date: 09/14/21 15:52
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
2-Methylnaphthalene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Acenaphthene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Acenaphthylene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Anthracene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Benzo(a)Anthracene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Benzo[a]pyrene	0.0100 U		0.0200	0.00620	ug/L	1		09/23/21 19:13
Benzo[b]Fluoranthene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Benzo[g,h,i]perylene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Benzo[k]fluoranthene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Chrysene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Dibenzo[a,h]anthracene	0.0100 U		0.0200	0.00620	ug/L	1		09/23/21 19:13
Fluoranthene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Fluorene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Indeno[1,2,3-c,d] pyrene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Naphthalene	0.0500 U		0.100	0.0310	ug/L	1		09/23/21 19:13
Phenanthrene	0.0158 J		0.0500	0.0150	ug/L	1		09/23/21 19:13
Pyrene	0.0250 U		0.0500	0.0150	ug/L	1		09/23/21 19:13
Surrogates								
2-Methylnaphthalene-d10 (surr)	45.9		42-86		%	1		09/23/21 19:13
Fluoranthene-d10 (surr)	41.9	*	50-97		%	1		09/23/21 19:13

Batch Information

Analytical Batch: XMS12906
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 09/23/21 19:13
Container ID: 1216108006-I

Prep Batch: XXX45585
Prep Method: SW3535A
Prep Date/Time: 09/19/21 12:32
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-127**

Client Sample ID: **AT-21-MW-127**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108006
Lab Project ID: 1216108

Collection Date: 09/14/21 15:52
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.328	J	0.600	0.200	mg/L	1		09/28/21 17:47
Surrogates								
5a Androstane (surr)	79.3		50-150		%	1		09/28/21 17:47

Batch Information

Analytical Batch: XFC16089
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 09/28/21 17:47
Container ID: 1216108006-G

Prep Batch: XXX45588
Prep Method: SW3520C
Prep Date/Time: 09/19/21 15:23
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-127**

Client Sample ID: **AT-21-MW-127**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108006
Lab Project ID: 1216108

Collection Date: 09/14/21 15:52
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0450	mg/L	1		09/22/21 06:02
Surrogates								
4-Bromofluorobenzene (surr)	93.7		50-150		%	1		09/22/21 06:02

Batch Information

Analytical Batch: VFC15833
Analytical Method: AK101
Analyst: IJV
Analytical Date/Time: 09/22/21 06:02
Container ID: 1216108006-A

Prep Batch: VXX37884
Prep Method: SW5030B
Prep Date/Time: 09/21/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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

Results of **AT-21-MW-127**

Client Sample ID: **AT-21-MW-127**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108006
Lab Project ID: 1216108

Collection Date: 09/14/21 15:52
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:56
1,2-Dibromoethane	0.0375 U		0.0750	0.0180	ug/L	1		09/28/21 16:56
1,2-Dichloroethane	0.250 U		0.500	0.200	ug/L	1		09/28/21 16:56
1,3,5-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:56
Benzene	0.200 U		0.400	0.120	ug/L	1		09/28/21 16:56
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:56
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:56
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		09/28/21 16:56
Naphthalene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:56
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:56
o-Xylene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:56
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		09/28/21 16:56
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:56
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:56
Toluene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:56
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		09/28/21 16:56
Surrogates								
1,2-Dichloroethane-D4 (surr)	105		81-118		%	1		09/28/21 16:56
4-Bromofluorobenzene (surr)	101		85-114		%	1		09/28/21 16:56
Toluene-d8 (surr)	99.9		89-112		%	1		09/28/21 16:56

Batch Information

Analytical Batch: VMS21226
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 09/28/21 16:56
Container ID: 1216108006-D

Prep Batch: VXX37934
Prep Method: SW5030B
Prep Date/Time: 09/28/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-128**

Client Sample ID: **AT-21-MW-128**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108007
Lab Project ID: 1216108

Collection Date: 09/15/21 12:30
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
2-Methylnaphthalene	0.0386	J	0.0500	0.0150	ug/L	1		09/23/21 19:34
Acenaphthene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Acenaphthylene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Anthracene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Benzo(a)Anthracene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Benzo[a]pyrene	0.0100	U	0.0200	0.00620	ug/L	1		09/23/21 19:34
Benzo[b]Fluoranthene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Benzo[g,h,i]perylene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Benzo[k]fluoranthene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Chrysene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Dibenzo[a,h]anthracene	0.0100	U	0.0200	0.00620	ug/L	1		09/23/21 19:34
Fluoranthene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Fluorene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Indeno[1,2,3-c,d] pyrene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Naphthalene	0.0500	U	0.100	0.0310	ug/L	1		09/23/21 19:34
Phenanthrene	0.0169	J	0.0500	0.0150	ug/L	1		09/23/21 19:34
Pyrene	0.0250	U	0.0500	0.0150	ug/L	1		09/23/21 19:34
Surrogates								
2-Methylnaphthalene-d10 (surr)	81.9		42-86		%	1		09/23/21 19:34
Fluoranthene-d10 (surr)	57.7		50-97		%	1		09/23/21 19:34

Batch Information

Analytical Batch: XMS12906
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 09/23/21 19:34
Container ID: 1216108007-I

Prep Batch: XXX45585
Prep Method: SW3535A
Prep Date/Time: 09/19/21 12:32
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-128**

Client Sample ID: **AT-21-MW-128**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108007
Lab Project ID: 1216108

Collection Date: 09/15/21 12:30
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	3.28		0.588	0.196	mg/L	1		09/28/21 17:56
Surrogates								
5a Androstane (surr)	85.3		50-150		%	1		09/28/21 17:56

Batch Information

Analytical Batch: XFC16089
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 09/28/21 17:56
Container ID: 1216108007-G

Prep Batch: XXX45588
Prep Method: SW3520C
Prep Date/Time: 09/19/21 15:23
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-128**

Client Sample ID: **AT-21-MW-128**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108007
Lab Project ID: 1216108

Collection Date: 09/15/21 12:30
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0522	J	0.100	0.0450	mg/L	1		09/22/21 06:19
Surrogates								
4-Bromofluorobenzene (surr)	94.4		50-150		%	1		09/22/21 06:19

Batch Information

Analytical Batch: VFC15833
Analytical Method: AK101
Analyst: IJV
Analytical Date/Time: 09/22/21 06:19
Container ID: 1216108007-A

Prep Batch: VXX37884
Prep Method: SW5030B
Prep Date/Time: 09/21/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-128**

Client Sample ID: **AT-21-MW-128**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108007
Lab Project ID: 1216108

Collection Date: 09/15/21 12:30
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:37
1,2-Dibromoethane	0.0375 U		0.0750	0.0180	ug/L	1		09/28/21 19:37
1,2-Dichloroethane	0.250 U		0.500	0.200	ug/L	1		09/28/21 19:37
1,3,5-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:37
Benzene	0.200 U		0.400	0.120	ug/L	1		09/28/21 19:37
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:37
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:37
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		09/28/21 19:37
Naphthalene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:37
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:37
o-Xylene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:37
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		09/28/21 19:37
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:37
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:37
Toluene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:37
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		09/28/21 19:37
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		09/28/21 19:37
4-Bromofluorobenzene (surr)	103		85-114		%	1		09/28/21 19:37
Toluene-d8 (surr)	101		89-112		%	1		09/28/21 19:37

Batch Information

Analytical Batch: VMS21226
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 09/28/21 19:37
Container ID: 1216108007-D

Prep Batch: VXX37934
Prep Method: SW5030B
Prep Date/Time: 09/28/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-30**

Client Sample ID: **AT-21-MW-30**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108008
Lab Project ID: 1216108

Collection Date: 09/15/21 11:26
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	0.0239	J	0.0463	0.0139	ug/L	1		09/23/21 19:54
2-Methylnaphthalene	0.0144	J	0.0463	0.0139	ug/L	1		09/23/21 19:54
Acenaphthene	0.0524		0.0463	0.0139	ug/L	1		09/23/21 19:54
Acenaphthylene	0.0232	U	0.0463	0.0139	ug/L	1		09/23/21 19:54
Anthracene	0.0232	U	0.0463	0.0139	ug/L	1		09/23/21 19:54
Benzo(a)Anthracene	0.0232	U	0.0463	0.0139	ug/L	1		09/23/21 19:54
Benzo[a]pyrene	0.00925	U	0.0185	0.00574	ug/L	1		09/23/21 19:54
Benzo[b]Fluoranthene	0.0232	U	0.0463	0.0139	ug/L	1		09/23/21 19:54
Benzo[g,h,i]perylene	0.0232	U	0.0463	0.0139	ug/L	1		09/23/21 19:54
Benzo[k]fluoranthene	0.0232	U	0.0463	0.0139	ug/L	1		09/23/21 19:54
Chrysene	0.0232	U	0.0463	0.0139	ug/L	1		09/23/21 19:54
Dibenzo[a,h]anthracene	0.00925	U	0.0185	0.00574	ug/L	1		09/23/21 19:54
Fluoranthene	0.0232	U	0.0463	0.0139	ug/L	1		09/23/21 19:54
Fluorene	0.0419	J	0.0463	0.0139	ug/L	1		09/23/21 19:54
Indeno[1,2,3-c,d] pyrene	0.0232	U	0.0463	0.0139	ug/L	1		09/23/21 19:54
Naphthalene	0.124		0.0926	0.0287	ug/L	1		09/23/21 19:54
Phenanthrene	0.0232	U	0.0463	0.0139	ug/L	1		09/23/21 19:54
Pyrene	0.0232	U	0.0463	0.0139	ug/L	1		09/23/21 19:54
Surrogates								
2-Methylnaphthalene-d10 (surr)	57.3		42-86		%	1		09/23/21 19:54
Fluoranthene-d10 (surr)	51.7		50-97		%	1		09/23/21 19:54

Batch Information

Analytical Batch: XMS12906
Analytical Method: 8270D SIM LV (PAH)
Analyst: LAW
Analytical Date/Time: 09/23/21 19:54
Container ID: 1216108008-I

Prep Batch: XXX45585
Prep Method: SW3535A
Prep Date/Time: 09/19/21 12:32
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-30**

Client Sample ID: **AT-21-MW-30**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108008
Lab Project ID: 1216108

Collection Date: 09/15/21 11:26
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	0.469	J	0.600	0.200	mg/L	1		09/28/21 18:06
Surrogates								
5a Androstane (surr)	66.4		50-150		%	1		09/28/21 18:06

Batch Information

Analytical Batch: XFC16089
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 09/28/21 18:06
Container ID: 1216108008-G

Prep Batch: XXX45588
Prep Method: SW3520C
Prep Date/Time: 09/19/21 15:23
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-30**

Client Sample ID: **AT-21-MW-30**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108008
Lab Project ID: 1216108

Collection Date: 09/15/21 11:26
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0451	J	0.100	0.0450	mg/L	1		09/22/21 06:37
Surrogates								
4-Bromofluorobenzene (surr)	98		50-150		%	1		09/22/21 06:37

Batch Information

Analytical Batch: VFC15833
Analytical Method: AK101
Analyst: IJV
Analytical Date/Time: 09/22/21 06:37
Container ID: 1216108008-A

Prep Batch: VXX37884
Prep Method: SW5030B
Prep Date/Time: 09/21/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-21-MW-30**

Client Sample ID: **AT-21-MW-30**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108008
Lab Project ID: 1216108

Collection Date: 09/15/21 11:26
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:52
1,2-Dibromoethane	0.0375 U		0.0750	0.0180	ug/L	1		09/28/21 19:52
1,2-Dichloroethane	0.250 U		0.500	0.200	ug/L	1		09/28/21 19:52
1,3,5-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:52
Benzene	0.200 U		0.400	0.120	ug/L	1		09/28/21 19:52
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:52
Isopropylbenzene (Cumene)	1.23		1.00	0.310	ug/L	1		09/28/21 19:52
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		09/28/21 19:52
Naphthalene	0.570 J		1.00	0.310	ug/L	1		09/28/21 19:52
n-Butylbenzene	0.390 J		1.00	0.310	ug/L	1		09/28/21 19:52
o-Xylene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:52
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		09/28/21 19:52
sec-Butylbenzene	1.79		1.00	0.310	ug/L	1		09/28/21 19:52
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:52
Toluene	0.500 U		1.00	0.310	ug/L	1		09/28/21 19:52
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		09/28/21 19:52
Surrogates								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		09/28/21 19:52
4-Bromofluorobenzene (surr)	104		85-114		%	1		09/28/21 19:52
Toluene-d8 (surr)	102		89-112		%	1		09/28/21 19:52

Batch Information

Analytical Batch: VMS21226
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 09/28/21 19:52
Container ID: 1216108008-D

Prep Batch: VXX37934
Prep Method: SW5030B
Prep Date/Time: 09/28/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-TB-091421**

Client Sample ID: **AT-TB-091421**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108009
Lab Project ID: 1216108

Collection Date: 09/14/21 08:00
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Gasoline Range Organics	0.0500	U	0.100	0.0450	mg/L	1		09/21/21 23:29
Surrogates								
4-Bromofluorobenzene (surr)	92.4		50-150		%	1		09/21/21 23:29

Batch Information

Analytical Batch: VFC15833
Analytical Method: AK101
Analyst: IJV
Analytical Date/Time: 09/21/21 23:29
Container ID: 1216108009-A

Prep Batch: VXX37884
Prep Method: SW5030B
Prep Date/Time: 09/21/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Results of **AT-TB-091421**

Client Sample ID: **AT-TB-091421**
Client Project ID: **20204.064.02 AT GW**
Lab Sample ID: 1216108009
Lab Project ID: 1216108

Collection Date: 09/14/21 08:00
Received Date: 09/16/21 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS- Petroleum VOC Group**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,2,4-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:12
1,2-Dibromoethane	0.0375 U		0.0750	0.0180	ug/L	1		09/28/21 16:12
1,2-Dichloroethane	0.250 U		0.500	0.200	ug/L	1		09/28/21 16:12
1,3,5-Trimethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:12
Benzene	0.200 U		0.400	0.120	ug/L	1		09/28/21 16:12
Ethylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:12
Isopropylbenzene (Cumene)	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:12
Methyl-t-butyl ether	5.00 U		10.0	3.10	ug/L	1		09/28/21 16:12
Naphthalene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:12
n-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:12
o-Xylene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:12
P & M -Xylene	1.00 U		2.00	0.620	ug/L	1		09/28/21 16:12
sec-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:12
tert-Butylbenzene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:12
Toluene	0.500 U		1.00	0.310	ug/L	1		09/28/21 16:12
Xylenes (total)	1.50 U		3.00	1.00	ug/L	1		09/28/21 16:12
Surrogates								
1,2-Dichloroethane-D4 (surr)	99.4		81-118		%	1		09/28/21 16:12
4-Bromofluorobenzene (surr)	105		85-114		%	1		09/28/21 16:12
Toluene-d8 (surr)	99.7		89-112		%	1		09/28/21 16:12

Batch Information

Analytical Batch: VMS21226
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 09/28/21 16:12
Container ID: 1216108009-D

Prep Batch: VXX37934
Prep Method: SW5030B
Prep Date/Time: 09/28/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:15AM

J flagging is activated

Method Blank

Blank ID: MB for HBN 1825966 [VXX/37884]
Blank Lab ID: 1637511

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1216108001, 1216108002, 1216108003, 1216108004, 1216108005, 1216108006, 1216108007, 1216108008, 1216108009

Results by **AK101**

Parameter	Results	LOQ/CL	DL	Units
Gasoline Range Organics	0.0500U	0.100	0.0450	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	99.2	50-150		%

Batch Information

Analytical Batch: VFC15833
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: IJV
Analytical Date/Time: 9/21/2021 9:02:00AM

Prep Batch: VXX37884
Prep Method: SW5030B
Prep Date/Time: 9/21/2021 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:19AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1216108 [VXX37884]
Blank Spike Lab ID: 1637514
Date Analyzed: 09/21/2021 09:55

Spike Duplicate ID: LCSD for HBN 1216108 [VXX37884]
Spike Duplicate Lab ID: 1637515
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216108001, 1216108002, 1216108003, 1216108004, 1216108005, 1216108006, 1216108007, 1216108008, 1216108009

Results by **AK101**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Gasoline Range Organics	1.00	1.03	103	1.00	1.02	102	(60-120)	0.83	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500		109	0.0500		108	(50-150)	0.92	

Batch Information

Analytical Batch: **VFC15833**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **IJV**

Prep Batch: **VXX37884**
Prep Method: **SW5030B**
Prep Date/Time: **09/21/2021 06:00**
Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:20AM

Method Blank

Blank ID: MB for HBN 1826187 [VXX/37911]
Blank Lab ID: 1638448

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1216108001

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	ug/L
1,2-Dichloroethane	0.250U	0.500	0.200	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
n-Butylbenzene	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
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	97.1	85-114		%
Toluene-d8 (surr)	102	89-112		%

Batch Information

Analytical Batch: VMS21217
Analytical Method: SW8260D
Instrument: Agilent 7890-75MS
Analyst: MDT
Analytical Date/Time: 9/24/2021 12:13:00PM

Prep Batch: VXX37911
Prep Method: SW5030B
Prep Date/Time: 9/24/2021 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Leaching Blank

Blank ID: LB for HBN 1826093 [TCLP/11411
Blank Lab ID: 1637988

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1216108001

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units
1,2-Dichloroethane	0.250U	0.500	0.200	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	110	85-114		%
Toluene-d8 (surr)	100	89-112		%

Batch Information

Analytical Batch: VMS21217
Analytical Method: SW8260D
Instrument: Agilent 7890-75MS
Analyst: MDT
Analytical Date/Time: 9/24/2021 3:33:00PM

Prep Batch: VXX37911
Prep Method: SW5030B
Prep Date/Time: 9/24/2021 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 10/20/2021 11:15:23AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1216108 [VXX37911]
Blank Spike Lab ID: 1638449
Date Analyzed: 09/24/2021 12:27

Spike Duplicate ID: LCSD for HBN 1216108 [VXX37911]
Spike Duplicate Lab ID: 1638450
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216108001

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	30	30.2	101	30	27.7	92	(79-124)	8.50	(< 20)
1,2-Dibromoethane	30	28.1	94	30	29.7	99	(77-121)	5.70	(< 20)
1,2-Dichloroethane	30	29.9	100	30	29.1	97	(73-128)	3.00	(< 20)
1,3,5-Trimethylbenzene	30	29.2	97	30	29.3	98	(75-124)	0.48	(< 20)
Benzene	30	27.4	92	30	28.9	96	(79-120)	5.10	(< 20)
Ethylbenzene	30	31.0	103	30	30.2	101	(79-121)	2.50	(< 20)
Isopropylbenzene (Cumene)	30	31.6	105	30	30.8	103	(72-131)	2.60	(< 20)
Methyl-t-butyl ether	45	44.6	99	45	45.0	100	(71-124)	0.76	(< 20)
Naphthalene	30	27.4	91	30	29.5	99	(61-128)	7.60	(< 20)
n-Butylbenzene	30	27.5	92	30	27.7	92	(75-128)	0.76	(< 20)
o-Xylene	30	31.0	103	30	30.5	102	(78-122)	1.40	(< 20)
P & M -Xylene	60	64.2	107	60	62.3	104	(80-121)	3.10	(< 20)
sec-Butylbenzene	30	29.8	99	30	27.8	93	(77-126)	7.10	(< 20)
tert-Butylbenzene	30	31.0	103	30	31.0	103	(78-124)	0.26	(< 20)
Toluene	30	29.5	98	30	28.9	96	(80-121)	2.00	(< 20)
Xylenes (total)	90	95.2	106	90	92.8	103	(79-121)	2.50	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		105	30		103	(81-118)	1.60	
4-Bromofluorobenzene (surr)	30		99	30		101	(85-114)	1.70	
Toluene-d8 (surr)	30		99	30		100	(89-112)	0.53	

Batch Information

Analytical Batch: **VMS21217**
Analytical Method: **SW8260D**
Instrument: **Agilent 7890-75MS**
Analyst: **MDT**

Prep Batch: **VXX37911**
Prep Method: **SW5030B**
Prep Date/Time: **09/24/2021 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: 10/20/2021 11:15:26AM

Method Blank

Blank ID: MB for HBN 1826348 [VXX/37934]
Blank Lab ID: 1639151

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1216108002, 1216108003, 1216108004, 1216108005, 1216108006, 1216108007, 1216108008, 1216108009

Results by **SW8260D**

Parameter	Results	LOQ/CL	DL	Units
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	ug/L
1,2-Dichloroethane	0.250U	0.500	0.200	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
n-Butylbenzene	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
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	106	81-118		%
4-Bromofluorobenzene (surr)	101	85-114		%
Toluene-d8 (surr)	96.2	89-112		%

Batch Information

Analytical Batch: VMS21226
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: MDT
Analytical Date/Time: 9/28/2021 12:34:00PM

Prep Batch: VXX37934
Prep Method: SW5030B
Prep Date/Time: 9/28/2021 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1216108 [VXX37934]
Blank Spike Lab ID: 1639152
Date Analyzed: 09/28/2021 12:49

Spike Duplicate ID: LCSD for HBN 1216108 [VXX37934]
Spike Duplicate Lab ID: 1639153
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216108002, 1216108003, 1216108004, 1216108005, 1216108006, 1216108007, 1216108008, 1216108009

Results by **SW8260D**

	Blank Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2,4-Trimethylbenzene	30	31.7	106	30	31.4	105	(79-124)	0.86	(< 20)
1,2-Dibromoethane	30	30.7	102	30	30.6	102	(77-121)	0.55	(< 20)
1,2-Dichloroethane	30	29.1	97	30	28.1	94	(73-128)	3.50	(< 20)
1,3,5-Trimethylbenzene	30	31.1	104	30	31.1	104	(75-124)	0.10	(< 20)
Benzene	30	30.3	101	30	29.5	98	(79-120)	2.80	(< 20)
Ethylbenzene	30	29.6	99	30	29.4	98	(79-121)	0.92	(< 20)
Isopropylbenzene (Cumene)	30	30.7	102	30	30.5	102	(72-131)	0.56	(< 20)
Methyl-t-butyl ether	45	47.1	105	45	45.8	102	(71-124)	2.90	(< 20)
Naphthalene	30	30.3	101	30	29.7	99	(61-128)	2.00	(< 20)
n-Butylbenzene	30	32.0	107	30	31.6	105	(75-128)	1.50	(< 20)
o-Xylene	30	30.0	100	30	29.9	100	(78-122)	0.43	(< 20)
P & M -Xylene	60	59.5	99	60	58.8	98	(80-121)	1.30	(< 20)
sec-Butylbenzene	30	31.2	104	30	31.1	104	(77-126)	0.55	(< 20)
tert-Butylbenzene	30	31.1	104	30	31.1	104	(78-124)	0.13	(< 20)
Toluene	30	28.6	95	30	28.4	95	(80-121)	0.70	(< 20)
Xylenes (total)	90	89.6	100	90	88.7	99	(79-121)	0.98	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		97	30		96	(81-118)	1.40	
4-Bromofluorobenzene (surr)	30		101	30		102	(85-114)	0.79	
Toluene-d8 (surr)	30		97	30		99	(89-112)	2.00	

Batch Information

Analytical Batch: **VMS21226**
Analytical Method: **SW8260D**
Instrument: **VPA 780/5975 GC/MS**
Analyst: **MDT**

Prep Batch: **VXX37934**
Prep Method: **SW5030B**
Prep Date/Time: **09/28/2021 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: 10/20/2021 11:15:31AM

Method Blank

Blank ID: MB for HBN 1825832 [XXX/45585]
Blank Lab ID: 1636912

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1216108001, 1216108002, 1216108003, 1216108004, 1216108005, 1216108006, 1216108007, 1216108008

Results by **8270D SIM LV (PAH)**

Parameter	Results	LOQ/CL	DL	Units
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
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	0.0227J	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
Surrogates				
2-Methylnaphthalene-d10 (surr)	53.4	42-86		%
Fluoranthene-d10 (surr)	62.2	50-97		%

Batch Information

Analytical Batch: XMS12903
Analytical Method: 8270D SIM LV (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: LAW
Analytical Date/Time: 9/23/2021 2:10:00AM

Prep Batch: XXX45585
Prep Method: SW3535A
Prep Date/Time: 9/19/2021 12:32:59PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:34AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1216108 [XXX45585]
Blank Spike Lab ID: 1636913
Date Analyzed: 09/23/2021 02:31

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216108001, 1216108002, 1216108003, 1216108004, 1216108005, 1216108006, 1216108007, 1216108008

Results by **8270D SIM LV (PAH)**

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	2	1.30	65	(41-115)
2-Methylnaphthalene	2	1.27	63	(39-114)
Acenaphthene	2	1.45	72	(48-114)
Acenaphthylene	2	1.50	75	(35-121)
Anthracene	2	1.45	72	(53-119)
Benzo(a)Anthracene	2	1.50	75	(59-120)
Benzo[a]pyrene	2	1.49	74	(53-120)
Benzo[b]Fluoranthene	2	1.44	72	(53-126)
Benzo[g,h,i]perylene	2	1.64	82	(44-128)
Benzo[k]fluoranthene	2	1.51	76	(54-125)
Chrysene	2	1.50	75	(57-120)
Dibenzo[a,h]anthracene	2	1.66	83	(44-131)
Fluoranthene	2	1.45	73	(58-120)
Fluorene	2	1.49	74	(50-118)
Indeno[1,2,3-c,d] pyrene	2	1.62	81	(48-130)
Naphthalene	2	1.30	65	(43-114)
Phenanthrene	2	1.48	74	(53-115)
Pyrene	2	1.47	73	(53-121)
Surrogates				
2-Methylnaphthalene-d10 (surr)	2		59	(42-86)
Fluoranthene-d10 (surr)	2		68	(50-97)

Batch Information

Analytical Batch: **XMS12903**
Analytical Method: **8270D SIM LV (PAH)**
Instrument: **SVA Agilent 780/5975 GC/MS**
Analyst: **LAW**

Prep Batch: **XXX45585**
Prep Method: **SW3535A**
Prep Date/Time: **09/19/2021 12:32**
Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 10/20/2021 11:15:37AM

Matrix Spike Summary

Original Sample ID: 1216157001
MS Sample ID: 1636914 MS
MSD Sample ID: 1636915 MSD

Analysis Date: 09/23/2021 2:51
Analysis Date: 09/23/2021 3:12
Analysis Date: 09/23/2021 3:32
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216108001, 1216108002, 1216108003, 1216108004, 1216108005, 1216108006, 1216108007, 1216108008

Results by **8270D SIM LV (PAH)**

		Matrix Spike (ug/L)			Spike Duplicate (ug/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1-Methylnaphthalene	0.0255U	1.85	1.09	59	2.04	1.24	61	41-115	12.80	(< 20)
2-Methylnaphthalene	0.0255U	1.85	1.06	57	2.04	1.21	59	39-114	12.80	(< 20)
Acenaphthene	0.0255U	1.85	1.14	62	2.04	1.32	65	48-114	14.60	(< 20)
Acenaphthylene	0.0255U	1.85	1.19	64	2.04	1.36	67	35-121	13.80	(< 20)
Anthracene	0.0255U	1.85	1.05	57	2.04	1.28	63	53-119	20.00	(< 20)
Benzo(a)Anthracene	0.0255U	1.85	1.15	62	2.04	1.42	70	59-120	21.00 *	(< 20)
Benzo[a]pyrene	0.0102U	1.85	1.12	60	2.04	1.32	65	53-120	16.60	(< 20)
Benzo[b]Fluoranthene	0.0255U	1.85	1.08	58	2.04	1.35	66	53-126	22.20 *	(< 20)
Benzo[g,h,i]perylene	0.0255U	1.85	1.28	69	2.04	1.43	70	44-128	11.30	(< 20)
Benzo[k]fluoranthene	0.0255U	1.85	1.14	61	2.04	1.34	65	54-125	16.10	(< 20)
Chrysene	0.0255U	1.85	1.15	62	2.04	1.38	68	57-120	18.40	(< 20)
Dibenzo[a,h]anthracene	0.0102U	1.85	1.33	72	2.04	1.48	72	44-131	10.80	(< 20)
Fluoranthene	0.0255U	1.85	1.09	59	2.04	1.34	66	58-120	20.40 *	(< 20)
Fluorene	0.0255U	1.85	1.13	61	2.04	1.33	65	50-118	16.50	(< 20)
Indeno[1,2,3-c,d] pyrene	0.0255U	1.85	1.22	66	2.04	1.40	69	48-130	13.60	(< 20)
Naphthalene	0.0510U	1.85	1.15	62	2.04	1.30	64	43-114	11.70	(< 20)
Phenanthrene	0.0255U	1.85	1.08	58	2.04	1.33	65	53-115	20.60 *	(< 20)
Pyrene	0.0255U	1.85	1.09	59	2.04	1.35	66	53-121	21.30 *	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		1.85	1.05	57	2.04	1.18	58	42-86	11.00	
Fluoranthene-d10 (surr)		1.85	1.05	57	2.04	1.28	63	50-97	19.20	

Batch Information

Analytical Batch: XMS12903
Analytical Method: 8270D SIM LV (PAH)
Instrument: SVA Agilent 780/5975 GC/MS
Analyst: LAW
Analytical Date/Time: 9/23/2021 3:12:00AM

Prep Batch: XXX45585
Prep Method: 3535 Solid Phase Ext for 8270 PAH SIM LV
Prep Date/Time: 9/19/2021 12:32:59PM
Prep Initial Wt./Vol.: 270.00mL
Prep Extract Vol: 1.00mL

Print Date: 10/20/2021 11:15:38AM

Method Blank

Blank ID: MB for HBN 1825842 [XXX/45588]
Blank Lab ID: 1636960

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1216108001, 1216108002, 1216108003, 1216108004, 1216108005, 1216108006, 1216108007, 1216108008

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	0.300U	0.600	0.200	mg/L
Surrogates				
5a Androstane (surr)	82	60-120		%

Batch Information

Analytical Batch: XFC16089
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: IVM
Analytical Date/Time: 9/28/2021 3:38:00PM

Prep Batch: XXX45588
Prep Method: SW3520C
Prep Date/Time: 9/19/2021 3:23:51PM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:40AM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1216108 [XXX45588]
Blank Spike Lab ID: 1636961
Date Analyzed: 09/28/2021 16:07

Spike Duplicate ID: LCSD for HBN 1216108 [XXX45588]
Spike Duplicate Lab ID: 1636962
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1216108001, 1216108002, 1216108003, 1216108004, 1216108005, 1216108006, 1216108007, 1216108008

Results by **AK102**

	Blank Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	20	16.0	80	20	15.7	79	(75-125)	1.60	(< 20)
Surrogates									
5a Androstane (surr)	0.4		101	0.4		93	(60-120)	8.70	

Batch Information

Analytical Batch: **XFC16089**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **IVM**

Prep Batch: **XXX45588**
Prep Method: **SW3520C**
Prep Date/Time: **09/19/2021 15:23**
Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Print Date: 10/20/2021 11:15:43AM

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECORD

1216108
Revised Report - Revision 1

P#366049 SDG

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Section 1

CLIENT: Antea Engineering Services	
CONTACT: Luke Hoffmann	PHONE #: 907-947-6011
PROJECT NAME: ABT GW	PROJECT/ PWSID/ PERMIT#: 20204.064.02
REPORTS TO: Luke Hoffmann / Nina Muniz	E-MAIL: lhoffmann@anteagroup.com Profile #: nmuniz@anteagroup.com
INVOICE TO: AES	QUOTE #: P.O. #: 20204.064.02

Section 2

	RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incremental)	Preservative: 2nd HC	HCl	HCl	HCl	/	Analysis* 2nd HC/Antea	GRO/AK101	VOC-F / 8260	DRO/AK102	PAH SIM						NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS	REMARKS/LOC ID
1	AJ	AT-21-MW-123	9/14/21	1700	W	10	G							X	X	X	X							Std TAT
2	AJ	AT-21-MW-124	9/14/21	1257	W	10	G							X	X	X	X							
3	AF	AT-21-MW-125	9/15/21	1450	W	6	G							X	X									
4	AF	AT-21-MW-925	9/15/21	1455	W	6	G							X	X									
5	AF	AT-21-MW-126	9/14/21	1414	W	6	G							X	X									
6	AF	AT-21-MW-127	9/14/21	1552	W	6	G							X	X									
7	AF	AT-21-MW-128	9/15/21	1230	W	6	G							X	X									
8	AF	AT-21-MW-30	9/15/21	1126	W	6	G							X	X									
9	AF	AT-TB-091421	9/14/21	0800	W	6	G							X	X									
10	AF	~~09160~~ 91601																						

Section 5

	Date	Time	Received By:
Relinquished By: (1) Luke Hoffmann	9/16/21	1230	
Relinquished By: (2)			
Relinquished By: (3)			
Relinquished By: (4)	9/16/21	1230	Received For Laboratory By: MA

Section 4

DOD Project? Yes (No)

Cooler ID: ATV

Data Deliverable Requirements: level II / equis

Requested Turnaround Time and/or Special Instructions:

Std TAT

Same SDG as Cooler: "ATNV"

Temp Blank °C: 1.7 D52 or Ambient [ ]

Chain of Custody Seal: (Circle) IF INTACT BROKEN ABSENT

Delivery Method: Hand Delivery [ ] Commerical Delivery [ ]

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECORD

1216108
Revised Report - Revision 1

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Section 1

CLIENT: Ahtna Engineering Services

CONTACT: Luke Hoffmann — PHONE #: 907-947-6011

PROJECT NAME: ATT GW — PROJECT/ PWSID/ PERMIT#: 20204.064.02

REPORTS TO: Luke Hoffmann / Nico Muniz — E-MAIL: lhoffmann@ahtna.net — Profile #: nmuniz@ahtna.net

INVOICE TO: AES — QUOTE #: — P.O. #: 20204.064.02

Section 3 — Preservative: HCl, HCl 3rd, /

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incremental)	Analysis*: DRO/MRO02	VOC-5	PAH - SIM	REMARKS/LOC ID
(1) (3) 6J	AT-21-MW-125	9/15/21	1450	W	4	G	X		X	Std TAT
(2) (4) 6J	AT-21-MW-925	9/15/21	1455	W	4	G	X		X	
(3) (5) 6J	AT-21-MW-126	9/14/21	1414	W	4	G	X		X	
(4) (6) 6J	AT-21-MW-127	9/14/21	1552	W	4	G	X		X	
(5) (7) 6J	AT-21-MW-128	9/15/21	1230	W	4	G	X		X	
(6) (8) 6J	AT-21-MW-30	9/15/21	1126	W	4	G	X		X	
09/16/21										

NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

Section 5

Relinquished By:	Date	Time	Received By:
(1) Luke Hoffmann	9/16/21	1230	
(2)			
(3)			
(4)	9/16/21	1230	Received For Laboratory By:

Section 4 — DOD Project? Yes No

Cooler ID: ATNV

Data Deliverable Requirements: level II / equis

Requested Turnaround Time and/or Special Instructions: Std TAT — Same SDG as cooler: "ATV"

Temp Blank °C: 0.8 D58 or Ambient [ ]

Chain of Custody Seal: (Circle) IF INTACT BROKEN ABSENT

Delivery Method: Hand Delivery [ ] Commerical Delivery [ ]

SGS

e-Sample Receipt Form

Revised Report - Revision 1

SGS Workorder #: **1216108**

1 2 1 6 1 0 8

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		N/A Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	Yes	1F HD
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: ATV @ 1.7 °C Therm. ID: D52
	Yes	Cooler ID: ATNV @ 0.8 °C Therm. ID: D58
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)?	Yes	Labels were switched between 1 PAH and 1 DRO Jar- AT-21-MW-124
**Note: If times differ <1hr, record details & login per COC.		
***Note: If sample information on containers differs from COC, SGS will default to COC informatio		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	Yes	
		N/A ***Exemption permitted for metals (e.g,200.8/6020B).
Were proper containers (type/mass/volume/preservative***)used?	Yes	
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	

Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

Additional notes (if applicable):

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1216108001-A	HCL to pH < 2	OK	1216108005-J	No Preservative Required	OK
1216108001-B	HCL to pH < 2	OK	1216108006-A	HCL to pH < 2	OK
1216108001-C	HCL to pH < 2	OK	1216108006-B	HCL to pH < 2	OK
1216108001-D	HCL to pH < 2	OK	1216108006-C	HCL to pH < 2	OK
1216108001-E	HCL to pH < 2	OK	1216108006-D	HCL to pH < 2	OK
1216108001-F	HCL to pH < 2	OK	1216108006-E	HCL to pH < 2	OK
1216108001-G	HCL to pH < 2	OK	1216108006-F	HCL to pH < 2	OK
1216108001-H	HCL to pH < 2	OK	1216108006-G	HCL to pH < 2	OK
1216108001-I	No Preservative Required	OK	1216108006-H	HCL to pH < 2	OK
1216108001-J	No Preservative Required	OK	1216108006-I	No Preservative Required	OK
1216108002-A	HCL to pH < 2	OK	1216108006-J	No Preservative Required	OK
1216108002-B	HCL to pH < 2	OK	1216108007-A	HCL to pH < 2	OK
1216108002-C	HCL to pH < 2	OK	1216108007-B	HCL to pH < 2	OK
1216108002-D	HCL to pH < 2	OK	1216108007-C	HCL to pH < 2	OK
1216108002-E	HCL to pH < 2	OK	1216108007-D	HCL to pH < 2	OK
1216108002-F	HCL to pH < 2	OK	1216108007-E	HCL to pH < 2	OK
1216108002-G	HCL to pH < 2	OK	1216108007-F	HCL to pH < 2	OK
1216108002-H	HCL to pH < 2	OK	1216108007-G	HCL to pH < 2	OK
1216108002-I	No Preservative Required	OK	1216108007-H	HCL to pH < 2	OK
1216108002-J	No Preservative Required	OK	1216108007-I	No Preservative Required	OK
1216108003-A	HCL to pH < 2	OK	1216108007-J	No Preservative Required	OK
1216108003-B	HCL to pH < 2	OK	1216108008-A	HCL to pH < 2	OK
1216108003-C	HCL to pH < 2	OK	1216108008-B	HCL to pH < 2	OK
1216108003-D	HCL to pH < 2	OK	1216108008-C	HCL to pH < 2	OK
1216108003-E	HCL to pH < 2	OK	1216108008-D	HCL to pH < 2	OK
1216108003-F	HCL to pH < 2	OK	1216108008-E	HCL to pH < 2	OK
1216108003-G	HCL to pH < 2	OK	1216108008-F	HCL to pH < 2	OK
1216108003-H	HCL to pH < 2	OK	1216108008-G	HCL to pH < 2	OK
1216108003-I	No Preservative Required	OK	1216108008-H	HCL to pH < 2	OK
1216108003-J	No Preservative Required	OK	1216108008-I	No Preservative Required	OK
1216108004-A	HCL to pH < 2	OK	1216108008-J	No Preservative Required	OK
1216108004-B	HCL to pH < 2	OK	1216108009-A	HCL to pH < 2	OK
1216108004-C	HCL to pH < 2	OK	1216108009-B	HCL to pH < 2	OK
1216108004-D	HCL to pH < 2	OK	1216108009-C	HCL to pH < 2	OK
1216108004-E	HCL to pH < 2	OK	1216108009-D	HCL to pH < 2	OK
1216108004-F	HCL to pH < 2	OK	1216108009-E	HCL to pH < 2	OK
1216108004-G	HCL to pH < 2	OK	1216108009-F	HCL to pH < 2	OK
1216108004-H	HCL to pH < 2	OK			
1216108004-I	No Preservative Required	OK			
1216108004-J	No Preservative Required	OK			
1216108005-A	HCL to pH < 2	OK			
1216108005-B	HCL to pH < 2	OK			
1216108005-C	HCL to pH < 2	OK			
1216108005-D	HCL to pH < 2	OK			
1216108005-E	HCL to pH < 2	OK			
1216108005-F	HCL to pH < 2	OK			
1216108005-G	HCL to pH < 2	OK			
1216108005-H	HCL to pH < 2	OK			
1216108005-I	No Preservative Required	OK			

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition

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 D

DATA QUALITY REVIEW

ADEC LABORATORY DATA REVIEW CHECKLIST

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DATA QUALITY REVIEW

Date: 10/28/21

Project: AFSC Cross-town Pipeline Groundwater Monitoring 2021
Laboratory: SGS North America, Inc.
Work Order: 1216108

Reviewer Name: Marty Brewer
Reviewer Title: Sr. Chemist

1.0 INTRODUCTION

A Stage 2A data review was conducted accordance with the United States Environmental Protection Agency (USEPA) document *Test Methods for Evaluating Solid Wastes, SW-846,* revision 8 (EPA, 2014 and updates), USEPA *Contract Laboratory Program National Functional Guidelines for Organic* (EPA, 2017) *Methods Data Review*, and Alaska Department of Environmental Conservation's (ADEC's) *Minimum Quality Assurance Requirements for Sample Handling, Reports, and Laboratory Data Technical Memorandum* (ADEC, 2019) where and when applicable.

The key data quality indicators (DQIs) of precision, accuracy, representativeness, comparability, completeness, and sensitivity (PARCCS) of the project data were evaluated in this Data Quality Review (DQR) by reviewing, where appropriate, the following parameters:

- Chain of Custody (COC) and Sample Receipt Conditions
- Holding times and preservation
- Analytical reporting limits (limits of quantitation [LOQ] and limits of detection [LOD])
- Blank analysis results
- Surrogate recoveries (organics only)
- Field duplicates
- Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
- Matrix spike (MS) and matrix spike duplicate (MSD) results

1.1 Data Qualifier Definitions

For the purpose of this DQR the following code letters and associated definitions are provided for use by the project chemist to summarize the data quality.

- B Result is considered biased high due to blank contamination (method, trip, or equipment blank).
- J Result is considered estimated because it was detected above detection limit (DL), but below LOQ.

- Q Result is considered an estimated value because quality control (QC) criteria were not met; may be biased high (QH) or low (QL) or unknown (QN).
- R Result is rejected and unusable.
- U Analyte is reported as not detected at the LOD.

In the case where a sample result was affected by more than one sample-handling anomaly or QC failure that would result in differing qualifiers, a determination was made as to which qualifier was most conservative, and only that qualifier was retained and reported with the results. The ranking of the qualifiers is generally as follows: R>B>Q>J>U.

1.2 Chain of Custody (CoC) and Sample Receipt Condition

Groundwater samples were submitted to SGS, North America, Inc. located in Anchorage, Alaska. Eight groundwater samples, including a duplicate, and a trip blank were reported on SDG 1216108. The sample summary table presents field and sample identification (ID) and sampling details.

Table 1 summarizes field quality control samples by matrix and analyses.

TABLE 1: FIELD QUALITY CONTROL SAMPLES

Field ID	Lab ID	Analyses	Quality Control
AT-21-MW-123	1216108001	GRO, DRO, PAH, VOCs-F	Primary
AT-21-MW-124	1216108002	GRO, DRO, PAH, VOCs-F	Primary
AT-21-MW-125	1216108003	GRO, DRO, PAH, VOCs-F	Primary
AT-21-MW-925	1216108004	GRO, DRO, PAH, VOCs-F	Duplicate
AT-21-MW-126	1216108005	GRO, DRO/, PAH, VOCs-F	Primary
AT-21-MW-127	1216108006	GRO, DRO/, PAH, VOCs-F	Primary
AT-21-MW-128	1216108007	GRO, DRO/, PAH, VOCs-F	Primary
AT-21-MW-30	1216108008	GRO, DRO/, PAH, VOCs-F	Primary
AT-TB-091421	1216108009	GRO, VOCs-F	Trip Blank

Key:
ID identity
GRO gasoline range organics
DRO diesel range organics
PAH polyaromatic hydrocarbons
VOC-F volatile organic carbon-fuel

1.3 Holding Times and Preservation

Samples were received in good condition, within acceptable temperature range, properly preserved, and within the method specified hold times.

1.4 Analytical Reporting Limits

Analytical reporting limits were compared to project action/screening limits to determine if the lab had adequate analytical sensitivity to support project data quality objectives. Project action limits were based upon 18 AAC 75 Table C Groundwater Cleanup Levels. Analytical reporting limits were adequate to support the project.

1.5 Blanks

The following subsections describe the blanks evaluated for this review.

1.5.1 Trip Blanks

No target analytes were detected in the trip blank.

1.5.2 Method Blanks

No target analytes were detected in the method blanks with the following exception:

- Phenanthrene was detected at 0.0227 J ug/L. There were four project samples (AT-21-MW-123, AT-21-MW-124, AT-21-MW-127, and AT-21-MW-128) with phenanthrene detections that were also within five times the concentration in the MB. Therefore, these results were B flagged. B flagged results should be considered estimated with a high bias.

1.6 Surrogates

Surrogate spike recoveries were evaluated as a measure of analytical accuracy and assessment of potential matric effects. All surrogate recoveries were within quality control (QC) criteria with the following exceptions:

- There was one 8260 surrogate (4-bromofluorobenzene) that was above acceptance criteria for AT-21-MW-123; however, there were no associated sample detections. Therefore, no qualifications were necessary on the basis of this recovery.
- 8270 SIM surrogate 2-methylnaphthalene-d10 was above acceptance criteria for AT-21-MW-925 and AT-21-MW-125; however, there were no associated sample detections with this DMC. Therefore, no qualifications were necessary on the basis of this recovery.
- 8270 SIM surrogate fluoranthene-d10 was below acceptance criteria for AT-21-MW-125; therefore, the associated compounds (benzo(a)anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i]perylene, benzo[k]fluoranthene, chrysene,

dibenzo[a,h]anthracene, fluoranthene, indeno[1,2,3-c,d] pyrene and pyrene were QL flagged. QL flagged results should be considered estimated with a low bias.

1.7 Field Duplicates

Field duplicates were collected at the required frequency. One duplicate groundwater pair was submitted to the lab for analysis.

- AT-21-MW-125 and AT-21-MW-925

The relative percent difference (RPD) between the primary and field duplicate sample results were evaluated as a measure of field precision. Duplicate RPDs were calculated when a given analyte was detected in both samples. Duplicate RPDs were compared to the 30% criteria for water and met this criteria with the following exception:

- Naphthalene by 8260 results have a RPD of 32.1 percent; therefore, these results were QN flagged. QN flagged results should be considered estimated with an unknown bias.

1.8 Laboratory Control Samples (LCS/LCSD)

Percent recoveries of spiked analyte concentrations were evaluated for the LCS/LCSDs as a measure of analytical accuracy and precision. All LCS/LCSDs percent recoveries and RPDs were within QC limits.

1.9 Matrix Spikes/Matrix Spike Duplicate (MS/MSD)

No project specific matrix spike/matrix spike duplicate (MS/MSD) were required of the project.

2.0 OVERALL ASSSESSMENT

All data necessary to complete this review were provided. Based on the data review completed, minimal data were qualified, no data were rejected, and the project completeness goal was met. All samples were collected in accordance with the work plan and considered representative of site conditions. All analytical data is considered usable for the purpose of evaluating the presence or absence and magnitude of the suspected site contaminants.

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3.0 REFERENCES

Alaska Department of Environmental Conservation (ADEC), 2019. *Field Sampling Guidance for Contaminated Sites and Leaking Underground Storage Tank Sites.* October.

ADEC. 2019. *Minimum Quality Assurance Requirements for Sample Handling, Reports, and Laboratory Data.* October.

EPA, 2017. *National Functional Guidelines for Organic Superfund Methods Data Review*. January.

EPA, 2014. SW-846 Update V: *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*. July.

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Laboratory Data Review Checklist

Completed By:

Marty Brewer

Title:

Senior Chemist

Date:

10/28/21

Consultant Firm:

Ahtna

Laboratory Name:

SGS

Laboratory Report Number:

1216108

Laboratory Report Date:

10/5/21

CS Site Name:

Arctic & Tudor

ADEC File Number:

2100.38.438

Hazard Identification Number:

2018

1216108

Laboratory Report Date:

10/5/21

CS Site Name:

Arctic & Tudor

Note: Any N/A or No box checked must have an explanation in the comments box.

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

   Yes☒ No☐ N/A☐ Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

   Yes☐ No☐ N/A☒ Comments:

   No transfer.

2. Chain of Custody (CoC)

   a. CoC information completed, signed, and dated (including released/received by)?

   Yes☒ No☐ N/A☐ Comments:

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

   Yes☒ No☐ N/A☐ Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

   Yes☒ No☐ N/A☐ Comments:

1216108

Laboratory Report Date:

10/5/21

CS Site Name:

Arctic & Tudor

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes☒ No☐ N/A☐ Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes☒ No☐ N/A☐ Comments:

Sample receipt form states "Labels were switched between 1 PAH and 1 DRO Jar- AT-21-MW-124". However, because the lab caught this, there should be no impact to data quality or usability.

Although, fuel-related VOCs were requested on the CoC, the lab reported the full list of VOC compounds. The report was revised to only report fuel-related VOCs.

e. Data quality or usability affected?

Comments:

No.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

b. Discrepancies, errors, or QC failures identified by the lab?

Yes☒ No☐ N/A☐ Comments:

c. Were all corrective actions documented?

Yes☒ No☐ N/A☐ Comments:

1216108

Laboratory Report Date:

10/5/21

CS Site Name:

Arctic & Tudor

d. What is the effect on data quality/usability according to the case narrative?

Comments:

None.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes☒ No☐ N/A☐ Comments:

Although, fuel-related VOCs were requested on the CoC, the lab reported the full list of VOC compounds. The report was revised to only report fuel-related VOCs.

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. All soils reported on a dry weight basis?

Yes☐ No☐ N/A☒ Comments:

Only water samples.

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes☒ No☒ N/A☐ Comments:

e. Data quality or usability affected?

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes☒ No☐ N/A☐ Comments:

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ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?

Yes☐ No☐ N/A☐ Comments:

However, phenanthrene was detected at 0.0227 J ug/L. There were four project samples (AT-21-MW-123, AT-21-MW-124, AT-21-MW-127, and AT-21-MW-128) with phenanthrene detections that were also within five times the concentration in the MB. Therefore, these results were B flagged.

iii. If above LOQ or project specified objectives, what samples are affected?

Comments:

See directly above.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☒ No☐ N/A☐ Comments:

v. Data quality or usability affected?

Comments:

B flagged results should be considered estimated with a high bias.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes☒ No☐ N/A☐ Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes☐ No☐ N/A☒ Comments:

Only organics.

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

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iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from LCS/LCSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes☒ No☐ N/A☐ Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☒ Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

No as there were no LCS/LCSD exceedances.

c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Note: Leave blank if not required for project

i. Organics – One MS/MSD reported per matrix, analysis and 20 samples?

Yes☐ No☐ N/A☐ Comments:

ii. Metals/Inorganics – one MS and one MSD reported per matrix, analysis and 20 samples?

Yes☐ No☐ N/A☐ Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes☐ No☐ N/A☐ Comments:

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iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.

Yes☐ No☐ N/A☐ Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes☐ No☐ N/A☐ Comments:

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

i. Are surrogate/IDA recoveries reported for organic analyses – field, QC and laboratory samples?

Yes☒ No☐ N/A☐ Comments:

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ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)

Yes☐ No☒ N/A☐ Comments:

There was one 8260 surrogate (4-Bromofluorobenzene) that was above acceptance criteria for AT-21-MW-123; however, there were no associated sample detections. Therefore, no qualifications were necessary on the basis of this recovery.

8270 SIM surrogate 2-methylnaphthalene-d10 was above acceptance criteria for AT-21-MW-925 and AT-21-MW-125; however, there were no associated sample detections with this DMC. Therefore, no qualifications were necessary on the basis of this recovery.

8270 SIM surrogate fluoranthene-d10 was below acceptance criteria for AT-21-MW-125; therefore, the associated compounds (benzo(a)anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i]perylene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, fluoranthene, indeno[1,2,3-c,d] pyrene and pyrene were QL flagged.

iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?

Yes☒ No☐ N/A☐ Comments:

iv. Data quality or usability affected?

Comments:

QL flagged results should be considered estimated with a low bias.

e. Trip Blanks

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

Yes☒ No☐ N/A☐ Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes☒ No☐ N/A☐ Comments:

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iii. All results less than LOQ and project specified objectives?

Yes☒ No☐ N/A☐ Comments:

iv. If above LOQ or project specified objectives, what samples are affected?

Comments:

v. Data quality or usability affected?

Comments:

No.

f. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes☒ No☐ N/A☐ Comments:

ii. Submitted blind to lab?

Yes☒ No☐ N/A☐ Comments:

AT-21-MW-125 and AT-21-MW-925

iii. Precision – All relative percent differences (RPD) less than specified project objectives? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☒ N/A☐ Comments:

Naphthalene by 8260 results have a RPD of 32.1 percent; therefore, these results were QN flagged.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

QN flagged results should be considered estimated with an unknown bias.

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g. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below)?

Yes☐ No☐ N/A☒ Comments:

No equipment blank planned.

i. All results less than LOQ and project specified objectives?

Yes☐ No☐ N/A☐ Comments:

ii. If above LOQ or project specified objectives, what samples are affected?

Comments:

iii. Data quality or usability affected?

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes☒ No☐ N/A☐ Comments:

APPENDIX E

GRAPHICAL CSM

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HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: Arctic Boulevard and Tudor Road Intersection
ADEC File Number: 2100.38.438

Completed By: Ahtna Engineering Services
Date Completed: Updated 11/2021

***Instructions*: Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.**

(1)
Check the media that could be directly affected by the release.

(2)
For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.

(3)
Check all exposure media identified in (2).

(4)
*Check all pathways that could be complete. The pathways identified in this column **must** agree with Sections 2 and 3 of the Human Health CSM Scoping Form.*

(5)
Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.

Current & Future Receptors

Media	Transport Mechanisms	Exposure Media	Exposure Pathway/Route	Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
☐ Surface Soil (0-2 ft bgs)	☐ Direct release to surface soil — check soil	☐ soil	☐ Incidental Soil Ingestion							
	☐ Migration to subsurface — check soil		☐ Dermal Absorption of Contaminants from Soil							
	☐ Migration to groundwater — check groundwater		☐ Inhalation of Fugitive Dust							
	☐ Volatilization — check air									
	☐ Runoff or erosion — check surface water									
	☐ Uptake by plants or animals — check biota									
	☐ Other (list):									
☐ Subsurface Soil (2-15 ft bgs)	☐ Direct release to subsurface soil — check soil	☐ groundwater	☑ Ingestion of Groundwater	I/F			I/F			
	☐ Migration to groundwater — check groundwater		☐ Dermal Absorption of Contaminants in Groundwater							
	☐ Volatilization — check air		☐ Inhalation of Volatile Compounds in Tap Water							
	☐ Uptake by plants or animals — check biota									
	☐ Other (list):									
☑ Ground-water	☐ Direct release to groundwater — check groundwater	☑ air	☐ Inhalation of Outdoor Air							
	☑ Volatilization — check air		☑ Inhalation of Indoor Air	I/F						
	☐ Flow to surface water body — check surface water		☐ Inhalation of Fugitive Dust							
	☐ Flow to sediment — check sediment									
	☐ Uptake by plants or animals — check biota									
	☐ Other (list):									
☐ Surface Water	☐ Direct release to surface water — check surface water	☐ surface water	☐ Ingestion of Surface Water							
	☐ Volatilization — check air		☐ Dermal Absorption of Contaminants in Surface Water							
	☐ Sedimentation — check sediment		☐ Inhalation of Volatile Compounds in Tap Water							
	☐ Uptake by plants or animals — check biota									
	☐ Other (list):									
☐ Sediment	☐ Direct release to sediment — check sediment	☐ sediment	☐ Direct Contact with Sediment							
	☐ Resuspension, runoff, or erosion — check surface water									
	☐ Uptake by plants or animals — check biota	☐ biota	☐ Ingestion of Wild or Farmed Foods							
	☐ Other (list):									

Revised, 10/15/2010

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APPENDIX F

ADEC RESPONSE TO COMMENTS

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DEC Report Review Comments

Document:	Groundwater Monitoring Report 2021, Anchorage Fueling and Services Company - Crosstown Pipeline, Arctic Boulevard and Tudor Road Intersection,	**Date**:	2/22/2022

Comment No.	Page	Section	Comment / Recommendation	Response
1.	4	1.2	Laboratory reporting limits for 1,2-dibromomethane and 1,2-dichloroethane appear to be below project cleanup goals and not exceptions, as noted.	Agreed. Revised text to read "Analytical laboratory reporting limits met or were below project cleanup levels for all analytes."
2.	5	2.1, Figure 3	If RW-1 GW elevation was used for the GW survey, data corrections adjusting for LNAPL specific gravity should be used. If the data was not corrected, please adjust as necessary to represent the GW surface contours presented in Figure 3 and clarify the correction in the report text.	RW-1 GW elevation was used for the GW survey. The data was corrected using the specific gravity of 0.815 for fuel in the calculation of groundwater elevation in wells with LNAPL as stated in footnote 5 of Table 1. Added this note to the text in "Section 2.1 Groundwater/LNAPL Measurements and Observations" also.
3.		Figure 4	Extent of dissolved phase appears to go off of the figure along Tudor Rd. Please adjust to show the entire delineation of the groundwater plume.	The monitoring of the extent of the groundwater plume south of the Idle Wheels Trailer Park by Menzies/AFSC has not been required by ADEC since 2014. Wells used to monitor the south portion of the plume (MW-4 and MW-10) had gone below cleanup levels (MW-4) or had been destroyed during road construction (MW-10) so were dropped from the program; therefore there is no south edge monitoring points to define the upgradient portion of the plume. At that time, the focus of the monitoring became the of the Idle Wheels trailer park. In addition, there was question as to what the source of detected petroleum contaminants were in MW-4 and MW-10 as there is another known source area for fuel at the former Texaco station on the south side of Tudor Rd. That site is currently being monitored by others.

DEC Comments: DATE