

PFAS INVESTIGATION CHEMICAL DATA REPORT

IRIS NO. CFAPT00430/AIP NO. 3-02-0029-0XX-20XX

BET MAIN RUNWAY RECONSTRUCTION Bethel, Alaska



ADEC FILE NO.: 2407.38.031

ADEC HAZARD IDENTIFICATION NO.: 27155

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AKANG	Alaska Air National Guard
AFFF	aqueous film forming foam
BET	Bethel Airport
bgs	below ground surface
COPC	contaminants of potential concern
CSM	conceptual site model
COC	contaminants of concern
DL	detection limit
DOT&PF	Department of Transportation and Public Facilities
DoD	Department of Defense
ELAP	Environmental Laboratory Accreditation Program
IDW	investigation derived waste
L	lower
LCS	laboratory control spike
LCSD	laboratory control spike duplicate
LOD	limit of detection
LOQ	limit of quantitation
MB	method blank
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
QEP	qualified environmental professional
QSM	Quality Systems Manual
R&M	R&M Consultants, Inc.
RSA	runway safety area
SAP	Sampling and Analysis Plan
SDG	sample delivery group
TA-Sacramento	Eurofins-TestAmerica West Sacramento
U	upper
µg/kg	micrograms per kilogram

EXECUTIVE SUMMARY

Alaska Department of Transportation and Public Facilities (DOT&PF) retained R&M Consultants, Inc. (R&M) to perform a geotechnical and environmental investigation for the proposed Main Runway Reconstruction project at Bethel Airport (BET). Environmental investigation and sampling was conducted to characterize the nature and extent of per- and polyfluoroalkyl substances (PFAS) within the planned geotechnical test borings. The field investigation occurred between 5 August 2020 and 20 August 2020.

The objectives of the field investigation were as follows:

- Collect soil samples immediately beneath the runway and taxiway pavement surfaces and at a cross-section of depths within planned earthwork disturbance prisms to characterize the potential distribution of PFAS contaminants within the project area.
- Analyze soil samples for PFAS contaminants of potential concern (COPC).
- Containerize investigation derived waste (IDW).

INVESTIGATION CONCLUSIONS

PFAS analytes perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were widely detected across the drilling area at concentrations below the ADEC cleanup levels. PFOS exceeded the 3.0 micrograms per kilogram ($\mu\text{g}/\text{kg}$) cleanup level in two test borings along Runway 1L/19R between Taxiways D and the intersection with Runway 12/30 at 13 and 25 $\mu\text{g}/\text{kg}$. PFOA exceeded the 1.7 $\mu\text{g}/\text{kg}$ cleanup level in one test boring on Taxiway D. Notably, sample locations for this investigation were not selected based on environmental criteria, but in support of geotechnical investigation of the airport.

As horizontal sampling locations were not selected based on environmental criteria, it is likely that other areas of elevated PFOS and PFOA may be found at the Bethel Airport. An updated conceptual site model (CSM) was completed and identifies ingestion of groundwater and dermal absorption of contaminants in groundwater as complete, significant pathways.

RECOMMENDATIONS

R&M provides the following recommendations for the site:

- Waste disposal of IDW stored in six drums is recommended as follows:
 - Obtain ADEC approval to dispose of the soil cuttings.
 - It is recommended that DOT&PF engage an environmental waste contractor to dispose of the four drums containing cuttings with PFOS and/or PFOA detections exceeding the migration to groundwater cleanup level.
 - The two drums containing soil cuttings with PFOS and/or PFOA concentrations below the cleanup level are recommended to be spread on site in a location determined by DOT&PF.

R&M provides the following recommendations to be considered for design work related to the Bethel Airport Main Runway Reconstruction project.

- DOT&PF should develop a sampling and analysis plan to guide earth disturbing activities during construction for ADEC approval prior to mobilization.
- DOT&PF should plan on the demolition and construction contractors having a third party QEP on site during any earth disturbing activities at the site.
- ADEC regulates ground disturbing activities at contaminated sites. If work practices can prevent disturbance then ADEC oversight is not required.
- Minimize disturbance of the subsurface during construction if geotechnically and structurally feasible. Abandonment of existing infrastructure rather than removal may be financially beneficial if geotechnically and structurally suitable compared with disposal costs related to contaminated material removal, characterization, management, and disposal.
- Excavation of contaminated material from the site will likely require stockpiling and transport from Bethel to an appropriate disposal facility due to the presence of contaminants such as PFOS and PFOA that cannot be land farmed as a remedial technique unless ADEC allows material to be placed back in an excavation in approximately the same place from which it was removed. This will require coordination with an approved waste disposal company and approval by ADEC.
- Minimization of waste soil during construction will limit additional costs associated with disposal of PFOS and PFOA contaminated soils, especially in the vicinity of Taxiway D and the Main Apron.
- PFOS and PFOA should be retained as contaminants of concern (COC) for the Bethel Airport.

1.0 INTRODUCTION

The Alaska Department of Transportation and Public Facilities (DOT&PF) retained R&M Consultants, Inc. (R&M) under Amendment 3 of Contract Agreement 25192017 to perform a geotechnical and environmental investigation for the proposed Main Runway Reconstruction project at Bethel Airport (BET) in Alaska (IRIS Program No. CFAPT00430, Federal Project No. AIP 3-02-0029-XXX-20XX). Environmental investigation and sampling was conducted to characterize the nature and extent of per- and polyfluoralkyl substances (PFAS) within the planned geotechnical test borings. Sampling and analytical testing were performed in accordance with the Alaska Department of Environmental Conservation (ADEC) approved Sampling and Analysis Plan (SAP) dated 29 July 2020 (R&M, 2020) and ADEC Field Sampling Guidance (ADEC, 2019). **Drawings A-01 through A-05** in Appendix A provide location and vicinity, area, investigation location, and summarized chemical data result maps for the site.

1.1 INVESTIGATION OBJECTIVES

Completed objectives of the field investigation were as follows:

- Collected soil samples immediately beneath the runway and taxiway pavement surfaces and at a cross-section of depths within planned earthwork disturbance prisms to characterize the potential distribution of PFAS contaminants within the reconstruction project area.
- Analyzed soil samples for PFAS contaminants of potential concern (COPC).
- Containerized investigation derived waste (IDW) and placed in a DOT&PF designated storage area at the Bethel Airport.

1.2 WORK PLAN MODIFICATIONS

Five soil samples were collected at depths that varied from the depths specified in the SAP based on professional judgment of the ADEC qualified environmental professional (QEP) as follows:

- Lower RM20-02 (BH-B) sample was collected at 20 to 22 feet (25 feet in SAP)
- Lower RM20-12 (BH-L) sample was collected at 10 to 12 feet (20 feet in SAP)
- Lower RM20-14 (BH-N) sample was collected at 20 to 22 feet (30 feet in SAP)
- Lower RM20-18 (BH-R) sample was collected at 4 to 6 feet (5 feet in SAP)
- Lower RM20-23 (BH-W) sample was collected at 4 to 6 feet (2.5 feet in SAP)

No other modifications were documented.

1.3 PREVIOUS INVESTIGATIONS

The Bethel Airport site, including the main runway, was first developed in the 1950s. Since that time, several geotechnical investigations have been performed at the project site to support runway expansion or reconstruction projects. There are two sites listed on the ADEC Contaminated Sites Database that potentially affect the project work areas and are described in **Sections 2.6.1 and 2.6.2**.

1.3.1 BETHEL AIRPORT SITEWIDE PFAS (2407.38.031)

Bethel Airport is listed as an informational site on the ADEC contaminated sites database. The file summary indicates that sampling had not been conducted, but that potential sources of PFAS have been identified at the Bethel Airport. The Alaska Air National Guard (AKANG) performed a preliminary assessment for PFAS relating to their facility, but the report indicated that AKANG activities have not contributed to PFAS contamination at the AKANG facilities or adjacent area. The informational listing is file number 2407.38.031 with hazard identification 27155.

As no sampling appears to have occurred, the usefulness of this information is limited in assessing the potential for PFAS contamination at the Bethel Airport.

1.3.2 DOT&PF BETHEL AIRPORT GRANT AVIATION PLANE CRASH PFAS (2407.38.030)

Response to an aircraft crash landing on 8 July 2019 resulted in release of approximately 80 gallons of a 3 percent aqueous film forming foam (AFFF) containing PFAS to the ground surrounding the crashed aircraft in response to the resulting fire. The area is a vegetated infield between the main runway (1L/19R) and the parallel runway to the east (1R/19L). No analytical test results were available as of September 2019. A work plan was approved by ADEC on 26 May 2020 to investigate the release. This site is listed as active with file number 2407.38.030 and hazard identification 27139.

As this site is immediately adjacent to the proposed improvements, and that AFFF containing PFAS is documented to have been released, it is likely that PFAS has impacted soils in the vicinity of the proposed improvements near the crash site.

2.0 SITE DESCRIPTION

The project is located at the Bethel Airport in Alaska. The planned reconstruction area includes the main runway (RW 1L/19R), the main runway shoulders and safety areas, and adjacent Taxiways A, C, G, and D. The site is located in Township 8 North, Range 72 West, and Sections 13 and 24 of the Seward Meridian. The site is located at 60.779479 degrees north and 161.836683 degrees west in WGS84 decimal degree coordinates based on the ADEC contaminated sites listing (**Table 2-1**). **Drawings A-01 and A-03** provide location and vicinity and investigation location maps.

TABLE 2-1: SUMMARIZED SITE DETAILS

Category	Description
ADEC Site Name	ADOT&PF BETHEL AIRPORT SITEWIDE PFAS
ADEC File Number	2407.38.031
ADEC Hazard ID	27155
Latitude / Longitude	60.779479 / -161.836683
Street Address	Bethel Airport; Chief Eddie Hoffman Highway, Bethel, AK 99559
Current Land Use	Regional public airport

2.1 SURFACE

Bethel Airport is situated on a tundra covered sandy ridge lying above the Kuskokwim River active floodplain. The project site is relatively flat and surfaced with embankment fill constructed for the airport traffic surfaces.

2.2 SURFACE DRAINAGE

Surface drainage appears to be accomplished via sheet-flow to the periphery of the site in paved areas or via infiltration to the subsurface in unpaved areas.

2.3 GENERAL GEOLOGY

The project area lies within the western portion of the Yukon-Kuskokwim Coastal physiographic province (Wahrhaftig, 1965); part of an extensive delta between the lower reaches of the Yukon River and Kuskokwim River and characterized by relatively flat, poorly draining terrain dotted with numerous lakes, marshes, and meandering streams with extremely low gradients. Surface elevations in the western portion of this region typically rise away from the coast to about 100 to 300 feet.

The surficial geology around the Bethel area has been mapped as deep, unconsolidated fine-grained alluvial, lacustrine, glacial outwash and eolian Pleistocene and Holocene-aged deposits (Box, et al., 1993). The region is underlain by continuous permafrost, to a depth of approximately 600 feet at Bethel (Brown, et al. 1997).

At Bethel Airport, the surficial geology generally consists of a thin layer of peat-like material (tundra vegetation over topsoil with roots); over sand and silt with variable organic matter, over poorly differentiated layers of variably mixed sand and silt. For the most part, the surface tundra mat and shallow organic soil unit were removed prior to developing the present aircraft operating areas;

while materials excavated from the underlying sand and silt unit have been used as fill to construct the present airport embankments.

Review of past geotechnical documents indicates that bedrock, cobbles, and/or boulders have not been encountered within the depth of any past geotechnical exploration at the airport (maximum depth of about 60 feet).

2.4 PERMAFROST AND GROUNDWATER CONDITIONS

The airport is underlain by “warm” permafrost, presently encountered below depths ranging from a few feet in undisturbed areas, to over 30 feet under the older pavements. Ground temperatures measured below depths of roughly 20 to 30 feet have typically been greater than 31 degrees Fahrenheit (°F).

Sporadic groundwater has sometimes been reported at the airport, typically perched over the permafrost.

2.5 CLIMATE

The Bethel region experiences a transitional climate (AEIDC, 1975), with generally maritime conditions in the summer (e.g. moderate temperature variations with higher winds and precipitation), but more continental conditions in the winter (e.g. greater temperature variations, with moderate winds and precipitation).

Based on climate data recorded at the Bethel Airport weather station for the period of 1949 through 2012, the mean annual air temperature is approximately 29.5 °F, with minimum and maximum monthly averages of approximately 6.0 °F (January) and 55.4 °F (July), respectively. The area receives an average of approximately 16.96 inches of precipitation per year, with maximum monthly mean of approximately 3.38 inches in August (WRCC, 2020).

3.0 INVESTIGATION METHODS AND RESULTS

Test boring advancement and soil sampling were conducted according to procedures specified by the SAP (R&M, 2020) and ADEC Field Sampling Guidance (ADEC, 2019). Test boring logs are provided in **Appendix B**. Field notes are provided in **Appendix C**. Brian M. Mullen, PE was the ADEC QEP on site as required by 18 Alaska Administrative Code (AAC) 75 (ADEC, 2018) and was assisted by Alex M. Brown. Field activities included geotechnical and environmental investigation of thirty test borings (RM20-01 to RM20-30) to depths of approximately 10 to 30 feet below ground surface (bgs). Additionally, a total of six test pits (RM20-31 to RM20-36) were excavated by hand in the main runway (1L/19R) safety area extensions, to depths of approximately 2 feet. The field investigation occurred between 5 August 2020 and 20 August 2020.

Samples were submitted to Eurofins-TestAmerica in West Sacramento, California (TA-Sacramento), which is an ADEC approved laboratory and is Environmental Laboratory Accreditation Program (ELAP) certified for the analytical methods used. Summary tables of the complete chemical results are included in **Appendix D**. Level 2 data reports are included as **Appendix E**. The following sections provide additional details about the investigation and present chemical results. **Table 3-1** provides a summary of samples collected.

TABLE 3-1: CHEMICAL SAMPLE SUMMARY INFORMATION

Location (Work Plan ID)	Sample Identification	Sample Type	Sample Interval (feet bgs)	SAP Specified Sampling Depth (feet bgs)	Sample Date	Associated Rinsate Blank
RM20-01 (BH-A)	BET20-TH01-01	Primary	0.9 to 2.5 feet	Below Pavement	8/15/2020	RB04
RM20-01 (BH-A)	BET20-TH01-02	Primary	2.5 to 4.5 feet	2.5	8/15/2020	RB04
RM20-01 (BH-A)	BET20-TH01-03	Duplicate				
RM20-02 (BH-B)	BET20-TH02-01	Primary	0.4 to 2.3 feet	Below Pavement	8/16/2020	RB04
RM20-02 (BH-B)	BET20-TH02-02	Primary	20.0 to 22.0 feet	25.0	8/16/2020	RB04
RM20-03 (BH-C)	BET20-TH03-01	Primary	0.4 to 2.4 feet	Below Pavement	8/16/2020	RB04
RM20-03 (BH-C)	BET20-TH03-02	Primary	5.0 to 7.0 feet	5.0	8/16/2020	RB04
RM20-04 (BH-D)	BET20-TH04-01	Primary	1.3 to 3.3 feet	Below Pavement	8/16/2020	RB04
RM20-04 (BH-D)	BET20-TH04-03	Duplicate				
RM20-04 (BH-D)	BET20-TH04-02	Primary	15.0 to 20.0 feet	15.0	8/17/2020	RB04
RM20-05 (BH-E)	BET20-TH05-01	Primary	0.5 to 2.5 feet	Below Pavement	8/17/2020	RB04
RM20-05 (BH-E)	BET20-TH05-03	Duplicate				
RM20-05 (BH-E)	BET20-TH05-02	Primary	7.5 to 9.5 feet	7.5	8/17/2020	RB04
RM20-06 (BH-F)	BET20-TH06-01	Primary	0.5 to 2.5 feet	Below Pavement	8/17/2020	RB04
RM20-06 (BH-F)	BET20-TH06-02	Primary	20.0 to 22.0 feet	20.0	8/17/2020	RB04
RM20-07 (BH-G)	BET20-TH07-01	Primary	0.4 to 0.7 feet	Below Pavement	8/10/2020	RB02
RM20-07 (BH-G)	BET20-TH07-02	Primary	10.0 to 12.0 feet	10.0	8/10/2020	RB02
RM20-08 (BH-H)	BET20-TH08-01	Primary	0.5 to 1.0 feet	Below Pavement	8/6/2020	RB01
RM20-08 (BH-H)	BET20-TH08-03	Duplicate				
RM20-08 (BH-H)	BET20-TH08-02	Primary	15.0 to 17.0 feet	15.0	8/6/2020	RB01
RM20-09 (BH-I)	BET20-TH09-01	Primary	0.1 to 0.5 feet	Below Pavement	8/9/2020	RB02
RM20-09 (BH-I)	BET20-TH09-02	Primary	2.5 to 4.5 feet	2.5	8/10/2020	RB02
RM20-09 (BH-I)	BET20-TH09-03	Duplicate				

Location (Work Plan ID)	Sample Identification	Sample Type	Sample Interval (feet bgs)	SAP Specified Sampling Depth (feet bgs)	Sample Date	Associated Rinsate Blank
RM20-10 (BH-J)	BET20-TH10-01	Primary	1.0 to 1.5 feet	Below Pavement	8/7/2020	RB01
RM20-10 (BH-J)	BET20-TH10-02	Primary	15.0 to 17.0 feet	15.0	8/7/2020	RB01
RM20-11 (BH-K)	BET20-TH11-01	Primary	0.0 to 0.3 feet	Below Pavement	8/6/2020	RB01
RM20-11 (BH-K)	BET20-TH11-02	Primary	5.0 to 7.0 feet	5.0	8/6/2020	RB01
RM20-12 (BH-L)	BET20-TH12-01	Primary	1.5 to 2.8 feet	Below Pavement	8/9/2020	RB02
RM20-12 (BH-L)	BET20-TH12-03	Duplicate				
RM20-12 (BH-L)	BET20-TH12-02	Primary	10.0 to 12.0 feet	20.0	8/9/2020	RB02
RM20-13 (BH-M)	BET20-TH13-01	Primary	0.1 to 0.5 feet	Below Pavement	8/9/2020	RB02
RM20-13 (BH-M)	BET20-TH13-02	Primary	15.0 to 17.0 feet	15.0	8/9/2020	RB02
RM20-14 (BH-N)	BET20-TH14-01	Primary	1.3 to 3.3 feet	Below Pavement	8/11/2020	RB02
RM20-14 (BH-N)	BET20-TH14-02	Primary	20.0 to 22.0 feet	30.0	8/11/2020	RB02
RM20-15 (BH-O)	BET20-TH15-01	Primary	0.1 to 0.5 feet	Below Pavement	8/11/2020	RB02
RM20-15 (BH-O)	BET20-TH15-02	Primary	7.5 to 9.5 feet	7.5	8/11/2020	RB02
RM20-16 (BH-P)	BET20-TH16-01	Primary	1.9 to 2.9 feet	Below Pavement	8/8/2020	RB01
RM20-16 (BH-P)	BET20-TH16-02	Primary	10.0 to 12.0 feet	10.0	8/8/2020	RB01
RM20-17 (BH-Q)	BET20-TH17-01	Primary	0.1 to 0.5 feet	Below Pavement	8/12/2020	RB03
RM20-17 (BH-Q)	BET20-TH17-03	Duplicate				
RM20-17 (BH-Q)	BET20-TH17-02	Primary	2.5 to 4.5 feet	2.5	8/12/2020	RB03
RM20-18 (BH-R)	BET20-TH18-01	Primary	1.3 to 3.3 feet	Below Pavement	8/15/2020	RB04
RM20-18 (BH-R)	BET20-TH18-02	Primary	4.0 to 6.0 feet	5.0	8/15/2020	RB04
RM20-19 (BH-S)	BET20-TH19-01	Primary	1.5 to 3.5 feet	Below Pavement	8/13/2020	RB03
RM20-19 (BH-S)	BET20-TH19-02	Primary	15.0 to 17.0 feet	15.0	8/13/2020	RB03
RM20-20 (BH-T)	BET20-TH20-01	Primary	0.1 to 0.5 feet	Below Pavement	8/13/2020	RB03
RM20-20 (BH-T)	BET20-TH20-02	Primary	7.5 to 9.5 feet	7.5	8/13/2020	RB03
RM20-21 (BH-U)	BET20-TH21-01	Primary	0.9 to 2.6 feet	Below Pavement	8/12/2020	RB03
RM20-21 (BH-U)	BET20-TH21-02	Primary	10.0 to 12.0 feet	10.0	8/12/2020	RB03
RM20-22 (BH-V)	BET20-TH22-01	Primary	0.1 to 0.5 feet	Below Pavement	8/13/2020	RB03
RM20-22 (BH-V)	BET20-TH22-03	Duplicate				
RM20-22 (BH-V)	BET20-TH22-02	Primary	20.0 to 22.0 feet	20.0	8/13/2020	RB03
RM20-23 (BH-W)	BET20-TH23-01	Primary	1.5 to 3.5 feet	Below Pavement	8/14/2020	RB03
RM20-23 (BH-W)	BET20-TH23-03	Duplicate				
RM20-23 (BH-W)	BET20-TH23-02	Primary	4.0 to 6.0 feet	2.5	8/15/2020	RB04
RM20-24 (BH-X)	BET20-TH24-01	Primary	0.6 to 2.6 feet	Below Pavement	8/14/2020	RB03
RM20-24 (BH-X)	BET20-TH24-02	Primary	5.0 to 7.0 feet	5.0	8/14/2020	RB03
RM20-25 (BH-Y)	BET20-TH25-01	Primary	1.1 to 3.1 feet	Below Pavement	8/14/2020	RB03
RM20-25 (BH-Y)	BET20-TH25-02	Primary	15.0 to 17.0 feet	15.0	8/14/2020	RB03
RM20-26 (BH-Z)	BET20-TH26-01	Primary	2.0 to 4.0 feet	Below Pavement	8/10/2020	RB02
RM20-26 (BH-Z)	BET20-TH26-03	Duplicate				
RM20-26 (BH-Z)	BET20-TH26-02	Primary	25.0 to 27.0 feet	25.0	8/10/2020	RB02
RM20-27 (BH-AA)	BET20-TH27-01	Primary	0.1 to 0.5 feet	Below Pavement	8/6/2020	RB01
RM20-27 (BH-AA)	BET20-TH27-03	Duplicate				

Location (Work Plan ID)	Sample Identification	Sample Type	Sample Interval (feet bgs)	SAP Specified Sampling Depth (feet bgs)	Sample Date	Associated Rinsate Blank	
RM20-27 (BH-AA)	BET20-TH27-02	Primary	10.0 to 12.0 feet	10.0	8/6/2020	RB01	
RM20-28 (BH-BB)	BET20-TH28-01	Primary	0.1 to 0.5 feet	Below Pavement	8/7/2020	RB01	
RM20-28 (BH-BB)	BET20-TH28-03	Duplicate					
RM20-28 (BH-BB)	BET20-TH28-02	Primary	20.0 to 22.0 feet	20.0	8/7/2020	RB01	
RM20-29 (BH-CC)	BET20-TH29-01	Primary	0.0 to 2.0 feet	Below Pavement	8/18/2020	RB04	
RM20-29 (BH-CC)	BET20-TH29-02	Primary	10.0 to 12.0 feet	10.0	8/18/2020	RB04	
RM20-30 (BH-DD)	BET20-TH30-01	Primary	0.1 to 0.5 feet	Below Pavement	8/11/2020	RB02	
RM20-30 (BH-DD)	BET20-TH30-03	Duplicate					
RM20-30 (BH-DD)	BET20-TH30-02	Primary	20.0 to 22.0 feet	20.0	8/12/2020	RB03	
RM20-31 (BH-EE)	BET20-TH31-01	Primary	1.0 to 2.0 feet	QEP Determined	8/18/2020	RB04	
RM20-31 (BH-EE)	BET20-TH31-02	Duplicate					
RM20-32 (BH-FF)	BET20-TH32-01	Primary	1.0 to 2.0 feet		8/18/2020	RB04	
RM20-33 (BH-GG)	BET20-TH33-01	Primary	1.0 to 2.0 feet		8/19/2020	RB04	
RM20-34 (BH-HH)	BET20-TH34-01	Primary	1.0 to 2.0 feet		8/19/2020	RB04	
RM20-35 (BH-II)	BET20-TH35-01	Primary	1.0 to 2.0 feet		8/19/2020	RB04	
RM20-36 (BH-JJ)	BET20-TH36-01	Primary	1.0 to 2.0 feet		8/19/2020	RB04	
8/5 to 8/8/2020	BET20-WA-RB01	Rinsate Blank	Not Applicable		Not Applicable	8/8/2020	Not Applicable
8/9 to 8/11/2020	BET20-WA-RB02	Rinsate Blank	Not Applicable			8/11/2020	
8/12 to 8/14/2020	BET20-WA-RB03	Rinsate Blank	Not Applicable			8/14/2020	
8/15 to 8/19/2020	BET20-WA-RB04	Rinsate Blank	Not Applicable	8/16/2020			

NOTES:

For definitions, see the list of Acronyms and Abbreviations.
 SAP specified depths are highlighted blue where the actual sample depth varied in the field.

3.1 CONTAMINANTS OF CONCERN

Based on previous investigations and the ADEC Contaminated Sites Database, PFAS analytes perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were identified as COPCs for the site.

PFAS were analyzed for the full list of 24 analytes compliant with Quality Systems Manual (QSM) 5.3 Table B-15 (DoD, 2019). Full result are provided in **Appendices D and E**.

3.2 PROPOSED CLEANUP LEVELS

Chemical laboratory data was compared to the ADEC human health migration to groundwater cleanup levels for PFOA and PFOS (ADEC, 2018).

TABLE 3-2: CLEANUP LEVELS

Analyte	Human Health (µg/kg)	Migration to Groundwater (µg/kg)
PFOA	1,600	1.7
PFOS	1,600	3.0

3.3 FIELD SCREENING

Field screening techniques do not work for PFAS and visual/olfactory field screening during the field investigation did not detect the presence of other contaminants (e.g. petroleum hydrocarbons).

3.4 SOIL CHEMICAL SAMPLE RESULTS

Chemical samples were immediately placed in a pre-chilled cooler following collection and were maintained as described in Section 4.0. Chemical data are summarized in Tables 3-3 through 3-10, associated charts, and Appendix D. The level 2 laboratory reports are provided in Appendix E. The charts shows upper (U) and lower (L) samples for each location. The upper sample was taken from immediately below the pavement section in the base course. The lower sample was taken from a prescribed depth as indicated in Table 3-1. Sections 3.4.1 through 3.4.6 provide summaries of results broken down by location. Drawings A-04 and A-05 display summarized chemical results.

3.4.1 RUNWAY 1L/19R

PFOS was consistently detected along the southern two thirds of the existing runway below the migration to groundwater cleanup level of 3.0 micrograms per kilogram ($\mu\text{g}/\text{kg}$), but exceeded the cleanup level in soil from the upper sample in Test Boring RM20-16 near Taxiway G at 25 $\mu\text{g}/\text{kg}$. The southern two thirds of the runway was primarily non-detect for PFOA, with only two locations detecting small concentrations below the cleanup level of 1.7 $\mu\text{g}/\text{kg}$. The northern third of the existing runway was non-detect for PFOS and PFOA. These data are summarized in following chart and Table 3-3.

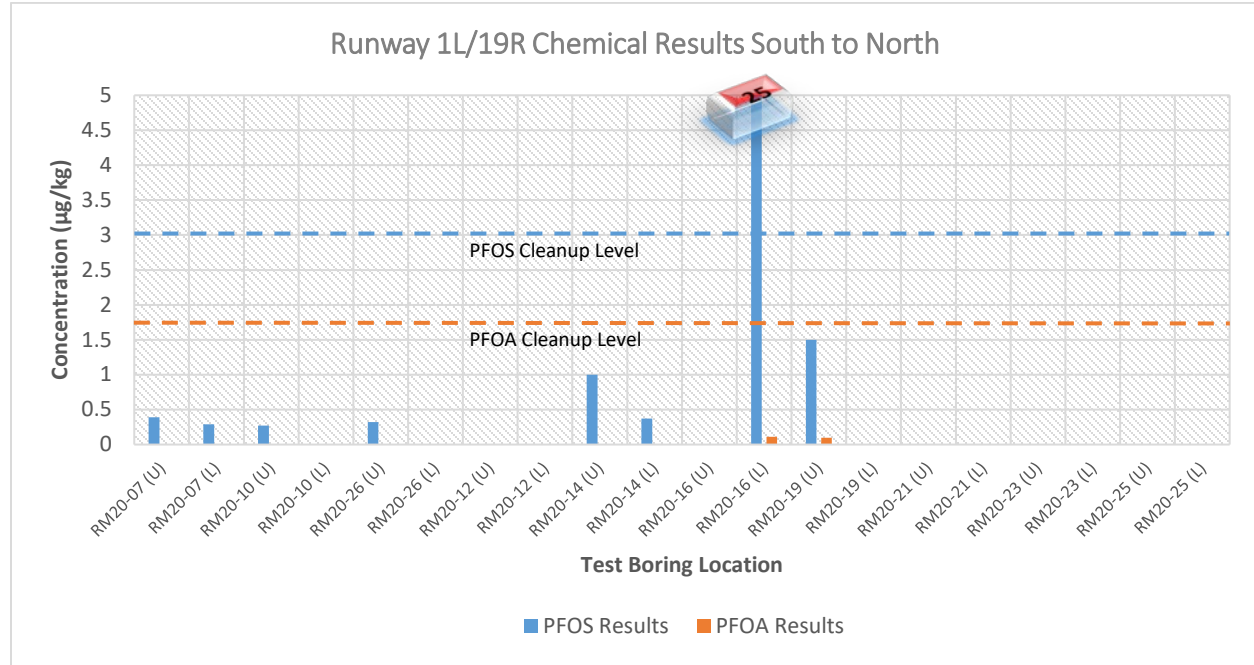


TABLE 3-3: RUNWAY 1L/19R CHEMICAL RESULTS

Test Boring Location	Sample Number ³	Depth (feet bgs)	PFOS (µg/kg)	PFOA (µg/kg)
			Cleanup Level ^{1,2} (µg/kg)	
			3.0	1.7
RM20-07	BET20-TH07-01	0.4 to 0.7 feet	0.39 J B QN	0.082 U
RM20-07	BET20-TH07-02	10.0 to 12.0 feet	0.29 J B QN	0.090 U
RM20-09	BET20-TH09-01	0.1 to 0.5 feet	0.20 U QN	0.085 U
RM20-09	BET20-TH09-02	2.5 to 4.5 feet	0.31 J B QN	0.087 U
RM20-09	BET20-TH09-03		0.63 B QN	0.090 U
RM20-10	BET20-TH10-01	1.0 to 1.5 feet	0.27 J B QN	0.088 U
RM20-10	BET20-TH10-02	15.0 to 17.0 feet	0.20 U QN	0.086 U
RM20-26	BET20-TH26-01	2.0 to 4.0 feet	0.32 J B	0.086 U
RM20-26	BET20-TH26-03		0.22 J B	0.085 U
RM20-26	BET20-TH26-02	25.0 to 27.0 feet	0.25 U QN	0.11 U
RM20-12	BET20-TH12-01	1.5 to 2.8 feet	0.20 U	0.085 U
RM20-12	BET20-TH12-03		0.21 U	0.090 U
RM20-12	BET20-TH12-02	10.0 to 12.0 feet	0.23 U QN	0.10 U
RM20-14	BET20-TH14-01	1.3 to 3.3 feet	1.0 B QN	0.085 U
RM20-14	BET20-TH14-02	20.0 to 22.0 feet	0.37 J B QN	0.11 U
RM20-16	BET20-TH16-01	1.9 to 2.9 feet	0.20 U QN	0.088 U
RM20-16	BET20-TH16-02	10.0 to 12.0 feet	25 B QN	0.11 J
RM20-19	BET20-TH19-01	1.5 to 3.5 feet	1.5 QN	0.097 J
RM20-19	BET20-TH19-02	15.0 to 17.0 feet	0.21 U QN	0.089 U
RM20-21	BET20-TH21-01	0.9 to 2.6 feet	0.21 U QN	0.091 U
RM20-21	BET20-TH21-02	10.0 to 12.0 feet	0.22 U QN	0.093 U
RM20-22	BET20-TH22-01	0.1 to 0.5 feet	0.20 U	0.087 U
RM20-22	BET20-TH22-03		0.20 U	0.087 U
RM20-22	BET20-TH22-02	20.0 to 22.0 feet	0.20 U QN	0.085 U
RM20-23	BET20-TH23-01	1.5 to 3.5 feet	0.18 U	0.079 U
RM20-23	BET20-TH23-03		0.20 U	0.088 U
RM20-23	BET20-TH23-02	4.0 to 6.0 feet	0.20 U QN	0.086 U
RM20-25	BET20-TH25-01	1.1 to 3.1 feet	0.21 U QN	0.090 U
RM20-25	BET20-TH25-02	15.0 to 17.0 feet	0.19 U QN	0.081 U

NOTES:

For definitions, see the list of Acronyms and Abbreviations.

Non-detect results are flagged 'U' following the limit of detection (LOD).

¹ Data flags (i.e. J, M, etc.) are defined in **Section 4.o**.

² Cleanup levels are based on migration to groundwater from 18 AAC 75 (ADEC, 2018)

³ Duplicate samples are shaded grey.

⁴ Results exceeding the cleanup level are bold and are highlighted red.

3.4.2 RUNWAY 1L/19R EAST SHOULDER

These test borings are located along the west side of the middle two thirds of Runway 1L/19R. PFOS was detected in at least one sample from each test boring and in all of the lower soil samples with exceedance of the migration to groundwater cleanup level (3.0 µg/kg) in the lower soil sample from Test Boring RM20-15 at 13 µg/kg. PFOA is non-detect in the soil samples analyzed. These data are summarized in following chart and **Table 3-4**.

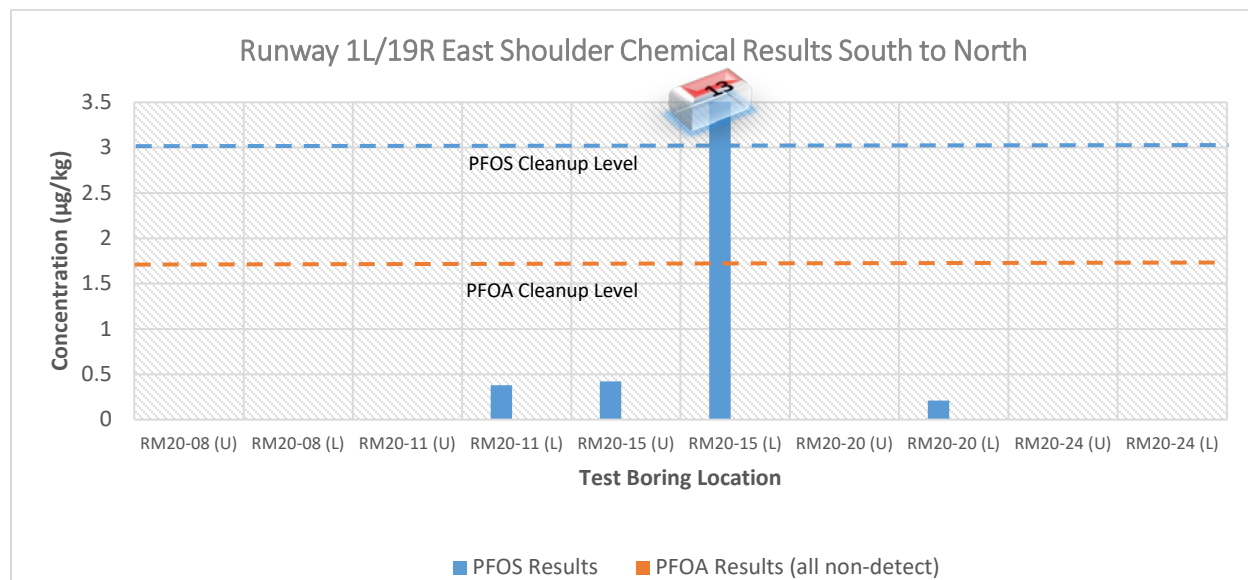


TABLE 3-4: RUNWAY 1L/19R EAST SHOULDER CHEMICAL RESULTS

Test Boring Location	Sample Number ³	Depth (feet bgs)	PFOS (µg/kg)	PFOA (µg/kg)
			Cleanup Level ^{1,2} (µg/kg)	
			3.0	1.7
RM20-08	BET20-TH08-01	0.5 to 1.0 feet	0.21 U	0.089 U
RM20-08	BET20-TH08-03		0.20 U	0.088 U
RM20-08	BET20-TH08-02	15.0 to 17.0 feet	0.20 U QN	0.086 U
RM20-11	BET20-TH11-01	0.0 to 0.3 feet	0.21 U QN	0.090 U
RM20-11	BET20-TH11-02	5.0 to 7.0 feet	0.38 J B QN	0.091 U
RM20-15	BET20-TH15-01	0.1 to 0.5 feet	0.42 J B QN	0.088 U
RM20-15	BET20-TH15-02	7.5 to 9.5 feet	13 B QN	0.088 U
RM20-20	BET20-TH20-01	0.1 to 0.5 feet	0.19 U QN	0.083 U
RM20-20	BET20-TH20-02	7.5 to 9.5 feet	0.21 J QN	0.091 U
RM20-24	BET20-TH24-01	0.6 to 2.6 feet	0.20 U QN	0.088 U
RM20-24	BET20-TH24-02	5.0 to 7.0 feet	0.21 U QN	0.091 U

NOTES:

For definitions, see the list of Acronyms and Abbreviations.

Non-detect results are flagged 'U' following the limit of detection (LOD).

¹ Data flags (i.e. J, M, etc.) are defined in **Section 4.0**.

² Cleanup levels are based on migration to groundwater from 18 AAC 75 (ADEC, 2018)

³ Duplicate samples are shaded grey.

⁴ Results exceeding the cleanup level are bold and are highlighted red.

3.4.3 RUNWAY 1L/19R WEST SHOULDER

These test borings are located along the west side of Runway 1L/19R with low level concentrations of PFOS detected below the cleanup level in the locations tested. Samples were non-detect for PFOA in the soil samples analyzed. These data are summarized in following chart and **Table 3-5**.

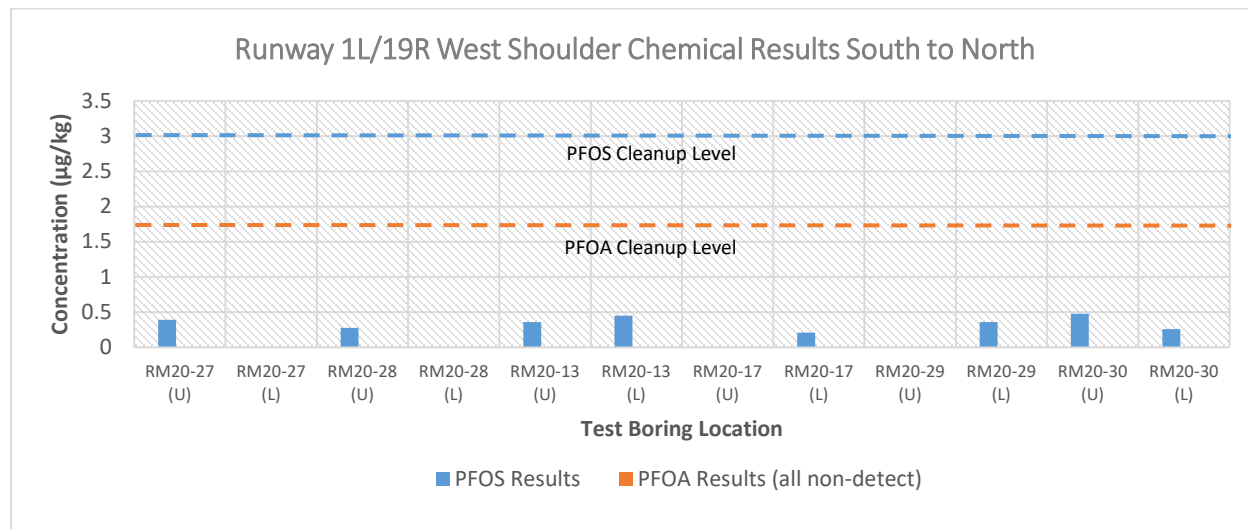


TABLE 3-5: RUNWAY 1L/19R WEST SHOULDER CHEMICAL RESULTS

Test Boring Location	Sample Number ³	Depth (feet bgs)	PFOS (µg/kg)	PFOA (µg/kg)
			Cleanup Level ^{1,2} (µg/kg)	
			3.0	1.7
RM20-27	BET20-TH27-01	0.1 to 0.5 feet	0.39 J B QN	0.092 U
RM20-27	BET20-TH27-03		0.21 U QN	0.092 U
RM20-27	BET20-TH27-02	10.0 to 12.0 feet	0.21 U QN	0.090 U
RM20-28	BET20-TH28-01	0.1 to 0.5 feet	0.28 J B	0.087 U
RM20-28	BET20-TH28-03		0.22 J B	0.093 U
RM20-28	BET20-TH28-02	20.0 to 22.0 feet	0.26 U QN	0.11 U
RM20-13	BET20-TH13-01	0.1 to 0.5 feet	0.36 J B QN	0.088 U
RM20-13	BET20-TH13-02	15.0 to 17.0 feet	0.45 J B QN	0.099 U
RM20-17	BET20-TH17-01	0.1 to 0.5 feet	0.20 U	0.085 U
RM20-17	BET20-TH17-03		0.19 U	0.082 U
RM20-17	BET20-TH17-02	2.5 to 4.5 feet	0.21 J QN	0.089 U
RM20-29	BET20-TH29-01	0.0 to 2.0 feet	0.20 U QN	0.085 U
RM20-29	BET20-TH29-02	10.0 to 12.0 feet	0.36 J QN	0.089 U
RM20-30	BET20-TH30-01	0.1 to 0.5 feet	0.21 U QN	0.090 U
RM20-30	BET20-TH30-03		0.48 J QN	0.084 U
RM20-30	BET20-TH30-02	20.0 to 22.0 feet	0.26 J QN	0.090 U

NOTES:

For definitions, see the list of Acronyms and Abbreviations.

Non-detect results are flagged 'U' following the limit of detection (LOD).

1 Data flags (i.e. J, M, etc.) are defined in **Section 4.0**.

2 Cleanup levels are based on migration to groundwater from 18 AAC 75 (ADEC, 2018)

3 Duplicate samples are shaded grey.

3.4.4 TAXIWAY C

These test borings are located along Taxiway C which parallels Runway 1L/19R to the east. Low level concentrations of PFOS were detected below the cleanup level in the locations tested. Samples were non-detect for PFOA in the soil samples analyzed. These data are summarized in following chart and Table 3-6.

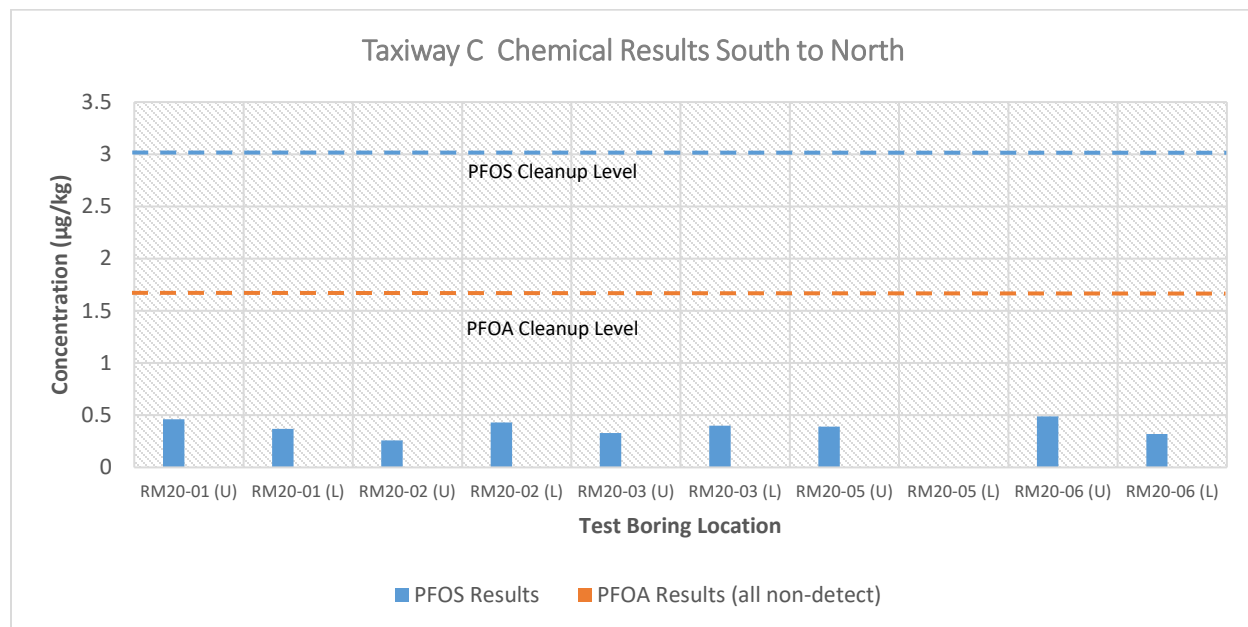


TABLE 3-6: TAXIWAY C CHEMICAL RESULTS

Test Boring Location	Sample Number ³	Depth (feet bgs)	PFOS (µg/kg)	PFOA (µg/kg)
			Cleanup Level ^{1,2} (µg/kg)	
			3.0	1.7
RM20-01	BET20-TH01-01	0.9 to 2.5 feet	0.46 J B QN	0.088 U
RM20-01	BET20-TH01-02	2.5 to 4.5 feet	0.37 J B QN	0.089 U
RM20-01	BET20-TH01-03		0.22 J B QN	0.090 U
RM20-02	BET20-TH02-01	0.4 to 2.3 feet	0.26 J B QN	0.084 U
RM20-02	BET20-TH02-02	20.0 to 22.0 feet	0.43 J B QN	0.12 U
RM20-03	BET20-TH03-01	0.4 to 2.4 feet	0.33 J B QN	0.085 U
RM20-03	BET20-TH03-02	5.0 to 7.0 feet	0.40 J B QN	0.080 U
RM20-05	BET20-TH05-01	0.5 to 2.5 feet	0.39 J QN	0.089 U
RM20-05	BET20-TH05-03		0.20 J QN	0.087 U
RM20-05	BET20-TH05-02	7.5 to 9.5 feet	0.19 U QN	0.084 U
RM20-06	BET20-TH06-01	0.5 to 2.5 feet	0.49 J QN	0.089 U
RM20-06	BET20-TH06-02	20.0 to 22.0 feet	0.32 J QN	0.086 U

NOTES:

For definitions, see the list of Acronyms and Abbreviations.

Non-detect results are flagged 'U' following the limit of detection (LOD).

1 Data flags (i.e. J, M, etc.) are defined in Section 4.o.

2 Cleanup levels are based on migration to groundwater from 18 AAC 75 (ADEC, 2018)

3 Duplicate samples are shaded grey.

3.4.5 TAXIWAY D

These test borings are located along Taxiway D which connects the main apron to Runway 1L/19R. Low level concentrations of PFOS were detected below the cleanup level in two of four samples. Samples were non-detect or below the cleanup level for PFOA in three of four soil samples analyzed. PFOA exceeded the cleanup level (1.7 µg/kg) at 4.0 µg/kg in the lower sample from Test Boring RM20-04. These data are summarized in following chart and Table 3-7.

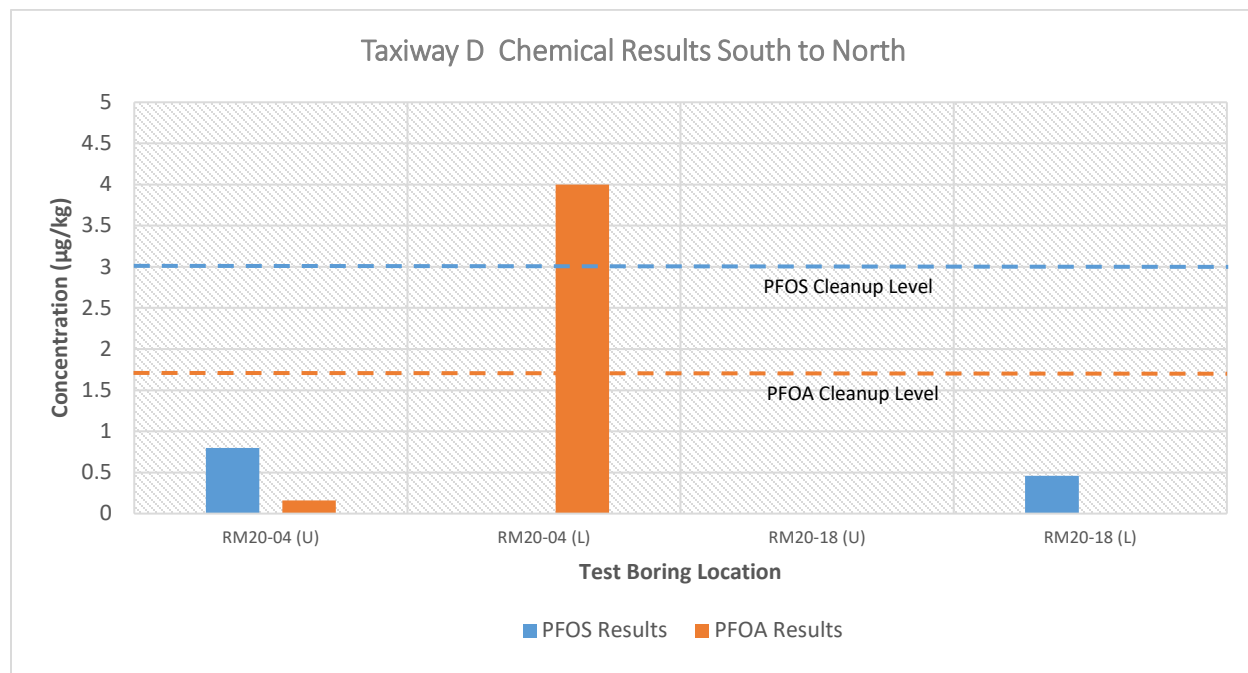


TABLE 3-7: TAXIWAY D CHEMICAL RESULTS

Test Boring Location	Sample Number ³	Depth (feet bgs)	PFOS (µg/kg)	PFOA (µg/kg)
			Cleanup Level ^{1,2} (µg/kg)	
			3.0	1.7
RM20-04	BET20-TH04-01	1.3 to 3.3 feet	0.73	0.16 J
RM20-04	BET20-TH04-03		0.80	0.15 J
RM20-04	BET20-TH04-02	15.0 to 20.0 feet	0.21 U QN	4.0
RM20-18	BET20-TH18-01	1.3 to 3.3 feet	0.21 U QN	0.089 U
RM20-18	BET20-TH18-02	4.0 to 6.0 feet	0.46 J B QN	0.089 U

NOTES:

For definitions, see the list of Acronyms and Abbreviations.

Non-detect results are flagged 'U' following the limit of detection (LOD) and are in grayed out italics

1 Data flags (i.e. J, M, etc.) are defined in Section 4.0.

2 Cleanup levels are based on migration to groundwater from 18 AAC 75 (ADEC, 2018)

3 Duplicate samples are shaded grey.

4 Results exceeding the cleanup level are bold and are highlighted red.

3.4.6 SOUTH RSA

This area of the Runway Safety Area (RSA) is located at the south end of Runway 1L/19R. Low level concentrations of PFOS were detected below the cleanup level in the locations tested. Samples were non-detect for PFOA in the soil samples analyzed. These data are summarized in following chart and Table 3-8.

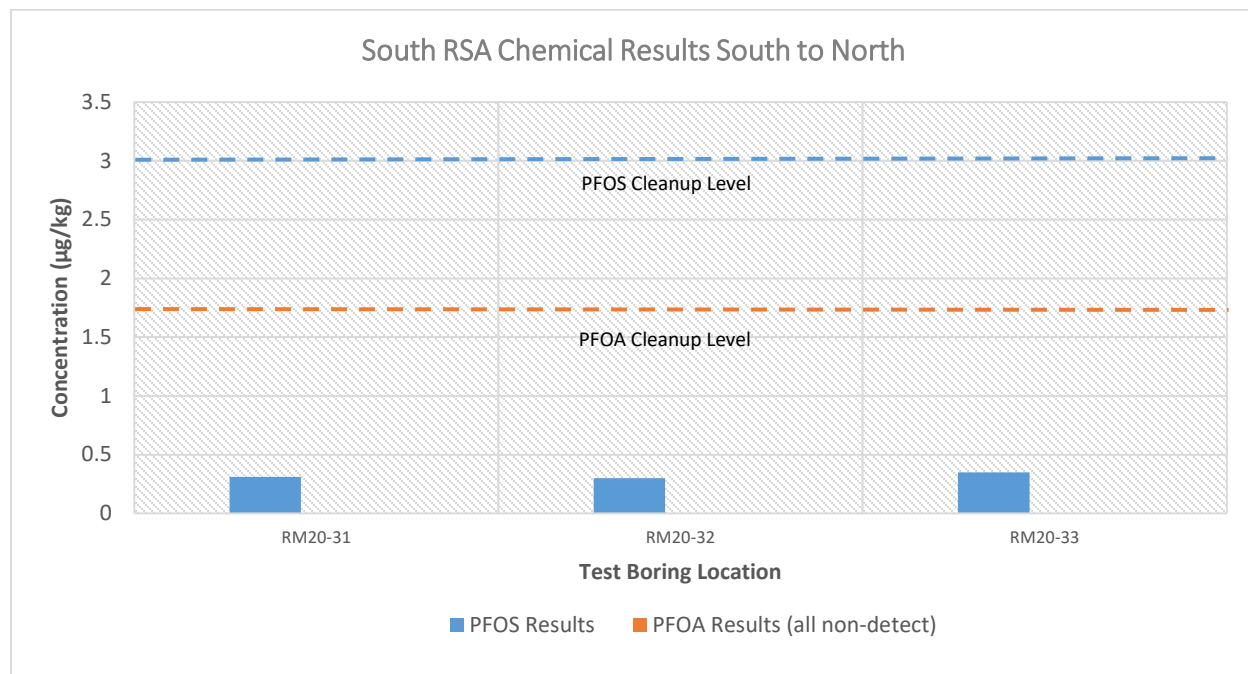


TABLE 3-8: SOUTH RSA CHEMICAL RESULTS

Test Boring Location	Sample Number ³	Depth (feet bgs)	PFOS (µg/kg)	PFOA (µg/kg)
			Cleanup Level ^{1,2} (µg/kg)	
			3.0	1.7
RM20-31	BET20-TH31-01	1.0 to 2.0 feet	0.31 J QN	0.083 U
RM20-31	BET20-TH31-02	1.0 to 2.0 feet	0.24 J QN	0.090 U
RM20-32	BET20-TH32-01	1.0 to 2.0 feet	0.30 J QN	0.090 U
RM20-33	BET20-TH33-01	1.0 to 2.0 feet	0.35 J QN	0.095 U

NOTES:

For definitions, see the list of Acronyms and Abbreviations.

Non-detect results are flagged 'U' following the limit of detection (LOD).

1 Data flags (i.e. J, M, etc.) are defined in Section 4.o.

2 Cleanup levels are based on migration to groundwater from 18 AAC 75 (ADEC, 2018)

3 Duplicate samples are shaded grey.

3.4.7 NORTH RSA

This area of the RSA is located at the north end of Runway 1L/19R. Low level concentrations of PFOS were detected below the cleanup level in the locations tested. Samples were non-detect for PFOA in the soil samples analyzed. These data are summarized in following chart and **Table 3-9**.

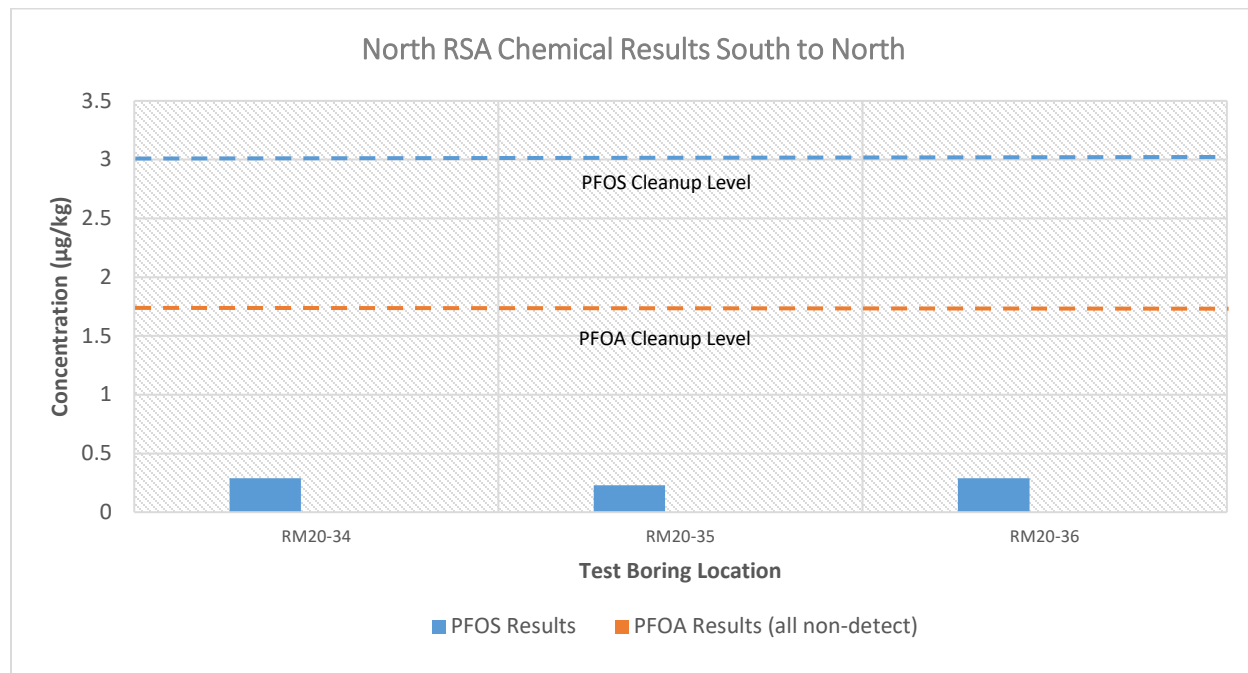


TABLE 3-9: NORTH RSA CHEMICAL RESULTS

Test Boring Location	Sample Number ³	Depth (feet bgs)	PFOS (µg/kg)	PFOA (µg/kg)
			Cleanup Level ^{1,2} (µg/kg)	
			3.0	1.7
RM20-34	BET20-TH34-01	1.0 to 2.0 feet	0.29 J QN	0.084 U
RM20-35	BET20-TH35-01	1.0 to 2.0 feet	0.23 J QN	0.089 U
RM20-36	BET20-TH36-01	1.0 to 2.0 feet	0.29 J QN	0.088 U
RM20-34	BET20-TH34-01	1.0 to 2.0 feet	0.29 J QN	0.084 U

NOTES:

For definitions, see the list of Acronyms and Abbreviations.

Non-detect results are flagged 'U' following the limit of detection (LOD).

1 Data flags (i.e. J, M, etc.) are defined in **Section 4.o**.

2 Cleanup levels are based on migration to groundwater from 18 AAC 75 (ADEC, 2018)

3 Duplicate samples are shaded grey.

3.5 DECONTAMINATION

Sampling equipment was decontaminated in accordance with the approved SAP (R&M, 2020). Decontamination water was poured into each test boring following completion during backfill.

3.6 INVESTIGATION DERIVED WASTE

Miscellaneous solid wastes, such as personnel protective equipment and disposable sampling equipment, were temporarily stored in the appropriate waste receptacles at the site. Final disposal of the materials was at the local permitted sanitary landfill.

Soil cuttings that were not used as backfill of test borings were containerized as described in **Table 3-10**. Chemical results from three test borings exceeded the migration to groundwater cleanup levels for PFOS or PFOA.

TABLE 3-10: IDW CONTAINERIZATION SUMMARY

Drum Identification	Associated Test Boring(s)	Container Type	Volume Stored (gallons)	Waste Media	Highest Analytical Results Exceeding Cleanup Levels	Proposed Disposal
Not Applicable	RM20-11 RM20-13 RM20-27 RM20-28	No excess cuttings generated				
BETMMR-DRUM-01	RM20-08 RM20-10 RM20-12 RM20-16	1A2 55-gallon drum	50	Soil	PFOS = 25 µg/kg	U.S. Ecology
BETMMR-DRUM-02	RM20-07 RM20-09 RM20-14 RM20-15 RM20-26	1A2 55-gallon drum	50	Soil	PFOS = 13 µg/kg	U.S. Ecology
BETMMR-DRUM-03	RM20-15 RM20-21 RM20-30	1A2 55-gallon drum	50	Soil	PFOS = 13 µg/kg	U.S. Ecology
BETMMR-DRUM-04	RM20-17 RM20-19 RM20-20 RM20-21 RM20-22 RM20-25	1A2 55-gallon drum	50	Soil	PFOS and PFOS below migration to groundwater cleanup level	Dispose On Site
BETMMR-DRUM-05	RM20-01 RM20-02 RM20-10 RM20-18 RM20-23 RM20-24	1A2 55-gallon drum	50	Soil	PFOS and PFOS below migration to groundwater cleanup level	Dispose On Site
BETMMR-DRUM-06	RM20-03 RM20-04 RM20-05 RM20-06 RM20-29	1A2 55-gallon drum	29	Soil	PFOA = 4 µg/kg	U.S. Ecology

NOTES:

For definitions, see the list of Acronyms and Abbreviations.

Drum identifications and individual test borings associated with an analytical result exceeding a cleanup level for PFOS or PFOA are highlighted red.

4.0 QUALITY ASSURANCE/QUALITY CONTROL

Samples were collected by a QEP, as defined in 18 AAC 75 Oil and Other Hazardous Substances Pollution Control regulations (ADEC, 2018). Data quality review was conducted to evaluate whether field measurements and analytical methods were performed according to method and project specifications and to qualify data affected by sample-handling or analytical anomalies.

4.1 SAMPLE HANDLING AND LABORATORY SUBMITTAL

Samples were maintained at 0 to 6 degrees Celsius (°C) under standard chain-of-custody procedures until delivery or shipment to the analytical laboratory. R&M shipped samples to Eurofins TestAmerica under strict chain-of-custody procedures. Laboratory check-in and holding time information are summarized in **Table 4-1**.

TABLE 4-1: COOLER CHECK-IN AND HOLDING TIME INFORMATION

Report Number	Cooler Name	Laboratory Received Date	Analyzed Within Holding Time	ADEC Temperature Range (°C)	Check-In Temperature (°C)	Notes
320-63958	Tenor	8/25/2020	Yes	0 to 6	4.4	None
320-63979	Baritone	8/25/2020	Yes	0 to 6	5.6	None
320-63739	Soprano	8/15/2020	Yes	0 to 6	0.8	None

4.2 DATA QUALITY ASSURANCE AND QUALITY CONTROL REVIEW

Data quality review involved the evaluation of documentation and analytical reports associated with selected samples or groups of samples. Data review followed the ADEC Technical Memorandum on Data Quality Objectives, Checklists, and Quality Assurance Requirements for Laboratory Data, and Sample Handling (ADEC, 2017). Chemical data limit of detection (LOD) sensitivities were compared to the most stringent cleanup levels published in 18 AAC 75 (ADEC, 2018). ADEC checklists are included in **Appendix F** (ADEC, 2020). Additional data qualifiers (flags) were added based on quality review of the data deliverables (**Table 4-2**).

TABLE 4-2: QUALIFIER DEFINITIONS

Qualifier	Definition
J	Result refers to a concentration greater than the detection limit but below the LOQ.
B	Indicates that the reported value is similar in concentration to the result of a related blank sample.
QH, QL, QN	Indicates that the reported result is estimated value (high, low, unknown) due to a deficiency in related quality criteria.
MH, ML, MN	Indicates that the reported result is estimated value (bias: high, low, unknown) due to matrix interference.
R	Indicates that the reported result is inherently unreliable due to quality control deficiencies and is not recommended for project use.

NOTES:

For definitions, see the Acronyms and Abbreviations table.

4.2.1 LABORATORY ACCURACY AND PRECISION

Field duplicates must be collected at a rate of at least one per ten primary field samples (10 percent) for each matrix sampled, for each target analyte. The ADEC approved SAP also requires the collection of one field duplicate per day. For this project, 14 field duplicates were collected for 66 primary samples, a rate of 21 percent.

Laboratory control spike (LCS) and laboratory control spike duplicates (LCSD) results are discussed in detail in the ADEC laboratory data review checklists included in **Appendix F**. Isotope dilution analyte recoveries were within acceptable ranges.

4.2.2 CHEMICAL DATA REPRESENTATIVENESS AND COMPARABILITY

Samples were collected from appropriate matrices and locations to adequately characterize the media targeted for investigation as defined in the approved SAP. There are no field screening data to reference PFAS results to as field screening methods for PFAS are not available.

4.2.3 CHEMICAL DATA COMPLETENESS AND SENSITIVITY

Analytical results reported by sample delivery groups (SDG) 320-63739, 320-63958, 320-63979 are considered usable for the 66 primary and 14 duplicate soil samples based on analysis of field and laboratory quality assurance and quality control parameters. The detection limit (DL) and limit of quantitation (LOQ) were less than the regulatory cleanup levels for the target analytes.

Analysis of laboratory method blanks (MB) detected PFOS and PFBA which were also detected in some project samples. Detections in project samples were within 10 times the MB detections and were flagged to indicate the potential bias. Affected data and associated data flags are tabulated in the chemical data summary included as **Appendix D**.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 INVESTIGATION CONCLUSIONS

PFOA and PFOS were widely detected across the drilling area at concentrations below the ADEC cleanup levels. PFOS exceeded the 3.0 µg/kg cleanup level in two test borings along Runway 1L/19R between Taxiways D and the intersection with Runway 12/30 at 13 and 25 µg/kg. PFOA exceeded the 1.7 µg/kg cleanup level in one test boring on Taxiway D. Notably, sample locations for this investigation were not selected based on environmental criteria, but in support of geotechnical investigation of the airport.

As horizontal sampling locations were not selected based on environmental criteria, it is likely that other areas of elevated PFOS and PFOA may be found at the Bethel Airport. An updated conceptual site model (CSM) is included in **Appendix G** and identifies ingestion of groundwater and dermal absorption of contaminants in groundwater as complete, significant pathways.

5.2 RECOMMENDATIONS

R&M provides the following recommendations for the site:

- Waste disposal of IDW stored in six drums is recommended as follows:
 - Obtain ADEC approval to dispose of the soil cuttings by submitting an ADEC Contaminated Media Transport and Treatment or Disposal Approval Form to the ADEC Project Manager (Erin Gleason).
 - It is recommended that DOT&PF engage an environmental waste contractor to dispose of the four drums containing cuttings with PFOS and/or PFOA detections exceeding the migration to groundwater cleanup level.
 - The two drums containing soil cuttings with PFOS and/or PFOA concentrations below the cleanup level are recommended to be spread on site in a location determined by DOT&PF.

R&M provides the following recommendations to be considered for design work related to the Bethel Airport Main Runway Reconstruction project.

- DOT&PF should develop a sampling and analysis plan to guide earth disturbing activities during construction for ADEC approval prior to mobilization.
- DOT&PF should plan on the demolition and construction contractors having a third party QEP on site during any earth disturbing activities at the site.
- ADEC regulates ground disturbing activities at contaminated sites. If work practices can prevent disturbance then ADEC oversight is not required.
- Minimize disturbance of the subsurface during construction if geotechnically and structurally feasible. Abandonment of existing infrastructure rather than removal may be financially beneficial if geotechnically and structurally suitable compared with disposal costs related to contaminated material removal, characterization, management, and disposal.
- Excavation of contaminated material from the site will likely require stockpiling and transport from Bethel to an appropriate disposal facility due to the presence of contaminants such as PFOS and PFOA that cannot be land farmed as a remedial technique

unless ADEC allows material to be placed back in an excavation in approximately the same place from which it was removed. This will require coordination with an approved waste disposal company and approval by ADEC.

- Minimization of waste soil during construction will limit additional costs associated with disposal of PFOS and PFOA contaminated soils, especially in the vicinity of Taxiway D and the Main Apron.
- PFOS and PFOA should be retained as contaminants of concern (COC) for the Bethel Airport.

6.0 CLOSURE

This report has been prepared for the exclusive use of DOT&PF and their representatives in the study of this site. The investigation procedures and historical site information presented within this report are based on ADEC guidance current at the time of preparation, limited records review conducted by R&M, and information provided by the client. Since opinions of conditions prevailing on a particular site must be based on the work authorized by the client, the investigation is designed to be representative of the site at a particular moment in time and the result of services performed within the scope, limitations, and cost of the work requested. Changes in the conditions of this site may occur with the passage of time and may be due to natural processes or the works of humans. In addition, changes in government codes, either State or Federal regulations or laws, may occur. Due to such changes, which are beyond our control, observations and recommendations applicable to this site may need to be revised wholly or in part from time to time.

R&M performed this work in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions. No warranty, express or implied, beyond exercise of reasonable care and professional diligence, is made. Should you require additional information regarding the investigation or this report, please contact us.

Sincerely,

R&M CONSULTANTS, INC

Prepared by:



Christopher D. Fell, CPG
Senior Geologist
Qualified Environmental Professional

Reviewed By:



Kristi M. McLean, LEED AP BD+C
Group Manager – Environmental Services
Qualified Environmental Professional



Marc Frutiger, PE, PTOE
Senior Project Engineer

7.0 REFERENCES

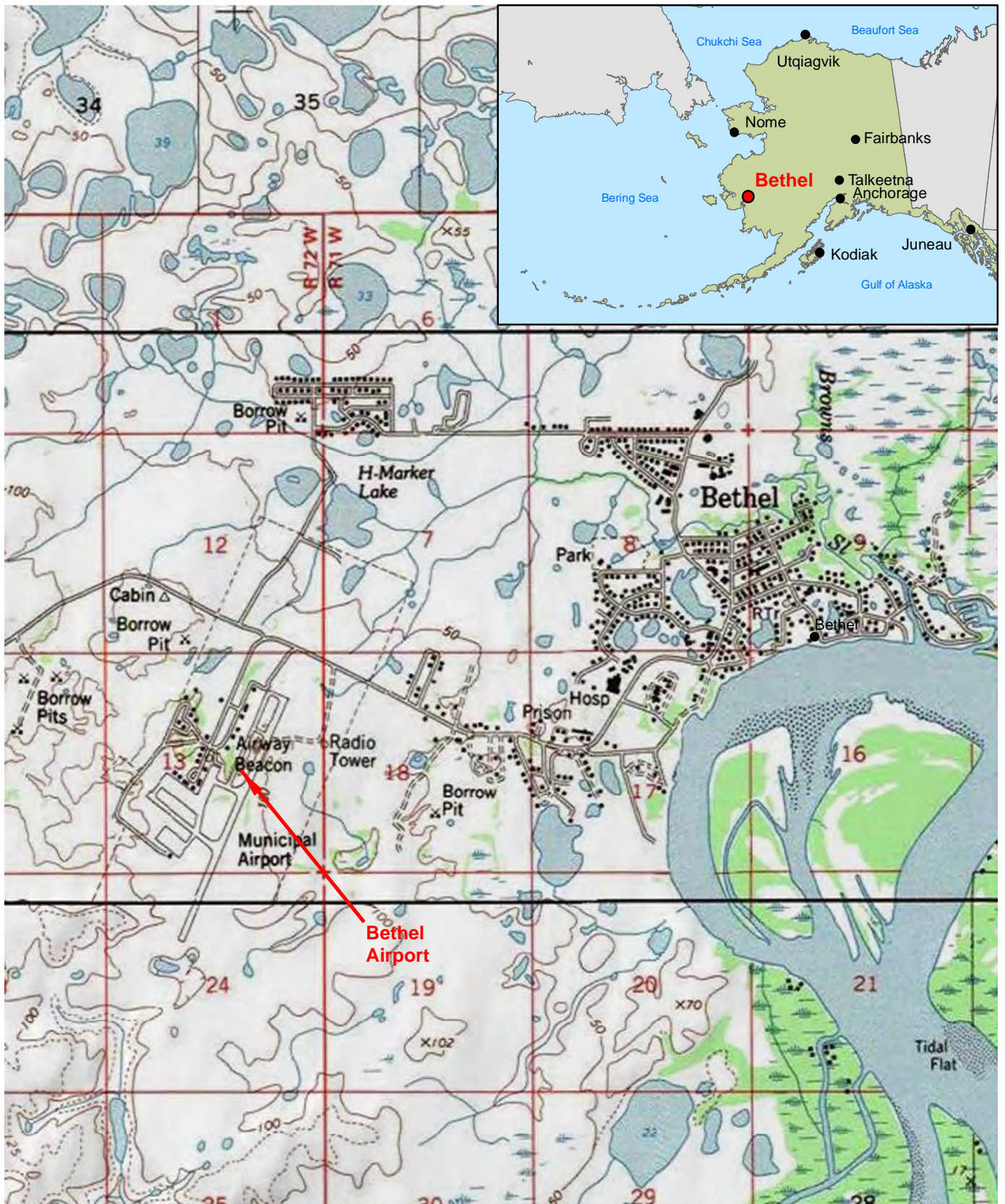
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APPENDIX A

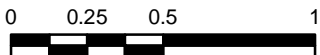
DRAWINGS

Location and Vicinity Map.....	A-01
Area Map.....	A-02
Investigation Location Map.....	A-03
Southern Half of the Investigation Area – Summarized PFOS and PFOA Results	A-04
Northern Half of the Investigation Area – Summarized PFOS and PFOA Results	A-05

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ALL LOCATIONS ARE APPROXIMATE



APPROXIMATE SCALE IN MILES

NOTES:

SOURCE: Topographic maps from National Geographic Society, 2013 (ESRI Online, USA Topo Maps)



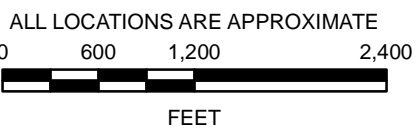
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BETHEL AIRPORT
MAIN RUNWAY RECONSTRUCTION
CFAPT00430 / AIP 3-02-0029-0XX-20XX

LOCATION AND VICINITY MAP

PROJ.NO: 2690.02
DATE: OCT 2020
REF: PFAS CDR
DRAWING NO: A-01

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NOTES:
Aerial Photography Source: Esri World Imagery



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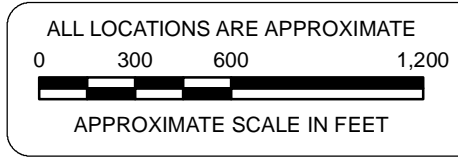
BETHEL AIRPORT
MAIN RUNWAY RECONSTRUCTION
CFAPT00430 / AIP 3-02-0029-0XX-20XX
AREA MAP

PROJ.NO:	2690.02
DATE:	NOV 2020
REF:	PFAS CDR
DRAWING NO.:	A-02

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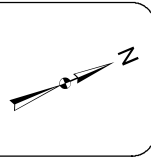
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Test Boring Locations

- Results Below Cleanup Level
- Results Exceed Cleanup Level

Notes:
-Aerial imagery from ESRI Online World Imagery

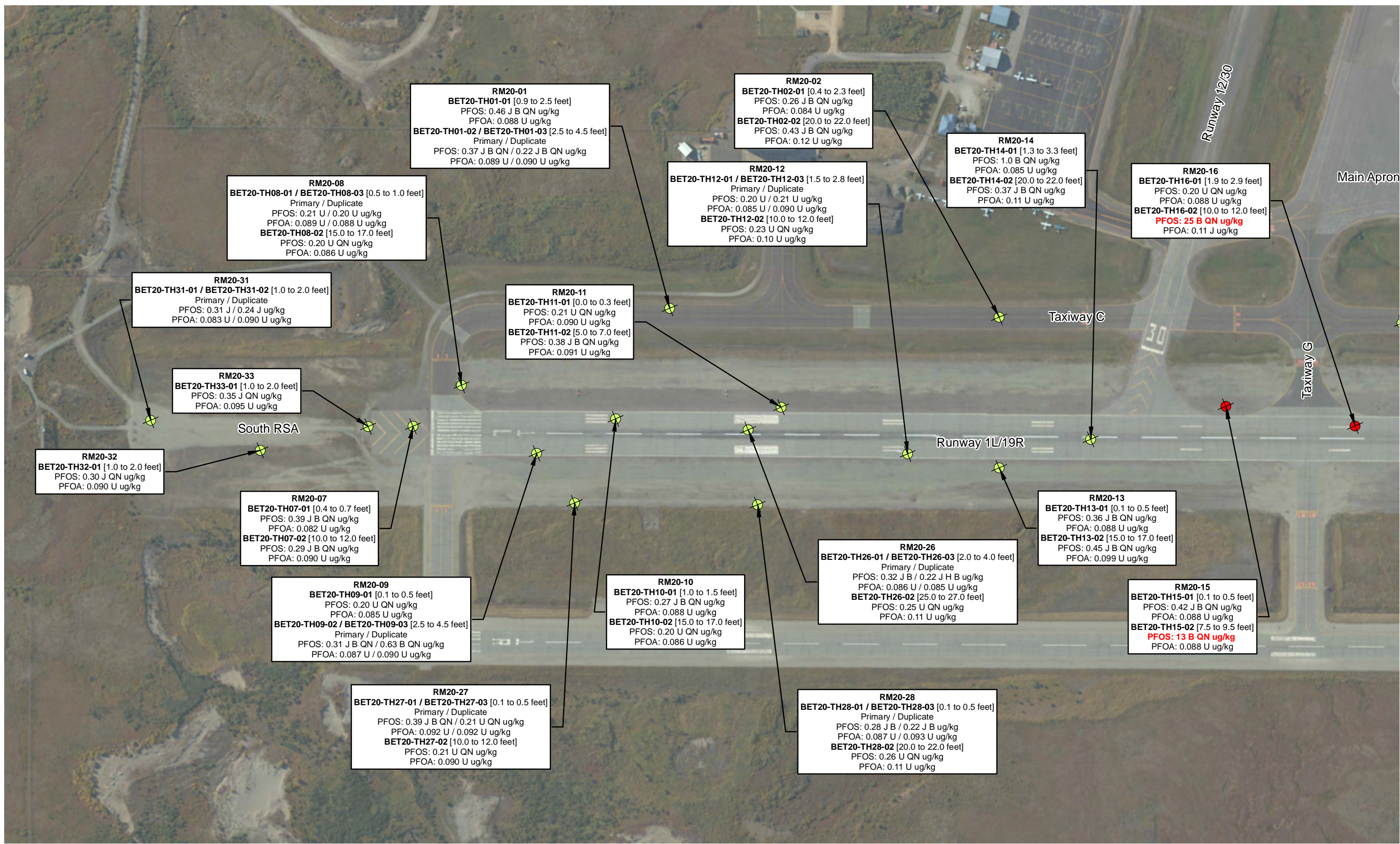


BETHEL AIRPORT
MAIN RUNWAY RECONSTRUCTION
CFAPT00430 / AIP 3-02-0029-0XX-20XX

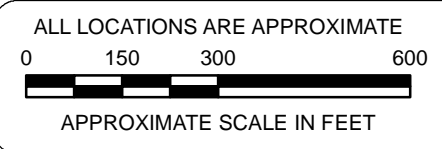
INVESTIGATION LOCATIONS

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DATE:	NOV 2020
REF:	PFAS CDR
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Test Boring Locations

- Results Below Cleanup Level
- Results Exceed Cleanup Level

Notes:

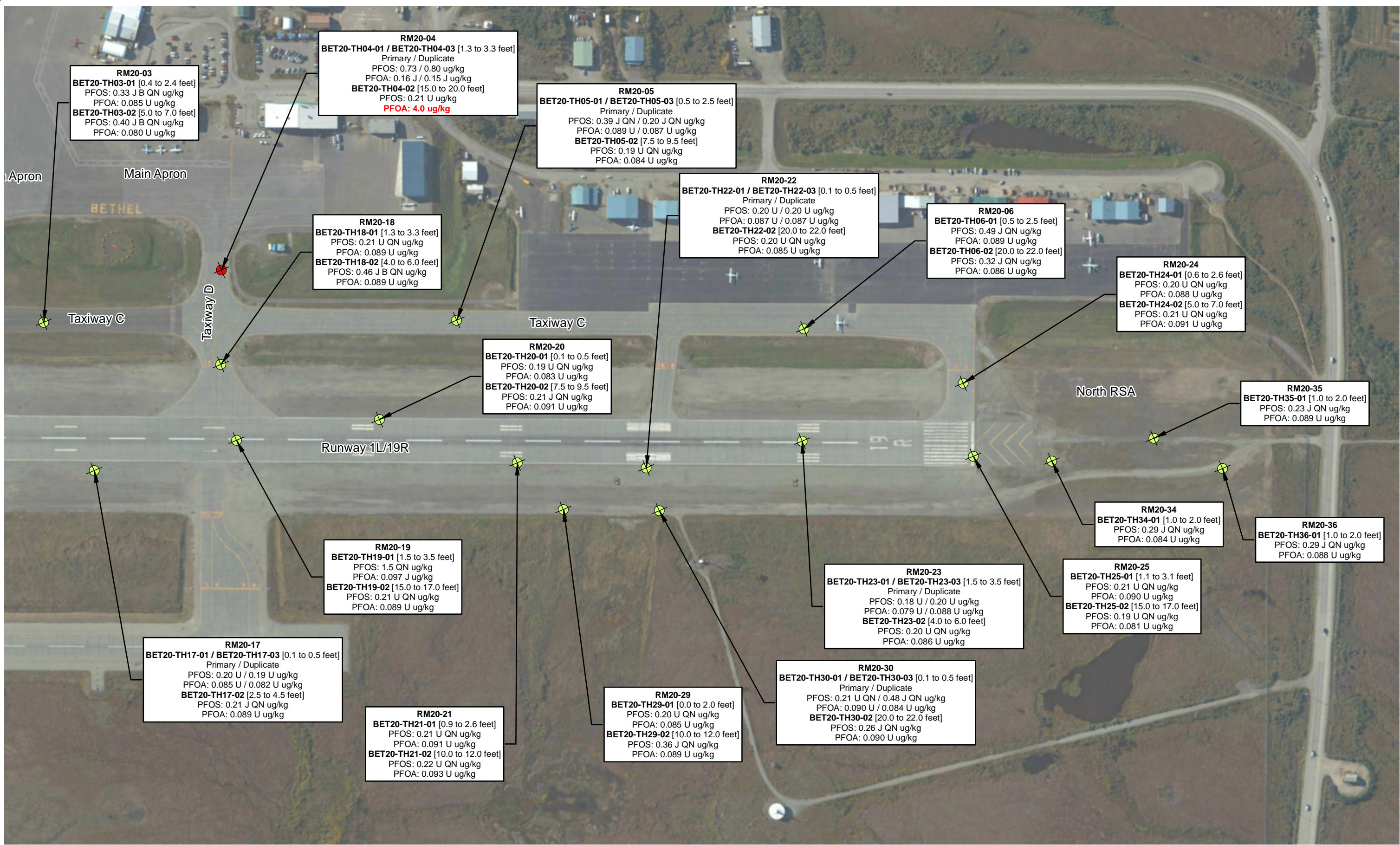
- Aerial imagery from ESRI Online World Imagery
- Chemical Results highlighted red exceed the migration to groundwater cleanup level (18 AAC 75)
- Complete chemical data are provided in Appendices E and F.

BETHEL AIRPORT
MAIN RUNWAY RECONSTRUCTION
CFAPT00430 / AIP 3-02-0029-OXX-20XX

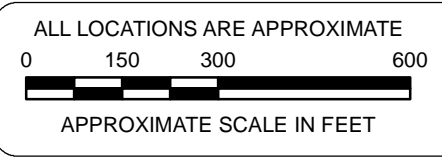
**SOUTHERN HALF OF THE INVESTIGATION AREA
SUMMARIZED PFOS AND PFOA RESULTS**

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DATE:	NOV 2020
REF:	PFAS CDR
DRAWING NO.:	A-04

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 R&M CONSULTANTS, INC.



Test Boring Locations

Results Below Cleanup Level

Results Exceed Cleanup Level

Notes:

- Aerial imagery from ESRI Online World Imagery
- Chemical Results highlighted red exceed the migration to groundwater cleanup level (18 AAC 75)
- Complete chemical data are provided in Appendices E and F.

BETHEL AIRPORT
 MAIN RUNWAY RECONSTRUCTION
 CFAPT00430 / AIP 3-02-0029-0XX-20XX

**NORTHERN HALF OF THE INVESTIGATION AREA
 SUMMARIZED PFOS AND PFOA RESULTS**



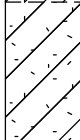
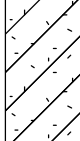
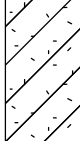
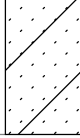
PROJ.NO: 2690.02
 DATE: NOV 2020
 REF: PFAS CDR
 DRAWING NO.: A-05

APPENDIX B

TEST BORING LOGS

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-01 8/15/20		STA/OFF: C 62+18, 15R LAT: 60.77419 LON: -161.84392 ELEV: 119.0 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		G	1		100					ASPHALT	0.0
		Ssa	2	19	65	SW-SM* S2*	9.5	Gr=36, Sa=55, Fines=10		WELL GRADED SAND W/SILT AND GRAVEL (FILL) (Brown-black, Gravel to 3/4" dia., subangular to angular, hard, Fine to coarse sand, Nonplastic, Moist)	0.3
118			3	21		SM* F2	6.0	28			0.9
2				22				Chem Sample: BET20-TH01-01, Sa=72, Fines=28, P.02=11.9, P.005=8.0, P.002=6.0			
				22						SANDY SILT (FILL) (Lt. brown, Fine to medium sand, Nonplastic, Moist)	2.4
116		Ssa	4	6	60		5.4	Chem Sample: BET20-TH01-02/03			
				10							
4				14							
				15							
114		Ssa	5	8	90	SM* F2*	6.6	20		SILTY SAND (Lt. brown, Fine to medium sand, Nonplastic, Moist, Native material interpreted below 7.5')	
6				15				Gr=1, Sa=79, Fines=20			
				15							
112				19							
8		Ssa	6	6	85		10.0				
				10							
110				7							
				11							
10		Ssa	7	9	80		6.1			POORLY GRADED SAND W/SILT (Lt. brown, Fine to medium sand, Nonplastic, Moist)	9.8
108				14							
				14							
12				17							12.0

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-01

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-01

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-02 8/16/20		STA/OFF: C 51+09, 2L LAT: 60.77695 LON: -161.84134 ELEV: 120.3 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0	120	G	1		100					ASPHALT	0.0
		Ssa	2	19	75	SW-SM* S2*	10	Gr=38, Sa=52, Fines=10		WELL GRADED SAND W/SILT AND GRAVEL (FILL) (Brown, Gravel to 1" dia., subangular to angular, hard, Fine to coarse sand, Nonplastic, Moist, Native material interpreted below 2.5')	0.4
				31							
2	118		3	21				Chem Sample: BET20-TH02-01			1.8
		Ssa	4	11	85	SM F2	6.3	35	LL=Nv, PL=Nv, PI=Np, Gr=1, Sa=64, Fines=35, P.02=6.0, P.005=5.1, P.002=4.3		
				12							
4	116			12							
		Ssa	5	3	100		7.9				
				4							
6	114			3							
				4							
		Ssa	6	5	85		9.0				
				7							
8	112			6							
				7							
		Ssa	7	4	90	SM* F2*	14.0	16	Sa=84, Fines=16		SILTY SAND (Brown to gray, Fine to medium sand, Nonplastic, Moist to wet)
				4							
12	108			5							
				6							
									WD		
14	106										
		Ssa	8	2	80		18.0				
				1							
16	104			1							
				1							
				1							
18	102										
20	100	Ssa	9	0	80	SM* F3*	26.0	48	Org=4.1%, Est. 5% visible organics by volume, Chem Sample: BET20-TH02-02, Gr=2, Sa=50, Fines=48		SILTY SAND W/ ORGANIC CONTENT (Dk. gray, Fine to medium sand, Nonplastic, Wet)
				0							
22	98			0							
				0							
				0							
24											

(Continued on Next Page)

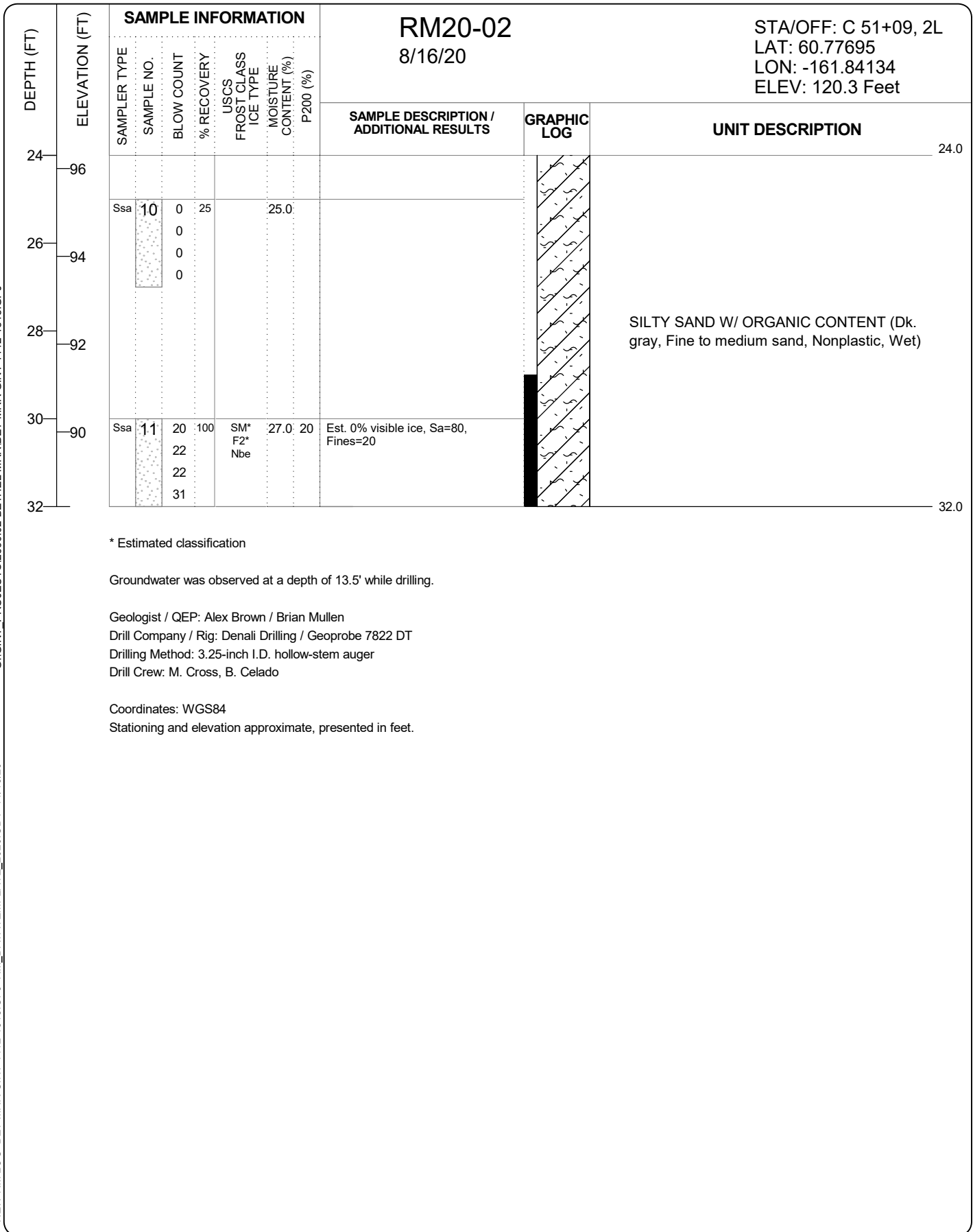
PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-02

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-02

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET_MRR GINT 1112 1515.GPJ

NEW RM LOG BET_MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20



* Estimated classification

Groundwater was observed at a depth of 13.5' while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-02

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-03

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NEW RM LOG BET_MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-03 8/16/20		STA/OFF: C 37+53, 8L LAT: 60.78035 LON: -161.83830 ELEV: 115.5 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		G	1		100					ASPHALT	0.0
		Ssa	2	39	80	SW-SM* S2*	9.2	Chem Sample: BET20-TH03-01 Gr=39, Sa=52, Fines=9		SAND W/SILT AND GRAVEL (FILL) (Gray-brown, Gravel to 3/4" dia., subrounded to angular, hard, Fine to coarse sand, Nonplastic, Moist)	0.4
114			3	29							1.4
2				26							
		Ssa	4	8	75	SM* F2	5.5	18	Silt layers up to ~5 mm thick, Sa=82, Fines=18, P.02=6.5, P.005=5.3, P.002=4.5		
112				14							
4				21							
				32							
		Ssa	5	10	70		6.3		Chem Sample: BET20-TH03-02		
6				11							
				9							
				9							
108		Ssa	6	4	80	SM*	7.9	21	Sa=79, Fines=21		
8				5							
				5							
				6							
106											
10		Ssa	7	6	70	F2*	4.2				
				8							
				7							
104				8							
12											12.0

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-03

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-04

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION					RM20-04 8/16/20		STA/OFF: D 405+75, 1R LAT: 60.78205 LON: -161.83798 ELEV: 110.3 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG
24.0										
<p>* Estimated classification</p> <p>Groundwater was not observed while drilling.</p> <p>Geologist / QEP: Alex Brown / Brian Mullen Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT Drilling Method: 3.25-inch I.D. hollow-stem auger Drill Crew: M. Cross, B. Celado</p> <p>Coordinates: WGS84 Stationing and elevation approximate, presented in feet.</p>										

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R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-04

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-06

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NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-05 8/17/20		STA/OFF: C 23+63, 14R LAT: 60.78386 LON: -161.83531 ELEV: 103.6 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		G	1		100					ASPHALT	0.0
		Ssa	2	19	65	F2* SM*	13	Chem Sample: BET20-TH05-01/03 Gr=35, Sa=52, Fines=13		SILTY SAND W/GRAVEL (FILL) (Gray-brown, Gravel to 3/4" dia., subrounded to angular, hard, Fine to coarse sand, Nonplastic, Moist)	0.5
	102		3	33							
2			4	30							2.2
		Ssa	3	26							
			4	7	60	SM* PFS	5.3	14 Sa=86, Fines=14, P.02=4.5, P.005=3.9, P.002=3.6			
	100			10							
4				9							
				9							
	98	Ssa	5	2	55		7.3				
6				2							
				3							
				3							
	96	Ssa	6	10	85	SM* F2*	4.8	21 Chem Sample: BET20-TH05-02, Sa=79, Fines=21		SILTY SAND (Lt. brown, Fine to medium sand, Nonplastic, Moist, Native material interpreted below 6.5')	
8				13							
				14							
				14							
	94										
10		Ssa	7	5	75		6.3				
				4							
	92			6							
12				6							12.0

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-05

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-07

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20 G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-06 8/17/20		STA/OFF: C 11+94, 2L LAT: 60.78678 LON: -161.83264 ELEV: 91.6 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		G	1		100					ASPHALT	0.0
		Ssa	2	19	60	SM* F2*	14	Chem Sample: BET20-TH06-01 Gr=30, Sa=56, Fines=14		SILTY SAND W/GRAVEL (FILL) (Brown-gray, Gravel to 3/4" dia., subrounded to angular, hard, Fine to coarse sand, Nonplastic, Moist)	0.5
90			3	18		SM* F2	4.3	20	Sa=80, Fines=20, P.02=5.8, P.005=4.7, P.002=3.6		1.4
2		Ssa	4	7	90				4.5		
				9							
4				8							
				13							
		Ssa	5	5	60	SM* F2*	4.4	14	Sa=86, Fines=14		
				6							
6				6							
				8							
		Ssa	6	5	90				5.0		
				6							
8				6							
				8							
		Ssa	7	4	60	SM F3*	7.6	40	LL=Nv, PL=Nv, PI=NP, Gr=1, Sa=59, Fines=40		
				4							
10				5							
				5							
12				5						SILTY SAND (Brown, Fine to medium sand, Nonplastic, Moist, Native material interpreted below 10')	
		Ssa	8	4	80				5.7		
				6							
16				7							
				9							
		Ssa	9	4	80	SM* F2*	5.2	13	Chem Sample: BET20-TH06-02, Gr=2, Sa=85, Fines=13		
				3							
20				4							
				4							
				4							
22											
											22.0
											24.0

(Continued on Next Page)

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-06

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-08

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20 G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION					RM20-06 8/17/20		STA/OFF: C 11+94, 2L LAT: 60.78678 LON: -161.83264 ELEV: 91.6 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG
24.0										
<p>* Estimated classification</p> <p>Groundwater was not observed while drilling.</p> <p>Geologist / QEP: Alex Brown / Brian Mullen Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT Drilling Method: 3.25-inch I.D. hollow-stem auger Drill Crew: M. Cross, B. Celado</p> <p>Coordinates: WGS84 Stationing and elevation approximate, presented in feet.</p>										

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-06

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-09

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET_MRR GINT 1112 1515.GPJ

NEW RM LOG BET_MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-07 8/10/20		STA/OFF: 70+78, 10R LAT: 60.77159 LON: -161.84378 ELEV: 120.0 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0	120	G	1		100					ASPHALT	0.0
		Ssa	2	7	85	SW-SM* S2*	8	Chem Sample: BET20-TH07-01 Gr=45, Sa=48, Fines=8		WELL GRADED SAND W/SILT AND GRAVEL (FILL) (Gray, Gravel to 1" dia., subrounded to angular, hard, Fine to coarse sand, Nonplastic, Moist)	0.8
			3	8		SM* F2*	8.0	Sa=82, Fines=18			
2	118		4	8	85		11.0			SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)	
			5	10	100	SM* F3	9.4	Sa=65, Fines=35, P.02=18.1, P.005=8.9, P.002=6.0			
6	114		6	5	70		4.9			POORLY GRADED SAND W/SILT (Lt. brown, Fine to medium sand, Nonplastic, Moist)	7.3
			7	6	95		5.7	Chem Sample: BET20-TH07-02			
10	110			11							
12	108			12							
				13							12.0

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

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R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-07

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-10

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-08 8/5/20		STA/OFF: C 71+71, 46R LAT: 60.77212 LON: -161.84422 ELEV: 118.9 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		G	1		100					ASPHALT	0.0
118		G	2		100	GW* NFS*	1.6	Chem Sample: BET20-TH08-01/03, Gr=59, Sa=40, Fines=2		POORLY GRADED GRAVEL (FILL) (Brown, Gravel to 3/4" dia., subrounded to angular, hard, Fine to coarse sand, Moist)	0.4
2											1.4
116		Ssa	3	9 11 12 14	75	SP-SM* S2	3.6	11 Gr=4, Sa=86, Fines=11, P.02=5.2, P.005=4.6, P.002=3.8		POORLY GRADED SAND W/SILT (FILL) (Brown, Trace gravel to 1/2" dia., subrounded to subangular, hard, Fine to medium sand, Nonplastic, Moist)	
4											
114		Ssa	4	6 9 12 13	100	SM* F2*	6.0	13 Org=5.2%, Est. <5% visible organics by volume, Gr=2, Sa=85, Fines=13		SILTY SAND W/ ORGANIC CONTENT (Brown, Fine to medium sand, Nonplastic, Moist)	4.8
6											
112		Ssa	5	7 12 14 16	80		4.6				
8											
110		Ssa	6	5 12 11 13	100	SP-SM* S2*	6.0	8.7 Gr=1, Sa=91, Fines=9			9.8
10											
108		Ssa	7	3 5 5 5	85		6.0	Chem Sample: BET20-TH08-02		POORLY GRADED SAND W/SILT (Brown, Fine to medium sand, Nonplastic, Moist)	
12											
106											
14											
104		Ssa	8	3 4 4 4	90	SP-SM* S2*	5.5	7.7 Sa=92, Fines=8			
16											
102											
18											
100											
20											
98											
22											22.0
											24.0

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BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-08

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-11

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20 G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION					RM20-08		STA/OFF: C 71+71, 46R LAT: 60.77212 LON: -161.84422 ELEV: 118.9 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG
24.0										
<p>* Estimated classification</p> <p>Groundwater was not observed while drilling.</p> <p>Geologist / QEP: Alex Brown / Brian Mullen Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT Drilling Method: 3.25-inch I.D. hollow-stem auger Drill Crew: M. Cross, B. Celado</p> <p>Coordinates: WGS84 Stationing and elevation approximate, presented in feet.</p>										

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BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-08

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-12

G:\GINT_PROJECTS\2690.02 BETHEL MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-09 8/10/20		STA/OFF: 66+61, 77L LAT: 60.77254 LON: -161.84238 ELEV: 121.1 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		Ssa	1	2	65	SM* F2	14.0	19	Chem Sample: BET20-TH09-01, Sa=81, Fines=19, P.02=6.8, P.005=6.0, P.002=5.0		0.0
120			2						SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)		
2			4								
			6								
		Ssa	2	5	100				Chem Sample: BET20-TH09-02/03		2.3
118			5								
4			10								
			11								
		Ssa	3	6	95	SP-SM S2*	5.5	7.9	LL=Nv, PL=Nv, PI=NP, Sa=92, Fines=8		
116			8								
6			9								
			9								
114											
		Ssa	4	4	100		6.8				
8			4								
			6								
			8								
112											
10		Ssa	5	5	80	SP-SM S2*	6.8	7.5	Sa=93, Fines=8		
			6								
			7								
			7								
110											
12											12.0

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
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BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-09

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-13

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NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-10 8/7/20		STA/OFF: 63+96, 42R LAT: 60.77333 LON: -161.84238 ELEV: 121.5 Feet		
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION	
0		G	1		100					ASPHALT	0.0	
		Ssa	2	18	100	SW-SM* S2*	7.8	Chem Sample: BET20-TH10-01 Gr=42, Sa=50, Fines=8		POORLY GRADED SAND W/SILT AND GRAVEL (FILL) (Black, Gravel to 3/4" dia., subrounded to angular, hard, Fine to coarse sand, Nonplastic, Moist)	0.5	
			3	20			4.8				1.8	
			23									
		Ssa	4	11	65	SM* F2*	4.4	20	Gr=1, Sa=79, Fines=20		SILTY SAND (FILL) (Brown-gray, Fine to medium sand, Nonplastic, Moist)	
			22									
			26									
			22									
		Ssa	5	7	90	SM* F2	7.0	38	Sa=62, Fines=38, P.02=7.8, P.005=6.2, P.002=5.6		SILTY SAND (FILL) (Brown-gray, Fine to medium sand, Nonplastic, Moist)	
			6									
			7									
			8									
		Ssa	6	4	95			11.0			SILTY SAND W/ ORGANIC CONTENT (Brown-gray, Fine to medium sand, Nonplastic, Moist)	
			4									
			5									
			5									
		Ssa	7	4	80	SM* F3*	7.6	36	Org=2.3%, Est. <5% visible organics by volume, Sa=64, Fines=36		SILTY SAND W/ ORGANIC CONTENT (Brown-gray, Fine to medium sand, Nonplastic, Moist)	
			4									
			7									
			6									
		Ssa	8	5	95			9.6	Est. <5% visible organics by volume, Chem Sample: BET20-TH10-02		SILTY SAND W/ ORGANIC CONTENT (Brown-gray, Fine to medium sand, Nonplastic, Moist)	
			5									
			6									
			8									
		Ssa	9	5	80	ML* F4*	14.0	56	Est. <5% visible organics by volume, Sa=44, Fines=56		SANDY SILT (Brown-gray, Fine to medium sand, Nonplastic, Moist)	
			7									
			8									
			10									
											9.8	
											18.5	
											24.0	

(Continued on Next Page)

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-10

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-14

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION					RM20-10 8/7/20		STA/OFF: 63+96, 42R LAT: 60.77333 LON: -161.84238 ELEV: 121.5 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG
24.0										
<p>* Estimated classification</p> <p>Groundwater was not observed while drilling.</p> <p>Geologist / QEP: Alex Brown / Brian Mullen Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT Drilling Method: 3.25-inch I.D. hollow-stem auger Drill Crew: M. Cross, B. Celado</p> <p>Coordinates: WGS84 Stationing and elevation approximate, presented in feet.</p>										

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BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-10

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-15

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NEW RM LOG BET_MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-11		8/6/20		STA/OFF: 58+39, 86R LAT: 60.77480 LON: -161.84148 ELEV: 120.7 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION		
0		Ssa	1	3	65						0.0		
120			2	3		SM* F2	13.0	49	Chem Sample: BET20-TH11-01 Gr=1, Sa=50, Fines=49, P.02=14.1, P.005=8.8, P.002=7.9		0.3	POORLY GRADED GRAVEL (FILL) (Brown-black, Gravel to 1/2" dia., subrounded to angular, hard, Fine to coarse sand, Moist)	
2				8									
				14									
118		Ssa	3	9	65			9.3					
				13									
4				22									
				22									
116		Ssa	4	15	90	SM F2*	9.9	21	Chem Sample: BET20-TH11-02, LL=NV, PL=NV, PI=NP, Gr=2, Sa=77, Fines=21			SILTY SAND (Brown-gray, Fine to medium sand, Nonplastic, Moist, Native material interpreted below 5')	
6				20									
				24									
114				25									
8		Ssa	5	6	85			13.0					
				6									
				6									
112				8									
				6									
10		Ssa	6	4	85	SM* F3*	41.0	39	Est. 10-15% visible organics by volume, Gr=1, Sa=60, Fines=39		9.8	SILTY SAND W/ ORGANIC CONTENT (Brown-gray, Fine sand, Nonplastic, Moist)	
110				4									
				4									
				4									
12				5								12.0	

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado


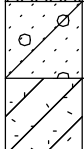
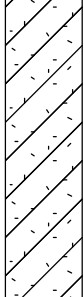
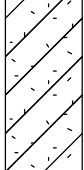
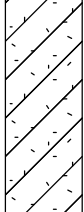
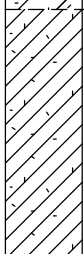
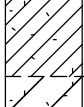
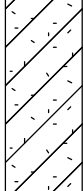
Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-11

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-16

G:\GINT_PROJECTS\2690.02 BETHEL MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION					RM20-12 8/8/20		STA/OFF: 54+12, 65L LAT: 60.77570 LON: -161.83972 ELEV: 121.2 Feet		
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		G	1		100					ASPHALT	0.0
120		Ssa	2	22	70	SW-SM* S2*	8.4	Gr=41, Sa=50, Fines=8		WELL GRADED SAND W/SILT AND GRAVEL (FILL) (Brown-gray, Gravel to 3/4" dia., subrounded to angular, hard, Fine to coarse sand, Nonplastic, Moist)	0.5
2			3	12	12			Chem Sample: BET20-TH12-01/03		1.7	
118		Ssa	4	5	75	SM* F2	6.2	20 Sa=80, Fines=20, P.02=7.8, P.005=6.6, P.002=4.9		SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)	
4			5	8	15						
116		Ssa	5	8	85	SM* F2*	7.3	15 Sa=85, Fines=15			
6			5	8	14						
114		Ssa	6	4	80		4.8			SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)	
8			6	5	7						
112			6	5	7						
10		Ssa	7	6	80	SM* F2*	11.0	25 Chem Sample: BET20-TH12-02, Gr=1, Sa=74, Fines=25		SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)	
110			7	8	5						
108			7	6	5						
14											13.5
106		Ssa	8	4	90	ML* F4*	22.0	51 Gr=3, Sa=46, Fines=51		SANDY SILT (Brown-gray, Fine sand, Nonplastic, Moist)	
16			8	7	13						
104			8	14							
18										SANDY SILT (Brown-gray, Fine sand, Nonplastic, Moist)	
102											18.5
20		Ssa	9	6	75		19.0			SILTY SAND (Brown-gray, Fine to medium sand, Nonplastic, Wet)	
100			9	12							
22			9	14	20						
											24.0

(Continued on Next Page)

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-12

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-17

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20 G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION					RM20-12 8/8/20		STA/OFF: 54+12, 65L LAT: 60.77570 LON: -161.83972 ELEV: 121.2 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG
24.0										
<p>* Estimated classification</p> <p>Groundwater was observed at a depth of 18.5' while drilling.</p> <p>Geologist / QEP: Alex Brown / Brian Mullen Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT Drilling Method: 3.25-inch I.D. hollow-stem auger Drill Crew: M. Cross, B. Celado</p> <p>Coordinates: WGS84 Stationing and elevation approximate, presented in feet.</p>										

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-12

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-18

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-13 8/9/20		STA/OFF: 51+03, 109L LAT: 60.77642 LON: -161.83878 ELEV: 120.2 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0	120	Ssa	1	4	85	SP-SM* F2*	6.2	12	Chem Sample: BET20-TH13-01 Gr=30, Sa=59, Fines=12		0.0
			2	7			6.3	0.5			
2	118	Ssa	3	9	75	SM* F2	4.9	13	Sa=87, Fines=13, P.02=4.6, P.005=4.4, P.002=4.0		4.8
4	116			11							
			4	7	85		4.9				
6	114	Ssa	5	3	85	SP-SM* S2*	6.2	9.2	Sa=90, Fines=9		13.5
8	112			7							
				7							
				7							
				7							
10	110	Ssa	6	4	95			7.5			18.5
12	108			4							
				5							
				6							
14	106	Ssa	7	4	85	SM F3*	21.0	37	Est. <5% visible organics by volume, Chem Sample: BET20-TH13-02, LL=NV, PL=NV, PI=NP, Gr=2, Sa=61, Fines=37		22.0
16	104			6							
				6							
				8							
18	102										24.0
20	100	Ssa	8	5	80			23.0			
				7							
				9							
22				10							

(Continued on Next Page)

PREPARED BY:
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BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-13

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-19

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20 G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION					RM20-13 8/9/20		STA/OFF: 51+03, 109L LAT: 60.77642 LON: -161.83878 ELEV: 120.2 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG
24.0										
<p>* Estimated classification</p> <p>Groundwater was observed at a depth of 18.5' while drilling.</p> <p>Geologist / QEP: Alex Brown / Brian Mullen Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT Drilling Method: 3.25-inch I.D. hollow-stem auger Drill Crew: M. Cross, B. Celado</p> <p>Coordinates: WGS84 Stationing and elevation approximate, presented in feet.</p>										

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BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-13

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-20

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-14 8/11/20		STA/OFF: 47+96, 10L LAT: 60.77729 LON: -161.83856 ELEV: 122.1 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0	122	G	1		100					ASPHALT	0.0
		G	2		100					CEMENT-TREATED BASE COURSE	0.8
		Ssa	3	10	70			Chem Sample: BET20-TH14-01			1.3
2	120			28							
				37							
				43							
4	118	Ssa	4	17	75	SM* F2	5.0	15	Sa=85, Fines=15, P.02=5.2, P.005=3.9, P.002=3.2	SILTY SAND (FILL) (Brown, Nonplastic, Moist)	
				18							
				21							
				21							
6	116										
		Ssa	5	5	95		4.6				6.8
8	114			8							
				8							
				8							
				9							
10	112	Ssa	6	8	85	SP-SM* S2*	6.5	11	Sa=89, Fines=11	POORLY GRADED SAND W/SILT (FILL) (Brown-gray, Fine to medium sand, Nonplastic, Moist)	
				10							
				12							
				15							
12	110										
									WD		
											13.5
14	108										
		Ssa	7	4	75	SM F3*	23.0	33	LL=Nv, PL=Nv, PI=Np, Sa=67, Fines=33		
				3							
				5							
				6							
16	106										
18	104										
20	102	Ssa	8	2	70	SM F3*	25.0	41	Chem Sample: BET20-TH14-02, Sa=59, Fines=41	SILTY SAND (Gray-brown, Fine to medium sand, Nonplastic, Wet)	
				1							
				2							
				4							
22	100										
24											24.0

(Continued on Next Page)

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BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-14

PROJ.NO: 2690.02
DATE: SEP. '20
REF: BETHEL
DWG.NO: B-21

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-14 8/11/20		STA/OFF: 47+96, 10L LAT: 60.77729 LON: -161.83856 ELEV: 122.1 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
24	98									24.0	
		Ssa	9	1	60		24.0			SILTY SAND (Gray-brown, Fine to medium sand, Nonplastic, Wet)	
26	96			3							
				3							
				4							
28	94									28.3	
		Ssa	10	4	60	SM* F3* Nbe	26.0 42	Est. 0% visible ice, Est. <5% visible organics by volume, Sa=58, Fines=42		SILTY SAND W/ ORGANIC CONTENT (Dk. gray, Fine to medium sand, Nonplastic, Wet)	
30	92			13							
				20							
				34							
										31.5	

* Estimated classification

Groundwater was observed at a depth of 13.5' while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

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BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-14

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-22

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-15 8/11/20		STA/OFF: 43+43, 106R LAT: 60.77856 LON: -161.83817 ELEV: 119.6 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		Ssa	1	3	80					0.0	
			2	3		SM* F2*	10.0	22	Chem Sample: BET20-TH15-01 Gr=2, Sa=76, Fines=22	0.3	
118				6							
2				9							
		Ssa	3	8	60			8.5		2.3	
116				13							
4				15							
				18							
114		Ssa	4	5	85	ML* F4	8.7	74	Org=2.1%, Sa=26, Fines=74, P.02=8.2, P.005=6.2, P.002=5.3		
6				7							
				8							
				10							
112		Ssa	5	5	75			10.0	Chem Sample: BET20-TH15-02		
8				7							
				8							
				9							
110		Ssa	6	4	95	SM* F3*	13.0	31	Sa=69, Fines=31	9.8	
10				5							
				7							
				7							
108				7							
12										12.0	

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
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BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-15

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-23

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET_MRR GINT 1112 1515.GPJ
NEW RM LOG BET_MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-16 8/8/20		STA/OFF: 39+07, 45R LAT: 60.77959 LON: -161.83690 ELEV: 117.6 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		G	1		100					ASPHALT	0.0
		Ssa	2	11	85					CEMENT-TREATED BASE COURSE	0.9
	116			8							1.9
	2		3	13				Chem Sample: BET20-TH16-01			
				10							
	114	Ssa	4	5	65	SP-SM* S2	4.5	9.1	Sa=91, Fines=9, P.02=2.8, P.005=2.8, P.002=2.8	POORLY GRADED SAND W/SILT (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)	
	4			6							
				7							
				7							
				7							
	112	Ssa	5	3	80			5.4			
	6			4							
				4							
				5							
	110	Ssa	6	4	85	SM* F3*	6.4	15	Sa=85, Fines=15	SILTY SAND (Brown, Fine to medium sand, Nonplastic, Moist)	7.3
	8			5							
				7							
				7							
	108	Ssa	7	3	85			7.0	Chem Sample: BET20-TH16-02		
	10			4							
				5							
	106			5							
	12										12.0

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

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BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-16

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-24

G:\GINT_PROJECTS\2690.02 BETHEL MRR\BET MRR GINT 1112 1515.GPJ

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-17 8/12/20		STA/OFF: 35+78, 105L LAT: 60.78024 LON: -161.83534 ELEV: 114.2 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0	114	Ssa	1	4	80	SW-SM*	3.6	11	Chem Sample: BET20-TH17-01/03 Gr=38, Sa=51, Fines=11 Sa=83, Fines=17, P.02=6.3, P.005=6.0, P.002=4.8		0.0
			2	3		S2*	9.7	17			0.4
2	112			5		SM*			Chem Sample: BET20-TH17-02		
			3	12		F3					
4	110			14							
			4	30							
6	108			11	85		4.9				
				10							
			5	11							
8	106			10		SM*	7.6	29	Gr=1, Sa=70, Fines=29		
			5	8		F2*					
				7							
			6	8							
10	104			5	95		8.9				
				5							
				6							
			6	7							12.0

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-17

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-25

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-18 8/15/20		STA/OFF: D 402+57, 2R LAT: 60.78170 LON: -161.83626 ELEV: 110.1 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0	110	G	1		100					ASPHALT	0.0
		G	2		100					CEMENT-TREATED BASE COURSE	0.9
		Ssa	3	12	55	SM* F3*	34	Chem Sample: BET20-TH18-01, Sa=66, Fines=34			1.3
2	108			16							
				23							
				24							
4	106	Ssa	4	10	75	SM* F2	5.4	19	Chem Sample: BET20-TH18-02, Sa=81, Fines=19, P.02=4.3, P.005=4.3, P.002=3.7		
				13							
				8							
				9							
6	104										
8	102	Ssa	5	13	60	SM* F2*	5.5	17	Org=1.6%, Est. <5% visible organics by volume, Sa=83, Fines=17		
				16							
				15							
				16							
10	100	Ssa	6	9	90		3.5		Est. <5% visible organics by volume		
				11							
				14							
				16							
12											12.0

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado



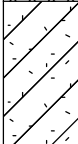
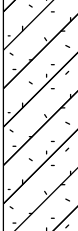
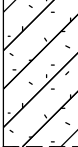
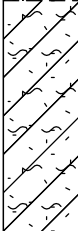
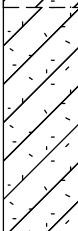
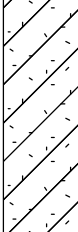
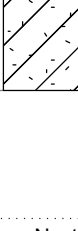







Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
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BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-18

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-26

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-19		8/12/20		STA/OFF: 31+00, 2.5R LAT: 60.78156 LON: -161.83484 ELEV: 112.0 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION		
0	112	G	1		100					ASPHALT		0.0	
		G	2		100					CEMENT-TREATED BASE COURSE		1.2	
2	110	Ssa	3	10	85	* F2		Chem Sample: BET20-TH19-01				1.7	
		Ssa	4	7	60		6.4			SILTY SAND (FILL) (Lt. brown, Fine to medium sand, Nonplastic, Moist)			
4	108	Ssa	5	9	65	SM* F2*	5.0	28	Sa=72, Fines=28				
		Ssa	6	3	80	SM* F3*	6.9	47	Org=1.4%, Est. <5% visible organics by volume, Sa=53, Fines=47		SILTY SAND W/ ORGANIC CONTENT (Brown, Fine to medium sand, Nonplastic, Moist)		9.8
8	104	Ssa	7	4	85	SM* F2*	4.7	30	Chem Sample: BET20-TH19-02, Sa=70, Fines=30				
		Ssa	8	4	95		6.7			SILTY SAND (Lt. brown, Fine to medium sand, Nonplastic, Moist)			
10	102												
12	100												
14	98												
16	96												
18	94												
20	92												
22	90											22.0	
												24.0	

(Continued on Next Page)

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BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-19

PROJ.NO: 2690.02
DATE: SEP. '20
REF: BETHEL
DWG.NO: B-27

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
 NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION					RM20-19 8/12/20		STA/OFF: 31+00, 2.5R LAT: 60.78156 LON: -161.83484 ELEV: 112.0 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG
24.0										
<p>* Estimated classification</p> <p>Groundwater was not observed while drilling.</p> <p>Geologist / QEP: Alex Brown / Brian Mullen Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT Drilling Method: 3.25-inch I.D. hollow-stem auger Drill Crew: M. Cross, B. Celado</p> <p>Coordinates: WGS84 Stationing and elevation approximate, presented in feet.</p>										

PREPARED BY:
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BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-19

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-28

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-20 8/13/20		STA/OFF: 26+20, 77R LAT: 60.78285 LON: -161.83417 ELEV: 107.5 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		Ssa	1	2	65	SM* F2	8.2	15	Chem Sample: BET20-TH20-01 Sa=85, Fines=15, P.02=4.8, P.005=4.3, P.002=3.7		GRAVEL W/SAND (FILL) (Dk. gray, Gravel to 1/2" dia., subangular to angular, moderately hard to hard, Fine to coarse sand, Moist)
0.2			2								
106				6							
2				9							
		Ssa	3	7	90		8.3				SILTY SAND (FILL) (Lt. brown, Fine to medium sand, Nonplastic, Moist)
104				9							
4				10							
				10							
		Ssa	4	5	85	SM* F2*	9.5	24	Sa=76, Fines=24		SILTY SAND (FILL) (Lt. brown, Fine to medium sand, Nonplastic, Moist)
102				7							
6				6							
				7							
		Ssa	5	5	100		8.6		Chem Sample: BET20-TH20-02		
100				6							
8				6							
				7							
98											
10		Ssa	6	5	95	SM* F3*	11.0	32	Est. <5% visible organics by volume, Gr=1, Sa=67, Fines=32		SILTY SAND W/ ORGANIC CONTENT (Brown, Fine to medium sand, Nonplastic, Moist)
96				6							
				8							
				9							
12											

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
Drilling Method: 3.25-inch I.D. hollow-stem auger
Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-20

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-29

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION					SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE			
0		G	1		100				0.0
104		Ssa	2	19	75				0.6
			3	17		SM* F2	19	Chem Sample: BET20-TH21-01, Sa=81, Fines=19, P.02=6.2, P.005=5.3, P.002=4.5	0.9
2				22					
				22					
102		Ssa	4	12	95				
4				18					
				21					
100				28					
6		Ssa	5	7	95	SM* F2*	5.4	23 Sa=77, Fines=23	
				6					
98				7					
				7					
8		Ssa	6	3	95				
				4					
96				5					
				4					
10		Ssa	7	2	90	SM* F3*	9.7	37 Chem Sample: BET20-TH21-02, Sa=63, Fines=37	
				3					
94				3					
				3					
12				4					12.0

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-21

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-30

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20 G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)			
0	102	Ssa	1	4	70	SW-SM* S2*	9.3	Chem Sample: BET20-TH21-01/03 Gr=36, Sa=55, Fines=9		0.0
			2	2			10.0			0.4
			7							
			7							
2	100	Ssa	3	7	85	SP-SM S2	6.9	LL=Nv, PL=Nv, PI=Np, Sa=89, Fines=11, P.02=4.3, P.005=3.9, P.002=3.8		
				11						
				13						
4	98			17						
		Ssa	4	10	90		9.9			
				19						
				20						
				22						
6	96									
		Ssa	5	6	100	SM* F2*	7.9	Sa=71, Fines=29		7.3
				7						
				7						
8	94			8						
		Ssa	6	4	80		10.0	Alternating silt and sand layers (~0.1' thick)		
				4						
				5						
				4						
10	92									
		Ssa	7	4	100		9.8			
				4						
				7						
				7						
12	90									
14	88									
		Ssa	8	5	80	SM* F2*	17.0	Silt layers between 0.1' and 0.2' thick, Chem Sample: BET20-TH21-02, Sa=72, Fines=28		
				8						
				9						
				11						
16	86									
18	84									
20	82									
		Ssa	8	5	80	SM* F2*	17.0	Silt layers between 0.1' and 0.2' thick, Chem Sample: BET20-TH21-02, Sa=72, Fines=28		
				8						
				9						
				11						
22										22.0
										24.0

(Continued on Next Page)

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BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-22

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-31

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20 G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION					RM20-22 8/13/20		STA/OFF: 17+20, 77L LAT: 60.78494 LON: -161.83138 ELEV: 102.2 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG
24.0										
<p>* Estimated classification</p> <p>Groundwater was not observed while drilling.</p> <p>Geologist / QEP: Alex Brown / Brian Mullen Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT Drilling Method: 3.25-inch I.D. hollow-stem auger Drill Crew: M. Cross, B. Celado</p> <p>Coordinates: WGS84 Stationing and elevation approximate, presented in feet.</p>										

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-22

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-32

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET_MRR GINT 1112 1515.GPJ

NEW RM LOG BET_MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-23 8/14/20		STA/OFF: 11+95, 20R LAT: 60.78636 LON: -161.83070 ELEV: 100.6 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		G	1		100					0.0	
100		G	2		100					1.0	
2		Ssa	3	11	70	SM* F2*	16	Chem Sample: BET20-TH23-01/03, Sa=84, Fines=16		1.5	
98				12							
				21							
				22							
4		Ssa	4	9	85	SM F2	4.5	16	Chem Sample: BET20-TH23-02, LL=NV, PL=NV, PI=NP, Sa=84, Fines=16, P.02=4.5, P.005=4.1, P.002=3.7		
96				13							
				19							
				25							
6											
94											
		Ssa	5	4	85		7.4				
8				6							
92				6							
				8							
10		Ssa	6	4	80	SM* F2*	7.3	21	Sa=79, Fines=21		
90				4							
				6							
				6							
12										12.0	

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-23

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-33

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET_MRR GINT 1112 1515.GPJ

NEW RM LOG BET_MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-24 8/14/20		STA/OFF: C 05+07, 11L LAT: 60.78794 LON: -161.83055 ELEV: 94.7 Feet		
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION	
0		G	1		100					ASPHALT	0.0	
94		Ssa	2	16	55			Chem Sample: BET20-TH24-01		SILTY SAND W/GRAVEL (FILL) (Brown, Gravel to 3/4" dia., subangular to angular, moderately hard to hard, Fine to coarse sand, Nonplastic, Moist)	0.6	
2				21								
92				24								
				23								
4		Ssa	3	10	65	SM* F2	22.0	19	Sa=81, Fines=19, P.02=7.1, P.005=5.6, P.002=4.5		SILTY SAND (FILL) (Lt. brown, Fine to medium sand, Nonplastic, Moist)	2.8
90				20								
				21								
6		Ssa	4	5	70				Chem Sample: BET20-TH24-02		SILTY SAND (FILL) (Lt. brown, Fine to medium sand, Nonplastic, Moist)	
88				5								
				6								
8		Ssa	5	6	90	SP-SM* F2*	4.6	12	Sa=88, Fines=12		POORLY GRADED SAND W/SILT (FILL) (Lt. brown, Fine to medium sand, Nonplastic, Moist)	7.3
86				8								
				9								
10				10								
84		Ssa	6	6	80							
				6								
				6								
12				6								

* Estimated classification

Groundwater was not observed while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado



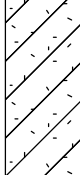
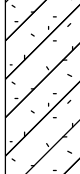
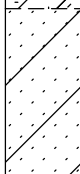
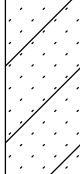
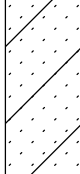
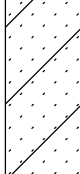
Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-24

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-34

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-25 8/14/20		STA/OFF: 06+19, 25L LAT: 60.78782 LON: -161.82913 ELEV: 97.3 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		G	1		100					ASPHALT	0.0
		G	2		100					CEMENT-TREATED BASE COURSE	0.6
96		Ssa	3	6	60	SM* F2	16	Chem Sample: BET20-TH25-01, Sa=84, Fines=16, P.02=5.4, P.005=4.3, P.002=3.6		SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)	1.0
2				11							
				13							
94				16							
4		Ssa	4	6	65	SM* F2*	6.3 20	Sa=80, Fines=20		SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)	
				8							
92				9							
6				13							
											6.8
90		Ssa	5	5	80		5.0			SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)	
8				5							
				8							
88				9							
10		Ssa	6	6	80	SP-SM* S2*	5.7 9.3	Sand layers less than 1 cm thick, Sa=90, Fines=9		POORLY GRADED SAND W/SILT (Brown-gray, Fine to medium sand, Nonplastic, Moist)	
				10							
86				13							
12				14							
											18.5
84											
14											
82		Ssa	7	6	80		4.0	Chem Sample: BET20-TH25-02		SILTY SAND (Brown-gray, Fine to medium sand, Nonplastic, Moist)	
16				8							
				10							
80				11							
18											18.5
78											
20		Ssa	8	4	85	SM F3*	14.0 39	Silt layers up to 1 cm thick, LL=NV, PL=NV, PI=NP, Sa=61, Fines=39		SILTY SAND (Brown-gray, Fine to medium sand, Nonplastic, Moist)	
				6							
76				7							
				7							
22											22.0
											24.0

(Continued on Next Page)

PREPARED BY:
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BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-25

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-35

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
 NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION					RM20-25 8/14/20		STA/OFF: 06+19, 25L LAT: 60.78782 LON: -161.82913 ELEV: 97.3 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG
<p>* Estimated classification</p> <p>Groundwater was not observed while drilling.</p> <p>Geologist / QEP: Alex Brown / Brian Mullen Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT Drilling Method: 3.25-inch I.D. hollow-stem auger Drill Crew: M. Cross, B. Celado</p> <p>Coordinates: WGS84 Stationing and elevation approximate, presented in feet.</p>										

24.0

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BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-25

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-36

G:\GINT_PROJECTS\2690.02 BETHEL MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-26 8/9/20		STA/OFF: 59+50, 10R LAT: 60.77473 LON: -161.84128 ELEV: 122.1 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0	122	G	1		100					ASPHALT	0.0
		Ssa	2	36	100					CEMENT-TREATED BASE COURSE	0.6 1.0
2	120	Ssa	3	13	100		8.6	Chem Sample: BET20-TH26-01/03			
				17							
				18							
4	118			19							
		Ssa	4	7	90	SM F2	4.6	23	LL=Nv, PL=Nv, PI=Np, Sa=77, Fines=23, P.02=3.6, P.005=3.0, P.002=3.0		
				7							
				8							
				8						SILTY SAND (Brown-gray, Fine to medium sand, Nonplastic, Moist, Native material interpreted below 5')	
8	114	Ssa	5	4	100		5.5				
				6							
				5							
				7							
10	112	Ssa	6	4	85	SM* F3*	7.5	40	Sa=60, Fines=40		
				5							
				5							
				6							
12	110										
14	108										
		Ssa	7	3	85	SM* F3*	9.5	39	Org=2.8%, Est. <5% visible organics by volume, Sa=61, Fines=39		
				5							
				5							
				7						SILTY SAND W/ ORGANIC CONTENT (Brown-gray, Fine to medium sand, Nonplastic, Moist)	
16	106										
18	104										
20	102	Ssa	8	4	85	ML* F4	16.0	52	Est. <5% visible organics by volume including layers of disseminated organics under 5 mm thick, Sa=48, Fines=52		
				5							
				4							
				6						SANDY SILT W/ ORGANIC CONTENT (Gray-brown, Fine sand, Nonplastic to low plasticity, Wet)	
22	100										
24											

(Continued on Next Page)

(SEE NEXT PAGE)

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BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-26

PROJ.NO: 2690.02
DATE: SEP. '20
REF: BETHEL
DWG.NO: B-37

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-26 8/9/20		STA/OFF: 59+50, 10R LAT: 60.77473 LON: -161.84128 ELEV: 122.1 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
24	98									24.0	
		Ssa	9	4	70		22.0	Chem Sample: BET20-TH26-02	WD ▽	SILTY SAND (Gray, Fine to medium sand, Nonplastic, Wet)	
26	96			4							
				5							
				6							
28	94										
30	92	Ssa	10	23	100	SM* F2* Nbe	20.0	Est. 0% visible ice, Sa=77, Fines=23			
				30							
				36							
				34							
32										32.0	

* Estimated classification

Groundwater was observed at a depth of 25.8' while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-26

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-38

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20 G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-27 8/6/20		STA/OFF: 65+32, 242L LAT: 60.77266 LON: -161.84119 ELEV: 118.7 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		Ssa	1	2	95		6.8		Chem Sample: BET20-TH27-01/03		0.0
118				4							
2				5							
116		Ssa	2	4	90	SM* F2	6.8	18	Sa=82, Fines=18, P.02=3.9, P.005=3.7, P.002=3.5		
114				3							
4				4							
114		Ssa	3	2	95		8.1				
6				2							
112				3							
8		Ssa	4	3	100	SM* F2	9.9	35	Org=1.7%, Est. <5% visible organics by volume, Sa=65, Fines=35, P.02=6.4, P.005=4.7, P.002=3.9		7.3
110				3							
10				3							
108		Ssa	5	3	105		11.0		Est. <5% visible organics by volume, Chem Sample: BET20-TH27-02		
12				3							
106				4							
14				5							
104		Ssa	6	4	90	SM* F3*	9.2	39	Sa=61, Fines=39		13.5
16				5							
102				6							
18				6							
100		Ssa	7	3	85	ML* F4	18.0	51	LL=Nv, PL=Nv, PI=NP, Sa=49, Fines=51		18.5
98				3							
22				3							
96				2							
24											23.5
											24.0

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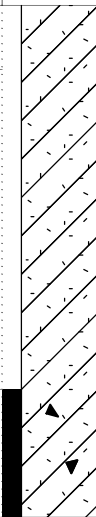
PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-27

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-39

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET_MRR GINT 1112 1515.GPJ

NEW RM LOG BET_MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-27 8/6/20		STA/OFF: 65+32, 242L LAT: 60.77266 LON: -161.84119 ELEV: 118.7 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
24	94	Ssa	8	3	85	SM* F3*	22.0	44	Sa=56, Fines=44		24.0
26	92			1							
28	90			1							
30	88	Ssa	9	16	105	SM* F3* Vs+Vr	25.0	31	Est. 5% visible ice, Sa=69, Fines=31		
32				21							32.0
				25							
				26							

* Estimated classification

Groundwater was observed at a depth of 21.8' while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

SILTY SAND (Dk. gray, Fine sand, Nonplastic, Wet)

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-27

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-40

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-28 8/7/20		STA/OFF: 59+15, 242L LAT: 60.77422 LON: -161.83986 ELEV: 117.7 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		Ssa	1	2	90		10.0		Chem Sample: BET20-TH28-01/03		0.0
116				5							
2				8							
114		Ssa	2	5	95	SM* F2	7.6	33	Sa=67, Fines=33, P.02=6.8, P.005=5.5, P.002=5.1		
4				7							
112				7							
6				7							
110		Ssa	3	3	100		14.0				
8				4							
108				4							
10				5							
106		Ssa	4	3	90		12.0				
12				5							
104				5							
14				6							
102		Ssa	5	5	80	SM* F2	1.0	16	Sa=84, Fines=16, P.02=3.6, P.005=3.4, P.002=3.1		
16				5							
18				6							
100				6							
18									WD ▽		
18.5										18.5	
98											
20		Ssa	6	3	85		0.1				
22				3							
96				3							
22				3							
94		Ssa	7	3	90	ML* F4	26.0	52	Chem Sample: BET20-TH28-02, Sa=48, Fines=52		
24				1							
				1							
				2							
										23.5	
										24.0	

SILTY SAND (Brown, Fine to medium sand, Nonplastic, Moist, Native material interpreted below 5')

SANDY SILT (Brown-gray, Fine to medium sand, Nonplastic, Wet)

(Continued on Next Page)

(SEE NEXT PAGE)

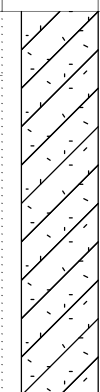
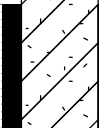
PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-28

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-41

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET_MRR GINT 1112 1515.GPJ

NEW RM LOG BET_MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-28 8/7/20		STA/OFF: 59+15, 242L LAT: 60.77422 LON: -161.83986 ELEV: 117.7 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
24										24.0	
	92	Ssa	8	1	55		21.0			SILTY SAND (Gray-brown, Fine to medium sand, Nonplastic, Wet)	
	26		1								
	90		1								
	28		1								
	88	Ssa	9	6	100	SM* F2* Nf	21.0	16	Est. 0% visible ice, Sa=84, Fines=16		
	30		27								
	86		34								
	32		42							32.0	

* Estimated classification

Groundwater was observed at a depth of 18.5' while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-28

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-42

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-29 8/18/20		STA/OFF: 19+97, 219L LAT: 60.78409 LON: -161.83127 ELEV: 101.2 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		Ssa	1	5	65				Chem Sample: BET20-TH29-01		0.0 POORLY GRADED GRAVEL W/SAND (FILL) (Brown-gray, Gravel to 1" dia., subangular to angular, hard, Fine to coarse sand, Moist)
			2	4			5.5				0.3 POORLY GRADED SAND W/SILT (FILL) (Lt. brown, Fine to medium sand, Nonplastic, Moist)
100				6							
2				12							
98		Ssa	3	7	60	SM* F2	10.0	39	Sa=61, Fines=39, P.02=10.0, P.005=6.2, P.002=5.4		2.3
				7							
4				7							
				7							
96		Ssa	4	7	85			7.1			
				9							
6				13							
				10							
94		Ssa	5	4	75	SM* F2	7.4	28	Gr=1, Sa=71, Fines=28, P.02=5.2, P.005=4.7, P.002=3.9		
8				4							
				4							
92				4							
				4							
10		Ssa	6	3	95			8.4	Silt layers up to 1 cm thick, Chem Sample: BET20-TH29-02		
				3							
90				2							
				4							
12											
88											
14											
86		Ssa	7	3	70	SM* F3*	12.0	40	Alternating silt and sand layers up to 1.5 cm thick below 16', Sa=60, Fines=40		
				3							
16				4							
				4							
84											
18											
82											
20		Ssa	8	4	75			22.0			
				4							
80				6							
				7							
22											
78											
24											

(Continued on Next Page)

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BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-29

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-43

G:\GINT_PROJECTS\2690.02 BETHEL MRR\BET MRR GINT 1112 1515.GPJ

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-29 8/18/20		STA/OFF: 19+97, 219L LAT: 60.78409 LON: -161.83127 ELEV: 101.2 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
24										24.0	
76		Ssa	9	0	75	SM* F2*	21.0	24	Sa=76, Fines=24		SILTY SAND (Brown-gray, Fine to medium sand, Nonplastic, Moist to wet, Native material interpreted below 10')
26			3								
			5								
74			6								
28											
72		Ssa	10	9	75	SM* F2* Nbe	21.0	24	Est. 0% visible ice, Gr=1, Sa=75, Fines=24		
30				25							
				26							
				33							
										31.0	

* Estimated classification

Groundwater was observed at a depth of 18.5' while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-29

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-44

G:\GINT_PROJECTS\2690.02 BETHEL MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-30 8/11/20		STA/OFF: 16+74, 219L LAT: 60.78488 LON: -161.83046 ELEV: 99.8 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
0		Ssa	1	10	90					0.0	POORLY GRADED GRAVEL W/SAND (FILL) (Brown-gray, Gravel to 1/2" dia., subangular to angular, hard, Fine to coarse sand, Moist)
			2	8		SM* F2	4.3	20	Chem Sample: BET20-TH30-01/03 Sa=80, Fines=20, P.02=5.2, P.005=4.9, P.002=4.0	0.3	
2	98			13							
				14							
		Ssa	3	5	80			9.4			
				9							
				9							
4	96			15							
		Ssa	4	8	85	SM* F2*	5.0	16	Sa=84, Fines=16		
				7							
				9							
6	94			9							
		Ssa	5	5	100			5.9			
				7							
				10							
8	92			9							
		Ssa	6	3	85			8.2			
				6							
				6							
10	90			7							
		Ssa	6	3	85			8.2			
				6							
12	88			6							
				7							
14	86										
		Ssa	7	3	95	SM* F2	13.0	29	Org=1.4%, Sa=71, Fines=29, P.02=3.4, P.005=3.4, P.002=3.3		
				6							
				5							
16	84			6							
18	82										
20	80										
		Ssa	8	3	85	SM F2*	23.0	29	Est. <5% visible organics by volume, Chem Sample: BET20-TH30-02, LL=Nv, PL=Nv, PI=NP, Sa=71, Fines=29		
				2							
				1							
22	78			3							
24	76										

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R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
BETHEL, ALASKA
LOG OF TEST BORING
RM20-30

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-45

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-30 8/11/20		STA/OFF: 16+74, 219L LAT: 60.78488 LON: -161.83046 ELEV: 99.8 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
24											24.0
26	74	Ssa	9	20 29 46	133	SM* F2* Nbe	21.0	29	Est. 0% visible ice, Sa=71, Fines=29		SILTY SAND (Gray, Fine to medium sand, Nonplastic, Wet)
28	72										
30	70	Ssa	10	4 19 50	67	Nbe	23.0	Est. 0% visible ice	31.5		

* Estimated classification

Groundwater was observed at a depth of 18.5' while drilling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

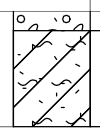
Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST BORING
 RM20-30

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-46

G:\GINT_PROJECTS\2690.02 BETHEL MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-31		STA/OFF: 79+61, 20R	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	8/18/20	LAT: 60.76941	LON: -161.84589
		SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION							
0		G 1	1	100	SM* F2*	3.2	29	Est. <5% visible organics by volume, Chem Sample: BET20-TH31-01/02, Gr=3, Sa=69, Fines=29		POORLY GRADED GRAVEL W/SAND (FILL) 0.0 - 0.3	
94		G 2	2	100						SILTY SAND W/ ORGANIC CONTENT (FILL) 0.3 - 1.8 (Dk. brown, Fine sand, Nonplastic, Moist)	

* Estimated classification

Groundwater was not observed while sampling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

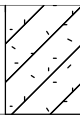
Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST PIT
 RM20-31

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-47

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20 G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-32		STA/OFF: 75+91, 77L		
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	8/18/20	LAT: 60.77023	LON: -161.84457	ELEV: 98.2 Feet
		SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION								
0	98	G	1	100	SM* F2*	7.9	25	Contains organic soil in top ~0.1', Chem Sample: BET20-TH32-01, Sa=75, Fines=25		SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)		0.0
												1.7

Groundwater was not observed while sampling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST PIT
 RM20-32

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-48

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ
NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-33 8/18/20		STA/OFF: 72+29, 7.5R LAT: 60.77123 LON: -161.84419 ELEV: 116.5 Feet	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION
	0	G	1		100	SM* F2*	6.0	20	Contains trace organics in top ~0.1', Gr=39, Sa=41, Fines=20 Chem Sample: BET20-TH33-01, Sa=66, Fines=34		0.0
	116	G	2		100	SM* F2*	14.0	34			SILTY SAND W/GRAVEL (FILL) (Brown-gray, Fine to coarse sand, Nonplastic, Moist) SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)
											1.9

Groundwater was not observed while sampling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

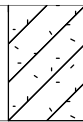
PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST PIT
 RM20-33

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-49

G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-34 8/19/20			STA/OFF: 03+55, 38L LAT: 60.78841 LON: -161.82855 ELEV: 93.5 Feet		
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION		
0		G	1		100	SM* F2*	7.0	16	Contains trace organics in top ~0.1', Chem Sample: BET20-TH34-01, Gr=1, Sa=83, Fines=16		SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)	0.0	1.8

Groundwater was not observed while sampling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

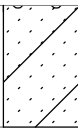
Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST PIT
 RM20-34

PROJ.NO: 2690.02
 DATE: SEP. '20
 REF: BETHEL
 DWG.NO: B-50

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20 G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-35		STA/OFF: 00+11, 42R	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	8/19/20	LAT: 60.78936	LON: -161.82819
		SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION							
0	92	G	1	100	SM* F2*	8.2	25	Contains grass and other organics in top ~0.1', Chem Sample: BET20-TH35-01, Sa=75, Fines=25		0.0	
		SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist)								1.9	

Groundwater was not observed while sampling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

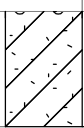
Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST PIT
 RM20-35

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-51

NEW RM LOG BET MRR GINT 1112 1515.GPJ RM_DATATEMPLATE_2020.GDT 11/13/20 G:\GINT_PROJECTS\2690.02 BETHEL_MRR\BET MRR GINT 1112 1515.GPJ

DEPTH (FT)	ELEVATION (FT)	SAMPLE INFORMATION						RM20-36		STA/OFF: -02+20, 58L	
		SAMPLER TYPE	SAMPLE NO.	BLOW COUNT	% RECOVERY	USCS FROST CLASS ICE TYPE	MOISTURE CONTENT (%)	P200 (%)	8/19/20	LAT: 60.78983	LON: -161.82716
		SAMPLE DESCRIPTION / ADDITIONAL RESULTS	GRAPHIC LOG	UNIT DESCRIPTION							
0	90	G	1	100	SM* F2*	8.4	31	Contains grass in top ~0.1', Chem Sample: BET20-TH36-01, Gr=2, Sa=67, Fines=31		0.0 SILTY SAND (FILL) (Brown, Fine to medium sand, Nonplastic, Moist) 1.8	

Groundwater was not observed while sampling.

Geologist / QEP: Alex Brown / Brian Mullen
 Drill Company / Rig: Denali Drilling / Geoprobe 7822 DT
 Drilling Method: 3.25-inch I.D. hollow-stem auger
 Drill Crew: M. Cross, B. Celado

Coordinates: WGS84
 Stationing and elevation approximate, presented in feet.

PREPARED BY:
R&M CONSULTANTS, INC.

BETHEL MAIN RUNWAY RECONSTRUCTION
 BETHEL, ALASKA
 LOG OF TEST PIT
 RM20-36

PROJ.NO:	2690.02
DATE:	SEP. '20
REF:	BETHEL
DWG.NO:	B-52

SOILS

CONSISTENCY AND SYMBOLS

CLASSIFICATION: Identification and classification of the soil is accomplished in accordance with the ASTM version of the Unified Soil Classification System. When laboratory testing data on material passing the 75-mm sieve is available Standard D 2487 (Classification of Soils for Engineering Purposes) is used and when laboratory data is not available D 2488 (Visual-Manual Procedure) is used. This classification system identifies three major soil divisions: coarse-grained soils, fine-grained soils, and highly organic soils. These three divisions are further subdivided into a total of 15 basic soils groups. Based on the results of visual observations and prescribed laboratory tests, a soil is catalogued according to the basic soil groups, assigned a group symbol(s) and name, and thereby classified. Flow charts contained in the two standards can be used to assign the appropriate group symbol(s) and name.

SOIL DENSITY/CONSISTENCY - CRITERIA: Soil density/consistency as defined below and determined by normal field and laboratory methods applies only to non-frozen material. For these materials, the influence of such factors as soil structure, i.e. fissure systems shrinkage cracks, slickensides, etc., must be taken into consideration in making any correlation with the consistency values listed below. In permafrost zones, the consistency and strength of frozen soil may vary significantly and inexplicably with ice content, thermal regime and soil type.

COHESIONLESS

COHESIVE

<u>Description</u>	<u>N * (blow s/FT.)</u>	<u>Description</u>	<u>N * (blow s/FT.)</u>
Very loose	0 - 4	Very Soft	<2
Loose	15 - 10	Soft	2 - 4
Medium dense	11 - 30	Firm	5 - 8
Dense	31 - 50	Stiff	9 - 15
Very Dense	>50	Very Stiff	16 - 30
		Hard	>30

* Standard Penetration "N": Blows per 12 inches of a 140-pound manual hammer (lifted with rope & cathead) falling 30 inches on a 2-inch O.D. split-spoon sampler except where noted.

KEY TO TEST RESULTS

DD - Dry Density	PP - Pocket Penetrometer
LL - Liquid Limit	P200 - % Passing No. 200 Screen
MC - Moisture Content	P.02 - % Passing 0.02 mm
Org - Organic Content	P.005 - % Passing 0.005 mm
PI - Plastic Index	P.002 - % Passing 0.002 mm
PL - Plastic Limit	

G:\GINT FORMS\GENERAL NOTES AND ASTM.GDW (DRAWING C - B-01 COE ASTM (ENGLISH)) 4/27/16 12:59 PM

DWN:	B.M.M.
CKD:	C.H.R.
DATE:	GENERAL
SCALE:	NONE

PREPARED BY: R&M CONSULTANTS, INC.

GENERAL NOTES

FB:	N/A
GRID:	N/A
PROJ.NO:	GENERAL
DWG.NO:	B-53

STANDARD SYMBOLS

SYMBOL	NAME	PARTICLE SIZE	SYMBOL	NAME
	CLAY	< 0.002mm, Plastic		ORGANICS
	SILT	0.002mm, - #200		ICE
	SAND	#200, - #4		ICE W/SOIL INCLUSIONS
	GRAVEL	#4, - 3"		ICE LENSE IN SILT
	COBBLES & BOULDERS	3" - 12" & > 12"		ICE CRYSTALS IN CLAY

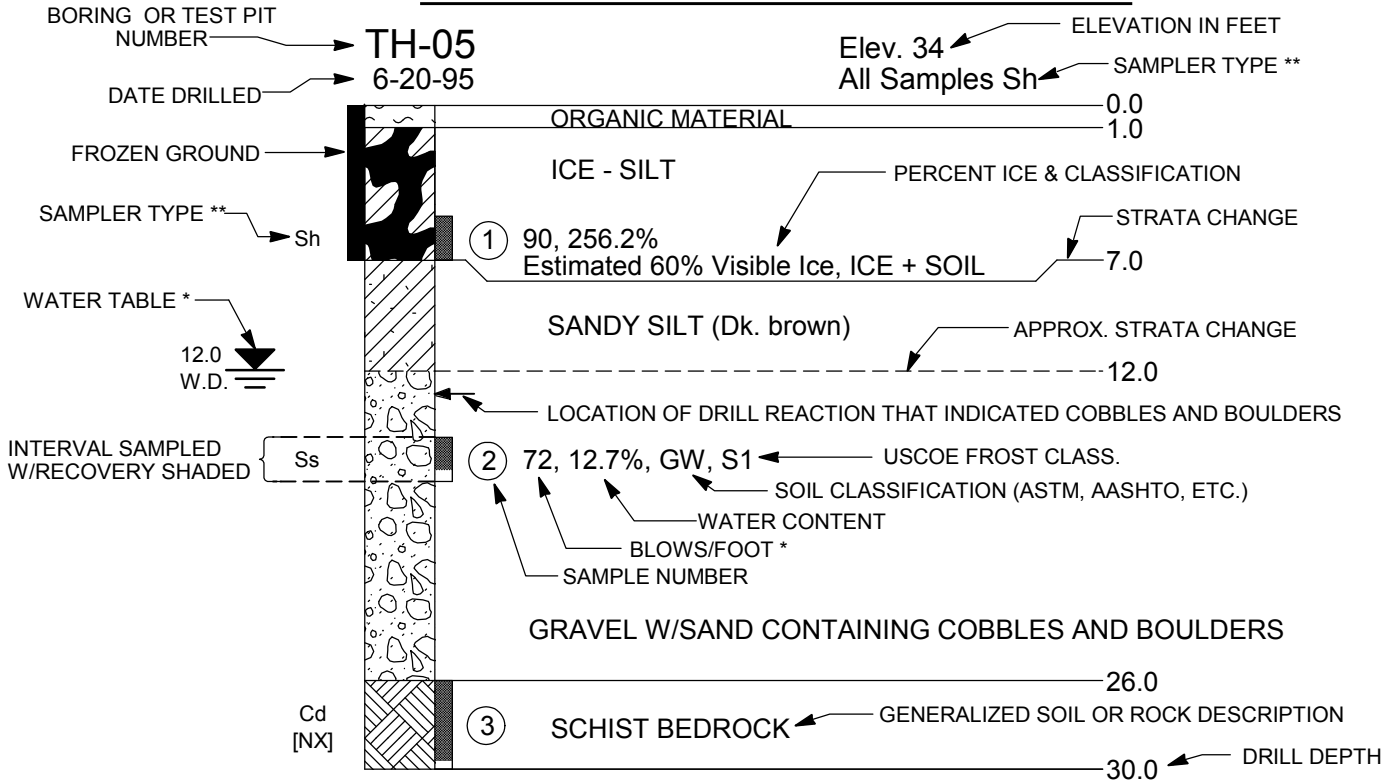
(The symbols shown above are frequently used in combinations, e. g. GRAVEL W/SILT AND SAND)

SAMPLER TYPE SYMBOLS

A Auger Sample	Sh 2.5 In. Split Spoon w/340 lb. Manual Hammer	Sp 2.5 In. Split Spoon Pushed
C Cuttings Sample	Sha 2.5 In. Split Spoon w/340 lb. Auto Hammer	Sz 1.4 In. Split Spoon w/340 lb. Hammer
Cd Double Tube Core Barrel	Sl 2.5 In. Split Spoon w/140 lb. Hammer	Ts Shelby Tube
Ct Triple Tube Core Barrel	Ss 1.4 In. Split Spoon w/140 lb. Manual Hammer	Tm Modified Shelby Tube
Cs Single Tube Core Barrel	Ssa 1.4 In. Split Spoon w/140 lb. Auto Hammer	[x] Sampler I. D. (Added to Symbol)
G Grab Sample		

NOTE: Sampler types are either noted above the boring log or adjacent to it at the respective depth. An individual log may not utilize all of the items listed.

TYPICAL BORING AND TEST PIT LOG



* W.D. - WHILE DRILLING, A.B. - AFTER BORING, Ref. - SAMPLER REFUSAL
 ** - REFER TO SAMPLER SYMBOL (Ss, Sh, ETC.) FOR SAMPLER I.D. & HAMMER WEIGHT/TYPE
 NOTE: Water levels shown on the boring logs are the levels measured in the boring at the times indicated.

G:\GINT FORMS\GENERAL NOTES AND ASTM.GDW (DRAWING W - B-02.DOT.ASTM (ENG.)) 4/27/16 01:00 PM

DWN:	P.K.H.
CKD:	C.H.R.
DATE:	GENERAL
SCALE:	NONE

PREPARED BY: R&M CONSULTANTS, INC.

EXPLANATION OF SELECTED SYMBOLS

FB:	N/A
GRID:	N/A
PROJ.NO:	GENERAL
DWG.NO:	B-54

APPENDIX C

FIELD NOTES

ALASKA DOT & PF_CR
BETHEL AIRPORT MAIN RUNWAY
RECONSTRUCTION PROJECT

IRIS NO.: CFAP T00430

AIP NO.: 3-02-0029-0XX-20XX



Rite in the Rain

ALL-WEATHER
UNIVERSAL

Nº 373-MX

CHEMICAL SAMPLING FIELD NOTES
BOOK No.: 1

START DATE: 5 AUGUST 2020

END DATE:

QEP(s) : Brian Mullen

R&M CONSULTANTS, INC.



Name R&M Consultants, Inc.

Address 9101 Vanguard Drive
Anchorage, Alaska
99507

Phone (907) 522-1707

Email bmullen@rmconsult.com

Projects BET Main Runway Reconstruction



RiteintheRain.com

BET MRR
2690.02

8/5-6/2020
B. Mullen

21:45 Meet Denali Drilling at FAA tower. Move equipment to South Air Cargo Apron gate.

23:45 On-site RM20-08 (BH-H). Safety meeting

Brian Mullen	R&M	QEP/Field Chemist/SSHO
Alex Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Ben Celado	Denali	Drill Helper
Matt Campbell	FAA Contractor	AOA Escort

WX: Rain Showers, 50s F, 5 mph wind

0025 *SAMPLE*

0.5' BET20-TH08-01

to 1.0' BET20-TH08-03

BMM/AMB

Primary

Duplicate - time = 0035

PFAS (EPA 537.1 Mod.) [Soil], 1 each 4oz HDPE

0150 *SAMPLE*

15.0' BET20-TH08-02

to 17.0' BMM/AMB

~~BMM/AMB~~ PFAS (EPA 537.1 Mod.) [Soil]

Primary

1x 4oz HDPE

0310 Complete test boring RM20-08

0330 On-site RM20-11 (BH-K)

0340 *SAMPLE*

0.0' BET20-TH11-01 Primary

to 0.3' BMM/AMB

PFAS (EPA 537.1 Mod.) [Soil]

1 x 4oz HDPE

0405 *SAMPLE*

5.0' BET20-TH11-02 Primary

to 7.0' BMM/AMB

PFAS (EPA 537.1 Mod.) [Soil]

1 x 4oz HDPE

0440 Complete test boring RM20-11 (BH-K).

BET MRR
2690-02

8/6/2020
B. Mullen

0500 Note: All chemical samples from RM20-08 and RM20-08 (BET20-08 TH-08-01, 02, 03 and BET20-11-01, 02) immediately placed in prechilled cooler after sampling. Soil removed from augers was collected on tarps and returned to drum for excess soil. Excess cuttings from RM20-08 also placed in drum (approx. 3 ft³). No excess cuttings were generated at RM20-11. Drum ID is as follows:

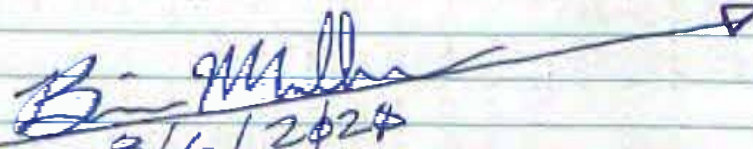
BET MRR - DRUM 1
8/6/20

~~2690~~ ~~BET~~ ~~DRUM 1~~
Drum ID: ~~cutting~~ ~~cut~~ ~~cuttings~~ GENERATED 8/6/2020
WASTE TYPE: SUSPECTED HAZARDOUS WASTE (PFAS)
SITE/PROJECT NAME: BETHEL AIRPORT
DATE STARTED: 8/6/2020
GENERATOR POC: AARON HUGHES
GENERATOR PHONE #: 907-269-0523
R&M POC: MARC FRUITIGER
R&M PHONE #: 907-646-9661

Soil cuttings were segregated into lifts of 10-foot intervals during advancement of RM20-08 (BH-H), RM20-11 was 10' Auger depth and lift segregation was therefor not performed. Test borings were backfilled with cuttings from completion depth to 2 ft. below ground surface. Pea gravel was used to backfill test boring from 2' to ground surface where gravel surfaced (RM20-11) and to bottom of asphalt (RM20-08) where cold patch was used to replace asphalt.

Decon water from cleaning split-spoons was emptied into the open auger hole at each respective test boring (RM20-08 and RM20-11).

0545 All crew members are off-site.


8/6/2020

BET MRR
2690.02

8/6-7/2020
B. Mullen

~~2145~~ Meet Denali Drilling at FAA Tower. Project discussions with team.

2200 Travel to parallel runway staging area.
Safety meeting:

Brian Mullen	R&M	QEP/Fieldchem/SSHA
Alex Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Ben Celado	Denali	Drill Helper
Matt Campbell	FAA Contractor	AOA Escort

Wx: Mostly cloudy, 50's F, 5 mph wind.

2230 Setup on test boring RM20-27 (BH-AA).
Begin drilling. Augers clean of soil

2255 *SAMPLE*

0.1' BET 20-TH27-01 Primary
to, BET 20-TH27-03 Duplicate → Time = 2315
0.5' BMM/AMB

PFAS (EPA 537.1 Mod.) [Soil] 1 each 4oz HDPE

Placed in pre-chilled cooler.

Samples collected at surface adjacent first SPT test.

2330 *SAMPLE*

10.0' BET 20-TH27-02
to, BMM/AMB 1x4oz HDPE

12.0' PFAS (EPA 537.1 Mod.) [Soil]

Placed in pre-chilled cooler

0030 Test Boring RM20-27 (BH-AA) completed. Decon water from cleaning split spoons was emptied into auger hole. Test boring backfilled with cuttings, no excess cuttings.

0115 Setup on RM20-10 (BH-J). Begin drilling.

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2690.02

8/7/2020
B. Mullen

Ø145 *SAMPLE*

BET2Ø-TH1Ø-Ø1
BMM/AMB
1.0' to 1.5'
PFAS (EPA 537.1 Mod.) [Soil]
Placed in pre-chilled cooler
Collected from split-spoon

1 x 4oz HDPE

Ø25Ø *SAMPLE*

15.0' to 17.0' (BMM/AMB)
BET2Ø-TH1Ø-Ø2
BMM/AMB
PFAS (EPA 537.1 mod.) [Soil]
Placed in pre-chilled cooler

1 x 4oz HDPE

Ø32Ø Test Boring RM2Ø-1Ø (BH-J) completed. Decon Water from split-spoon sampler cleaning was emptied into auger hole. Test boring was backfilled with cuttings. Excess cuttings, including some cold patch asphalt and recycled asphalt base course (approx 4 cubic feet) was placed in drum (see page 2 for drum I.D.).

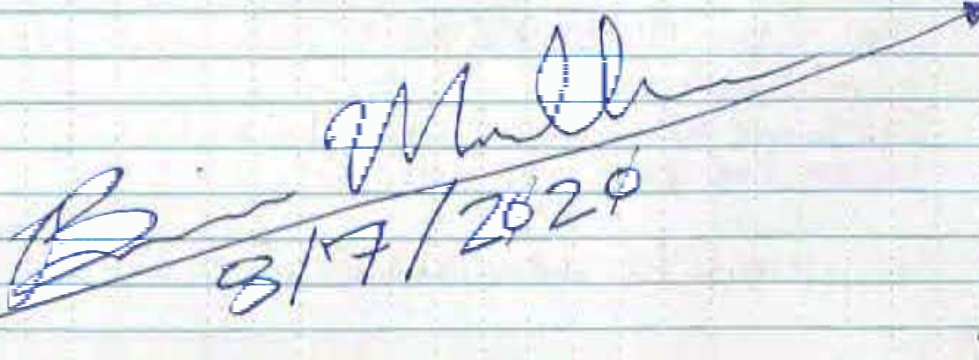
Ø325 Crew notified of unscheduled medevac landing.

Ø415 Crew completes backfill and asphalt patch.

Ø45Ø Crew departs AOA.

Ø455 Unscheduled medevac plane lands at BET.

Ø53Ø All crew members are off-site.


8/7/2020

BET MRR
2690.02

8/7/2025
B. Mullen

2130 Meet Denali Drillers at FAA Tower staging area. Project discussions with team.

2145 FAA contractor arrives. Safety meeting:

Brian Mullen	R&M	QEP/Field Chem/SSHO
Alex Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Ben Celado	Denali	Drill Helper
John Thatcher	FAA Contractor	AOA ESCORT

Weather: Partly Cloudy, 50°F, 5 mph wind.

2200 Travel to Parallel Runway staging area. Medevac (lifemed) departs main runway.

2230 Setup on RM20-28 (BH-BB) Begin drilling

2305 *SAMPLE*

0.1' BET20-TH28-01 Primary
 to BET20-TH28-03 Duplicate → Time = 2320
 0.5' BMM/AMB
 PFAS (EPA 537.1 Mod.) [Soil] ! each 4oz HDPE
 Placed in pre-chilled cooler.
 Samples collected at surface adjacent test boring location.

2330 Everts Air cargo landing.

2345 *SAMPLE*

BET20-TH28-02 1 x 4oz HDPE
 20.0' BMM/AMB
 to 22.0' PFAS (EPA 537.1 Mod.) [Soil]
 Placed in pre-chilled cooler
 Note: Sample is from SPT, apparently right below groundwater surface

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8/8/2006
B. Mullen

Ø3Ø Complete test boring RM2Ø-28 (BH-BB).
Decon water from split- spoon sampler
was emptied into auger hole. Test boring
was backfilled with cuttings, no excess
cuttings.

Ø115 Setup on test boring RM 2Ø-16 (BH-P)

Ø2Ø5 *RINSATE BLANK* ~~BET2Ø-5Ø-RBØ1 (RM 8/8)~~ BET2Ø-WA-RBØ1
BMM/AMB 2 x 25Øml HDPE
8/8/2Ø2Ø
PFAS (EPA 537.1 Mod.) [water]
Placed in pre-chilled cooler

Ø2.1Ø Begin drilling

~~BM 8/8~~ *SAMPLE*
1.5' BET2Ø-TH16-Ø1 1 x 4Øz HDPE
BM.41/AMB
2.Ø' PFAS (EPA 537.1 Mod.) [Soil] Time = Ø215
1.9' Placed in pre-chilled cooler
2.9' Note: collected from SPT, soil immediately below
Cement-treated base course.

Ø255 *SAMPLE*
1Ø.Ø' BET2Ø-TH16-Ø2 1 x 4Øz HDPE
BMM/AMB
to 12.Ø' PFAS (EPA 537.1 Mod.) [Soil]
Placed in pre-chilled cooler

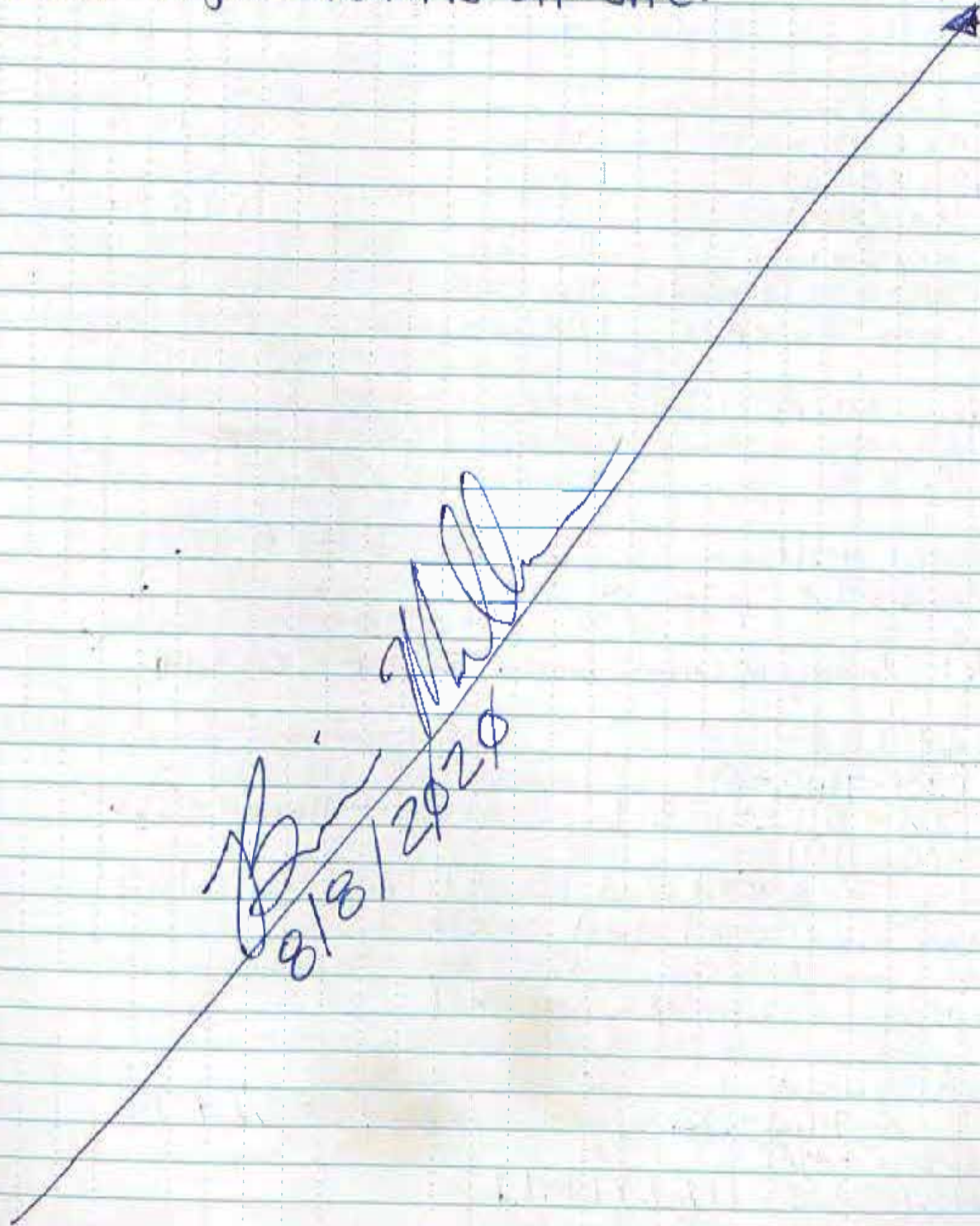
Ø32Ø Complete test boring RM2Ø-16 (BH-P). Decon
water from split-spoon cleaning was emptied
into auger hole. Test boring was backfilled
with cuttings. to 2' BGS, Gravel 2' to Ø.5',
Asphalt Coldpatch. Ø.5' to Ø.Ø. Excess
cuttings (2 cubic feet) added to drum
(see page 2. for drum I.D.).

BET MRR
2690.02

8/8/2020
B. Mullen

Ø35Ø Move drill rig to parallel runway / TW-0 staging area. Move lighted X's off runway to staging areas.

Ø415 Project team is off-site.



BET MRR
2690.02

8/8-9/2025
B. Mullen

2045 B. Mullen hosts Kickoff and safety meeting with Abatech FWD contractor at Traffic Control tower staging area.

2145 Drillers, R&M, and Abatech meet at Control tower for Safety Meeting:

PM 8/8

Brian Mullen	R&M	QEP/Field Chem./SSHO
Alex Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Ben Celado	Denali	Drill Helper
Gary Sanati	JILS FWD	FWD Technician
Aelizondo Elizondo	JILS FWD	FWD Technician
John Thatcher	FAA Contractor	AOA Escort

2210 Crews enter AOA. Setup lighted X's, assist FWD crew with stationing. Drillers move drill rig parallel with test boring RM20-12 (BH-L)

2245 Begin drilling test boring RM20-12 (BH-L)
Augers are clean of soil.

Wx: Cloudy w/ rain showers, 50's F, calm.

0020 *SAMPLE*

1.5' BET20-TH12-01 Primary
to 2.0' BET20-TH12-03 Duplicate → Time = 0035

BMM/AMB
PFAS (EPA 537.1 Mod.) [soil] 1 each 4oz HDPE
Placed in pre-chilled cooler

Note: sampled from split-spoon - bottom of base course and underlying soil.

0130 *SAMPLE*

BET20-TH12-02 1x4oz HDPE

10.0' BMM/AMB
to 12.0' PFAS (EPA 537.1 Mod.) [soil]
Placed in pre-chilled cooler

Note: sample is within ~3' of groundwater interface, ~~started~~ wet, BM 8/9

BET MRR
2690-02

8/9/2022
B. Mullen

~~BMM/AMB~~

~~0200~~ 0200 Complete test boring RM20-12 (BH-L)
Decon water from cleaning split-spoons
was poured in auger hole. Test boring was
backfilled with cuttings to 2' BGS, lifts in
same order as drilled in 10' intervals, Gravel
2' to 0.5' BGS, Asphalt cold patch 0.5' to 0.0'.
Excess cuttings (Approx. 3 cubic feet added to
drum (See pg. 2 for drum I.D.)).

0220 Begin drilling test boring RM20-13 (BH-M).

0235 *SAMPLE*

BET20-TH13-01

1 x 4oz HDPE

0.1'
to
0.5'

BMM/AMB

PFAS (EPA 537.1 Mod.) [Soil]

Placed in pre-chilled cooler

Sampled from surface adjacent test boring

0305 *SAMPLE*

BET20-TH13-02

1 x 4oz HDPE

15.0'
to

BMM/AMB

PFAS (EPA 537.1 Mod.) [Soil]

17.0'

Placed in pre-chilled cooler

0400 Complete test boring RM20-13 (BH-M).

Decon water from cleaning split-spoons
was poured down auger hole. Test boring
was backfilled w/ cuttings, Placed in 10'
lifts in same order removed from hole to
2' BGS, Gravel 2' BGS to 0' BGS. No excess
cuttings.

Drillers go to unload soil drum (see
page 2 for description) at parallel runway-
Taxiway C staging area. Drum is nearly
full.

BMM/AMB proceed to RM20-09 (BH
FR-T) to do DCP and upper env. sample. BMM/AMB

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8/9/2020
B. Mullen

Ø41Ø * SAMPLE *
Ø.1 - BET2Ø-THØ9-Ø1 1x40z HDPE
to BMM/AMB
Ø.5 PFAS (EPA 537.1 Mod.) [soil]
Sampled from surface prior to test boring
Placed in pre-chilled cooler

Ø42Ø Perform Dynamic Cone Penetrometer test at R426-ØØ.

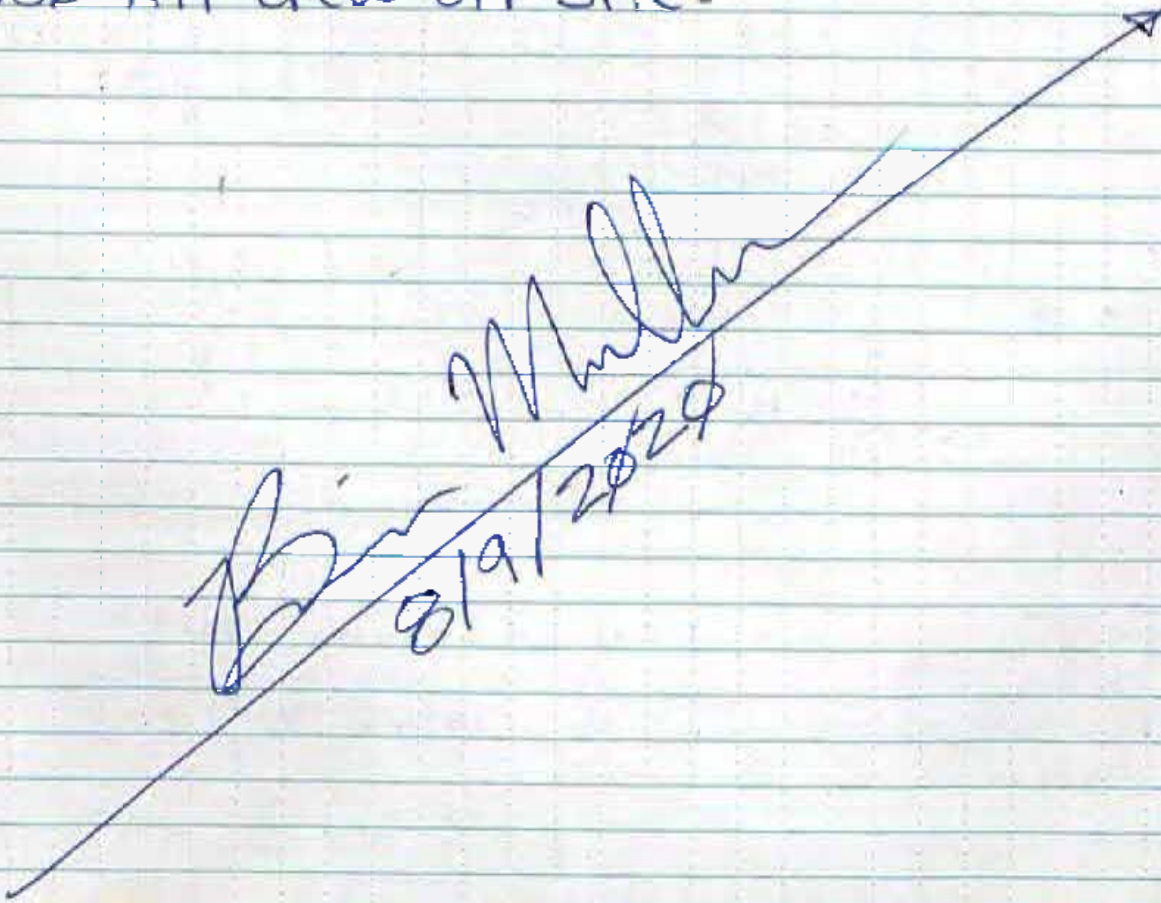
Ø43Ø Deactivate lighted XS and stage in relative staging areas

Ø455 Escort FWD crew out of AOA.

Ø500 Denair is working on drill rig.

Ø52Ø All crew is off AOA, reopen runway.

Ø53Ø All crew off site.


B. Mullen
8/9/2020

BET MRR

8/9-10/2020
B. Mullen

2690.02

~~BM 8/9~~

2130 Denali/Abatech arrive to Traffic Control Tower staging area. R&M host safety/coordination meeting:

	Brian Mullen	R&M	GEP/Field Chem/SSHO
	Alex Brown	R&M	Geotech
	Matt Cross	Denali	Lead Driller
	Ben Celado	Denali	Drill Helper
	→ Gary Sanati	JILS FWD	FWD Technician
Abatech Contractor	→ Aelizondo Elizondo	JILS FWD	FWD Technician
	John Thatcher	FAA Contractor	AOA Escort

2205 Project team enters AOA. Setup lighted X's, drillers perform maintenance on drill rig, Abatech tests/calibrates FWD.

2230 Begin drilling RM20-26 (BH-2). Abatech begins FWD main runway outer line east.

Drum from previous days is full. New drum I.D.
~~DRUM~~ (BM 8/9)

DRUM I.D.: BET MRR-DRUM 2
 WASTE TYPE: SUSPECTED HAZARDOUS WASTE (PFAS)
 SITE/PROJECT NAME: BETHEL AIRPORT
 DATE STARTED: 08/10/2020
 GENERATOR POC: AARON HUGHES
 GENERATOR PHONE #: 907-269-0523
 R&M POC: MARC FRITIGER
 R&M PHONE #: 907-646-9661

0005 *SAMPLE*

BET20-TH26-01 Primary
 2.0' BET20-TH26-03 Duplicate → Time = 0020
 to BMM/AMB
 4.0' PFAS (EPA 537.1 Mod.) [Soil] | each 4oz HDPE
 Placed in pre-chilled cooler

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8/10/2020
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(RM 2/10)

~~50100~~ *SAMPLE*

25.0' BET20-TH26-02

BMM/AMB

1x 4oz HDPE

to
27.0'

PFAS (EPA 537.1 Mod.) [Soil]

Placed in pre-chilled cooler

- Sample appears to be from vicinity of groundwater interface.

0200 Complete RM20-26 (BH-Z). Decon water from cleaning split-spoon samplers was poured down auger hole. Test boring was back filled with cuttings, placed in lifts returned to hole in same order as removed. Backfill was cuttings 30' to 2' BGS, Gravel 2' BGS to 0.5' BGS, asphalt cold patch 0.5' to 0.0'. Excess cuttings (approximately 4x5 gal buckets) was placed in drum (see page 11 for drum I.O.).

0250 Begin drilling test boring RM20-07 (BH-G).

0305 *SAMPLE*

BET20-TH07-01

0.4' BMM/AMB

1x 4oz HDPE

to
0.7' PFAS (EPA 537.1 Mod.) [Soil]

Placed in prechilled cooler.

- Sample of base course after asphalt removed adjacent SPT

0340 *SAMPLE*

10.0' BET20-TH07-02

1x 4oz HDPE

to
12.0' BMM/AMB

PFAS (EPA 537.1 Mod.) [Soil]

Placed in pre-chilled cooler.

0415 Complete RM20-07 (BH-G). Decon water from cleaning split-spoons was emptied down auger hole. Test boring was backfilled with cuttings from 10' to 2' BGS, Gravel (next page)

BET MRR
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8/10/2020
B. Mullen

from 2' to 0.5', coldpatch asphalt 0.5' to 0.0'.
Excess cuttings (approximately 2 cubic feet) placed
in drum (see page 11 for drum I.D.).

0420 Escort Abatech and Denali off A.O.A.
Deactivate lighted X's and return them
to relative staging areas.

0450 All crew is off-site.

B. Mullen
8/10/2020

BET MRR
2690.02

8/10-11/2020
B. Mullen

2130 Abatech, Denali, R&M Meet at Traffic Control Tower staging area. Project discussions, safety meeting:

Brian Mullen	R&M	QEP/Field Chem/SSHO
Alex Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Ben Celado	Denali	Drill Helper
Gary Sanati	JILS FWD	FWD Technician
Aelizondo Elizondo	JILS FWD	FWD Technician
John Thatcher	FAA Contractor	AOA Escort

2220 Begin drilling RM20-09. Abatech on main runway.

2235 *SAMPLE*

2.5' BET20-TH09-02 Primary
to, BET20-TH09-03 Duplicate → Time = 2245
4.5' BMM/AMB each. 4oz HDPE
PFAS (EPA 537.1 Mod.) [soil], Placed in pre-chilled cooler

2310 RM20-09 (BH-I) completed. Decon water from cleaning split spoons poured down auger hole. backfilled w/ cuttings 10' to 2' BGS, Gravel 2' to 0' BGS. Excess cuttings (approx 5 gal) placed in drum (see page 11 for drum I.D.).

2320 Setup lighted XS, Lifemed medevac has departed.

2350 Begin drilling RM20-14 (BH-9) ^{N/BMB/10}

2350 Abatech departs project site.

0030 *SAMPLE*

1.3' BET20-TH14-01
to, BMM/AMB 1 x 4oz HDPE
3.3' PFAS (EPA 537.1 Mod.) [soil]
Placed in pre-chilled cooler
Sampled from split-spoon, soil immediately underlying CTB.

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8/11/2020
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Ø140 *SAMPLE*

BET20-TH14-Ø2

1 x 40z HDPE

20.0 BMM/AMB

to 22.0 PFAS (EPA 537.1 Mod.) [soil]

Placed in pre-chilled cooler

Sample is within groundwater, groundwater surface called 13' BGS.

Ø315 Test boring RM20-14 complete. Decon water from cleaning split spoons was emptied into auger hole. Test boring backfilled with cuttings 30' to 2' BGS, Gravel 2' to 0.5' BGS, cold patch asphalt 0.5' to 0.0'. Excess cuttings (approx 20 gallons) placed in drum (see page 11 for drum f.d.).

Ø320 Begin drilling test boring RM20-15 (BH-0).

Ø325 *SAMPLE*

BET20-TH15-Ø1

1 x 40z HDPE

0.1' BMM/AMB

to 0.5' PFAS (EPA 537.1 Mod.) [soil]

Placed in pre-chilled cooler

Sample surface adjacent test boring

Ø355 *SAMPLE*

7.5' BET20-TH15-Ø2

to 9.5' BMM/AMB

1 x 40z HDPE

PFAS (EPA 537.1 Mod.) [soil]

Placed in pre-chilled cooler

Ø415 Complete test boring RM20-15 (BH-0).

Ø435 Deactivate lighted X's. Drillers unload drums.

Ø415 Decon water from cleaning split-spoons was emptied into auger hole, backfilled with cuttings 0.0' to 2.0', Gravel 2.0' to 0.0'. Excess cuttings were placed in drum → next page

BET MRR
2690.02

8/11/2020
B. Mullen

(see page 11 for drum I.D.) approximately 2 cubic feet.
Drum is now full.

0500 All crew is off-site.

1710 Finished cooler preparation.

① PFAS Cooler "SOPRANO", All Chemical Samples
sampled 08/06/20 - 0500 8/11/2020

B. Mullen
8/11/2020

BET MRR
2690.02

8/11-2020
B. Mullen

2130 R&M and Denali meet at Tower, progress meeting,
project discussions, safety meeting:

Brian Mullen	R&M	QEP/Field Chem./SSHO
Alex Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Ben Celado	Denali	Drill Helper
Tyler Wahnschaffe	FAA Contractor	AOA Escort

BM 8/11

2215 Crew enters AOA and travel to Tw-C staging
area. Standby for Yukon Air 737 arrival.

2310 Begin drilling RM20-30 (BH-DD). Yukon
Air departs

2315 *RINSATE BLANK*

BET20-WA-RB02

BMM/AMB

08/11/2020

PFAS (EPA 537.1 Mod.) [water]

Placed in pre-chilled cooler

2x250 mL HDPE

2350 *SAMPLE*

0.1" BET20-TH30-01 Primary

to 0.5" BET20-TH30-03 Duplicate → Time = 2355

BMM/AMB

leach 4oz HDPE

PFAS (EPA 537.1 Mod.) [Soil], Placed in chilled cooler

0035 *SAMPLE*

BET20-TH30-02

20" BMM/AMB

to 08/12/2020

22" PFAS (EPA 537.1 Mod.) [Soil]

Placed in pre-chilled cooler

Sample is wet and near groundwater interface.

1x4oz HDPE

0200 Test boring RM20-30 completed. Decon water from cleaning split-
spoons was emptied into auger hole. Test boring backfilled (next page)

BET MRR
2690.02

8/12/2020
B. Mullen

(From prev.) with cuttings, placed in lifts in same order removed.
Gravel 2' Bgs to 0' BGS. Excess cuttings (approx. 40 gal) placed in drum (see below for drum I.D.). Also, 5 gal from prev. hole.

- DRUM I.D.: BET MRR = DRUM 3
- WASTE TYPE: SUSPECTED HAZARDOUS WASTE (PFAS)
- SITE/PROJECT NAME: BETHEL AIRPORT
- DATE STARTED: 08/12/2020
- GENERATOR POC: AARON HUGHES
- GENERATOR PHONE #: 907-269-0523
- R&M POC: MARC FRUTIGER
- R&M PHONE #: 907-646-9661

(BMB/12)
0245 ~~B~~ Setup lighted X's. Begin drilling RM20-21 (BH4)

0330 *SAMPLE*

BET20-TH21-01

0.9' BMM/AMB

08/12/2020

1 x 4oz HDPE

1.0' PFAS (EPA 537.1 Mod.) [Soil]

2.6' Placed in pre-chilled cooler
Sampled from split-spoon

0415 *SAMPLE*

BET20-TH21-02

1.0' BMM/AMB

1 x 4oz HDPE

to 1.1' 08/12/2020

1.1' PFAS (EPA 537.1 Mod.) [Soil]

Placed in pre-chilled cooler

0440 Complete RM20-21 (BH-2). Decon water from cleaning split-spoons emptied into auger hole. Test being backfilled w/ cuttings, placed in lifts in same order removed. Excess cuttings (approx. 5 gallons) placed in new drum (see page 19 for drum I.D.). Deactivate lighted X's.

0530 All crew is off-site.

B. Mullen
8/12/20

BET MRR
2690.02

8/12/2020
B. Mullen

BM 8/12

1455 Meet with Tim Bee (DOT&PF Assistant Airport Manager) to discuss long-term storage location for drums generated as part of this project. He is looking into it and will determine location within a couple days.

BM 8/12

1555 Repack ice in cooler "SOPRANO" (contents is all samples from start of project 025 8/6/20 thru 0355 8/11/20) Intended shipping on 8/11/20 was delayed due to road closure on way to cargo terminal yesterday evening. Relinquish chain of custody to my self, Repack ice, Reseal with date/time of "08/12/2020 1555".

"SOPRANO" All PFAS samples 025 8/6/20 thru 0355 8/11/20 - Via Alaska air cargo to Chris Fell with R&M Consultants in Anchorage. Chris will repack ice and then ship to Sacramento TA.

1630 Cooler "SOPRANO" is shipped via Alaska air cargo, Air bill No. 027-38472302. Notify Chris Fell of shipment to him.

1700 New drum identification:

DRUM I.D.: BET MRR - DRUM 4
WASTE TYPE: SUSPECTED HAZARDOUS WASTE (PFAS)
SITE/PROJECT NAME: BETHEL AIRPORT
DATE STARTED: 08/12/2020
GENERATOR POC: AARON HUGHES
GENERATOR PHONE#: 907-269-0523
R&M POC: MARC FRUTIGER
R&M PHONE#: 907-646-9661

BET MRR
ZG90-02

8/12 / 2020
B. Mullen

BH 8/12

9:30 R&M and Denali meet at Tower staging area.
21:30 Project discussions and safety meeting

Brian Mullen	R&M	QEP/Field Chem./SSHd
Alex Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Ben Celado	Denali	Drill Helper
Gary Sanatt	Matt Campbell	FAA Contractor ADA ESCORT

BH 8/12

AM 8/12

10:00 Crew travels to staging area, standby for
2200 Yukon 737 arrival.

BH 8/12

10:2230 Begin drilling RM20-17 (BH-Q).

2255 *SAMPLE*

0.1' BET20-TH17-01 Primary
to 0.5' BET20-TH17-03 Duplicate → Time = 2305
BMM/AMB
08/12/2020 1x each 4oz HDPE

Placed in pre-chilled cooler, PFAS (EPA 537.1 Mod.) [soil]
Sampled from surface adjacent test boring

2300 *SAMPLE*

2.5' BET20-TH17-02
to 4.5' BMM/AMB 1x 4oz HDPE
08/12/2020

PFAS (EPA 537.1 Mod.) [soil]

Placed in pre-chilled cooler

2305 Standby for Yukon 737 departure

2320 Yukon departs, continue drilling.

[STEP]

2350 Complete Test Boring RM20-17 (BH-Q).
Decon water from cleaning split-spoons was emptied
into auger hole. Back filled with cuttings
10' to 2' BGS. Excess cuttings (approx. 5 gallons) was
placed in drum (see pg. 19 for drum I.D.).

BET MRR
2690-02

8/13/2020
B. Mullen

0000 Setup lighted X's.

BM

1230 Begin drilling RM20-19 (BH-S).

0030

0140 *SAMPLE*

BET20-TH19-01

1.5' BMM/AMB

to

08/13/2020

1x4oz HDPE

3.5'

Placed in pre-chilled cooler
PFAS (EPA 537.1 Mod.) [Soil]
Sampled from SPT.

0220 *SAMPLE*

BET20-TH19-02

15.0'

BMM/AMB

to

PFAS (EPA 537.1 Mod.) [Soil]

1x4oz HDPE

17.0'

08-13-2020

Placed in chilled cooler
Sampled from SPT

0300 Complete RM20-19 (BH-S). Decon water from cleaning split spoons was poured in auger hole. Backfilled with cuttings 10' to 2', Gravel 2' to 0.5', cold patch asphalt 0.5' to 0.0'. Excess cuttings, approx. 15 gal, was placed in drum (see pg. 19 for drum I.D.).

0315 Begin drilling RM20-20 (BH-T).

0320 *SAMPLE*

BET20-TH20-01

0.1'

BMM/AMB

1x4oz HDPE

to

PFAS (EPA 537.1 mod.) [Soil]

0.5'

08-13-2020

Placed in pre-chilled cooler.
sampled ground adjacent SPT.

BET MRR
2690.02

8/13/2020
R. Mullen

0350 *SAMPLE*

BET20-TH20-02

7.5

BMM/AMB

1x4oz HAPE

to
9.5

PFAS (EPA 537.1 mod.) [Soil]

08/13/2020

Placed in pre-chilled cooler

0415 Test Boring RM20-20 completed. Decon water from cleaning split-spoons was emptied into auger hole. Backfilled with cuttings 10' to 2' BGS, Gravel 2' to 0' BGS. Excess cuttings (approx. 5gal) was placed in drum (drum I.D. on pg. 19).

0430 Deactivate lighted X's and return to relative staging areas.

0445 Crew departs AOA. Everts Cargo C-130 arrival.

0500 All crew is off-site.

R. Mullen
08/13/2020

BET MRR
2690.02

8/13/14
E. Mullen

2130 R&M and Denali meet at FAA Tower staging area.
Project discussions, safety meeting.

Brian Mullen	R&M	QEP/Field Chem./SSHO
Alix Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Bin Celado	Denali	Drill Helper
Matt Campbell	FAA Escort	AOA Escort

2200 Crew enters AOA. Standby for Everts arrival at Tw-D staging area.

2230 Begin drilling RM20-22 (BH-V).

2250 *SAMPLE*

0.1' BET20-TH22-01 Primary
to 0.5' BET20-TH22-03 Duplicate → Time = 2305
BMM/AMB leach 4oz HDPE
PFAS (EPA 537.1 Mod.) [Soil]
8-13-2020 Placed in pre-chilled cooler
Sample from surface adjacent SPT location

2315 Standby for Everts departure.

2325 Continue drilling, Setup lighted X's.

2353 *SAMPLE*

20.0' BET20-TH22-02 1 x 4oz HDPE
to BMM/AMB
22.0' PFAS (EPA 537.1 Mod.) [Soil]
8-13-2020
Sample from SPT, Place in pre-chilled cooler.

0020 Complete test boring RM20-22 (BH-V). Decon water poured in auger hole. Cuttings backfill 20' to 20', Placed in lifts in same order removed from hole. Gravel 2' to 0'. Excess cuttings (approx. 12 gallons) placed in drum (see pg. 19 for drum I.D.).

LC 1 MKK
2690.02

8/14/00
B. Mullen

030 Begin drilling RM20-25 (BH-Y).

0120 *RINSATE BLANK*

BET20-WA-RB03

BMM/AMB

2 x 250ml HDPE

08/14/2020, Place in Pre-chilled cooler
PFAS (EPA 537.1 mod.) [Water]

0157

SAMPLE

BET20-TH25-02

BMM/AMB

1 x 4oz HDPE

15.0'

to

PFAS (EPA 537.1 Mod.) [Soil]

17.0'

08-14-2020

Sample from SPT, Place in pre-chilled cooler

0130 *SAMPLE*

BH 8/14

1.1'

to

3.1'

BET20-TH25-01

BMM/AMB

1 x 4oz HDPE

PFAS (EPA 537.1 Mod.) [Soil]

Place in Pre-chilled cooler

BM
8/14

0240 Test boring RM20-25 completed. Decon water from split-spoon cleaning was emptied into auger hole. Test boring backfilled with cuttings, placed in lifts in same order removed from hole. Excess cuttings (approx. 20 gallons) was placed in drum (see page 19 for drum I.D.). Drum is full now.

0245 Begin drilling RM20-24 (BH-X),
Cuttings to 2' BGS, Gravel 2'-0.5', cold patch 0.5'-0.0'

0320 *SAMPLE*

BET20-TH24-01

BMM/AMB

PFAS (EPA 537.1 Mod.) [Soil]

1 x 4oz HDPE

0.6'

to

2.6'

Sample from SPT

8/14/2020

Place in Pre-chilled cooler

BET MRR
2690-02

8/14/2020
B. Mullen

RM 8/14

~~0335~~ * SAMPLE *

0340 BET 20-TH24-02

5.0'

BMM/AMB

1 x 4oz HDPE

to

PEAS (EPA 537.1 Mod.) [soil]

7.0'

08/14/2020

Placed in pre-chilled cooler

0425 Complete Test Boring RM 20-24 (BH-X). Decon water from cleaning spilt-spoons was emptied into auger hole. Backfilled with cuttings placed in lifts same order removed. Excess cuttings (approx. 4 gallons) placed in drum (see below for drum I.D.). Cuttings 10' to 2' BGS, Gravel 2' to 0.5' BGS, Cold patch 0.5' to 0.0' BGS.

- DRUM ID: BET MRR - DRUM 5
- WASTE TYPE: SUSPECTED HAZARDOUS WASTE (PFAS)
- SITE/PROJECT NAME: BETHEL AIRPORT
- DATE STARTED: 08/14/2020
- GENERATOR POC: AARON HUGHES
- GENERATOR PHONE #: ~~907-646-1414~~ LAB 8-14 907-269-0523
- R & M POC: MARC FRUTIGER
- R & M PHONE #: 907-646-9661

0455 Deactivate lighted X's, all crew depart AOA.

0500 All crew off-site.

B. Mullen
08/14/2020

BET MRR
2690.02

8/14-15/2020
B. Mullen

2130 R&M and Denali meet at FAA Tower Staging area.
Project discussions and safety meeting.

Brian Mullen	R&M	QEP/Field Chemist/SSH0
Alex Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Ben Gelado	Denali	Drill Helper
John Thatcher	FAA Contractor	AOA Escort

WX: Clear, 50°F, 15-20 mph N wind.

2205 (BM 8/14)

~~2005~~ Crew enters AOA, Travel to TW-D Stage area.
Setup lighted X's.

2230 (BM 8/14)

~~2030~~ Drillers perform maintenance on drill rig.

2250 (BM 8/14)

~~2050~~ Begin drilling RM20-23 (BH-W).

2355 * SAMPLE *

1.5' BET20-TH23-01 Primary
to BET20-TH23-03 Duplicate → Time = 0005 @ 2020
BMM/AMB 1 each 4oz HDPE
3.5' PFAS (EPA 537.1 mod.) [Soil]
Placed in pre-chilled cooler
Sampled from SPT.

0010 * SAMPLE *

4.0' BET20-TH23-02
to BMM/AMB 1 x 4oz HDPE
6.0' PFAS (EPA 537.1 mod.) [Soil]
Placed in pre-chilled cooler
08/15/2020

0045 Complete RM20-23. Decon water from cleaning split-specs was emptied into auger hole. Backfilled with cuttings 1' BGS to 2' BGS, Gravel 2' to 0.8' BGS, Cold patch asphalt 0.8' to 0.0' BGS. Cuttings placed in lifts in same order as removed. Excess cuttings placed in drum (see pg. 25 for drum I.D.).

BET MRR
2690-02

8/15/2020
B. Mullen

0100 Begin drilling RM20-18 (BH-R).

0150

SAMPLE

BET20-TH18-01

1.3'

BMM/AMB

1 x 4oz HDPE

to

PFAS (EPA 537.1 mod.) [soil]

3.3'

08/15/2020

Sample from split-spoon

Placed in pre-chilled cooler

0205

SAMPLE

BET20-TH18-02

4.0'

BMM/AMB

1 x 4oz HDPE

to

PFAS (EPA 537.1 mod.) [soil]

6.0'

08/15/2020

Placed in pre chilled cooler

0245

Complete Test Boring RM20-18. Decan
Water from cleaning split-spoons was
emptied into auger hole. Backfilled with
cuttings placed in lifts in same order removed,
1.0' to 2.0', Backfill is gravel 2.0' to 0.5', cold
patch 0.5' to 0.0'. Excess cuttings (approx. 6
gallons) placed in drum (see pg. 25 for
drum I.D.).

0300

Return to RM20-10 (BH-J) to repair temporary
patch from medevac evacuation on 8/07/2020
Auger to 2.0' B&S. Backfill with gravel 2.0' to
0.5', cold patch asphalt 0.5' to 0.0'. Excess
cuttings (approx 5 gallons) placed in drum
(see pg. 25 for drum I.D.).

0340

Complete RM20-10 backfill. Deactivate
lighted X's.

0410

All crew depart AOA and off-site.

BET MRR
2690.02

8/15-16/2020
B. Mullen

2130 R&M and Denali meet at FAA Tower staging area for project discussions and safety meeting:

Brian Mullen	R&M	QEP/Field Chem/SSHO
Alex Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Brian Celardo	Denali	Drill Helper
John Thatcher	FAA Contractor	AOA Escort

2200 Crew enters AOA, drill rig to RM20-01 (BH-A)
WX: Clear, 50's °F, 5-10 mph wind

2220 Begin drilling RM20-01 (BH-A).

2300 *SAMPLE*

0.9' BET20-TH01-01
BMM/AMB 1 x 4oz HDPE
to 2.3' PFAS (EPA 537.1 mod.) [Soil]
08/15/2020
Placed in pre-chilled cooler
Sampled from SPT.

2320 *SAMPLE* BM 08/15
BET20-TH02-02 Primary
2.5' BET20-TH01-03 Duplicate → Time = 2330
to 4.5' PFAS (EPA 537.1 mod.) [Soil]
08/15/2020 1 each 4oz HDPE
Placed in prechilled cooler

0005 Complete test boring RM20-01 (BH-A). Decon water from cleaning split-spoons was emptied into auger hole. Back filled with cuttings 10' to 2', Gravel 2' to 0.5', asphalt cold patch 0.5 to 0.0. Excess cuttings (approx. 5 gallon bucket) placed in drum 5 (see pg. 25 for drum I.D.).

0010 Begin drilling RM20-02 (BH-B).

BET MRR
2690.02

8/16/2020
B. Mullen

ØØ15 *RINSATE BLANK*

BET20-WA-RBØ4

BMM/AMB

2 x 250ml HDPE

PFAS (EPA 537.1 mod.) [Water]

Ø8-16-2020

Placed in pre-chilled cooler

ØØ25 *SAMPLE*

BET20-THØ2-Ø1

BMM/AMB

1 x 40z HDPE

PFAS (EPA 537.1 mod.) [Soil]

Ø8/16/2020

Placed in pre-chilled cooler

sample from split spoon.

Ø13Ø *SAMPLE*

BET20-THØ2-Ø2

1 x 40z HDPE

BMM/AMB

PFAS (EPA 537.1 mod.) [Soil]

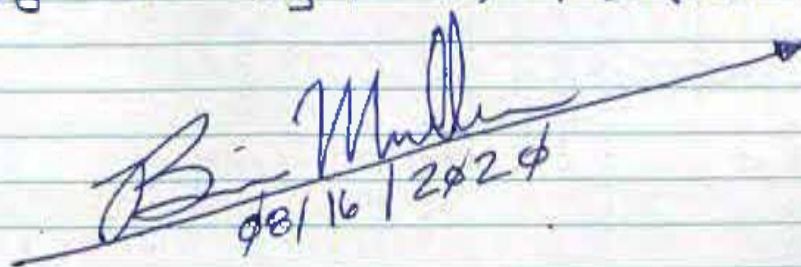
Ø8/16/2020

Placed in pre-chilled cooler

sample is from wet soil interval

Ø31Ø Complete test boring RM20-Ø2. Decon water from cleaning split-spoons was emptied into auger hole. Backfilled with cuttings, in lifts in same order removed from hole. Cuttings 3Ø' to 2' BGS, Gravel 2' to Ø.5' BGS, Cold patch asphalt Ø.5 to Ø.Ø' BGS. Excess cuttings (approx. 15 gallons) placed in drum 5. Drum 5 is now full (see pg. 25 for drum I.D.).

Ø32Ø Begin drilling RM20-Ø3 (BH-C).


Ø8/16/2020

BET MRR
2690.02

8/16/2020
B. Mullen

- DRUM I.D.: BET MRR - DRUM 6
- WASTE TYPE: SUSPECTED HAZARDOUS WASTE (PFAS)
- SITE PROJECT NAME: BETHEL AIRPORT
- DATE STARTED: 08/16/2020
- GENERATOR POC: AARON HUGHES
- GENERATOR PHONE #: 907-269-0523
- R&M POC: MARC FRUTIGER
- R&M PHONE #: 907-646-9661

0350 *SAMPLE*

0.4' BET20-TH03-01
to BMM/AMB 1 x 40z HDPE
7.4' PFAS (EPA 537.1 mod) [Soil]
08/16/2020
Placed in pre-chilled cooler
Sampled from split spoon

0415 *SAMPLE*

5.0' BET20-TH03-02
to BMM/AMB 1 x 40z HDPE
7.0' PFAS (EPA 537.1 mod) [Soil]
08/16/2020
Placed in pre-chilled cooler

0450 Complete RM20-03 (BH-C). Decon water from cleaning split-spoons emptied into auger hole. Backfilled with cuttings 10' to 2' BGS, Gravel 2' to 0.5' BGS, cold patch asphalt 0.5' to 0.0'. Excess cuttings (approx. 3 gallons) placed in drum 6 (see above for drum I.D.).

0500 Move drill rig to staging area TW-D.

0515 All crew off-site.

B. Mullen
08/16/2020

BET MRR
2090.02

8/16-17/2020
B. Mullen

BM 8/16

02130 R&M and Denali meet at FAA Tower Stage area.
Project discussions and Safety meeting:

Brian Mullen	R&M	QEP/Field Chem./SSHO
Alex Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Ben Celado	Denali	Drill helper
John Thatcher	FAA Contractor	AOA Escort

2210 Crew enters AOA, Travel to drill rig TW-D
staging area

Wx: 50's °F, Clear, 5 mph wind

2225 Begin drilling RM20-04 (BH-D).

2320 *SAMPLE*

1.3' BET20-TH04-01 Primary
to BET20-TH04-03 Duplicate → Time = 2330
BMM/AMB
3.3' PFAS (EPA 537.1 mod.) [Soil]
08-16-2020 1 each 4oz HDPE
Placed in pre-chilled cooler
Sampled from split-spoon

0005 *SAMPLE*

15.0' BET20-TH04-02
to 20.0' BMM/AMB 1 x 4oz HDPE
PFAS (EPA 537.1 mod.) [Soil]
08-17-2020, Placed in pre-chilled cooler

0010 Drillers drop 2' section of PVC pipe down auger
hole, pull augers and pipe to right hole, drill back
through PVC.

0015 Continue drilling.

0030 Complete test boring RM20-04 → next page

BET MRR
2690-02

8/17/2020
B. Mullen

Decon water from cleaning split-spoons was emptied into auger hole. Backfilled with cuttings placed in lifts in same order removed from hole. Cuttings 2' to 2', Gravel 2' to 0.5', 0.5' to 0.0 asphalt cold patch. Excess (approx. 5 gallons) in drum 6.

0140 Begin drilling RM20-06 (BH-F).

0215 *SAMPLE*

BET20-TH06-01

0.5' BMM/AMB

1 x 4oz HDPE

to , PFAS (EPA 537.1 mod.) [soil]

2.5' 08/17/2020

Placed in pre-chilled cooler
Sampled from split-spoon

0320 *SAMPLE*

BET20-TH06-02

20.0' BMM/AMB

1 x 4oz HDPE

to , PFAS (EPA 537.1 mod.) [soil]

22.0' 08/17/2020

Placed in pre-chilled cooler

0400 Complete test boring RM20-06 (BH-F).

Decon water from cleaning split-spoons emptied into auger hole. Backfilled with cuttings, placed in lifts in same order removed from hole.

Cuttings 2' to 2', Gravel 2' to 0.5', cold patch asphalt 0.5' to 0.0. Excess cuttings (approx. 8 gallons) placed in drum 6 (see pg. 30 for drum I.D.).

0415 Move drill rig to TW-D staging area.

0430 All crew departs site.

B. Mullen
08/17/2020

BET MRR
2690.02

08/17/2020
B. Mullen

1900 Prepare cooler "TENOR" for shipping. Cooler contains all samples dated between 2300 on 08/11/2020 through 0415 on 08/16/2020 except for BET 20-WA-RB04.

2050 Relinquish and seal cooler.

2130 R&M and Denali meet at FAA tower site, Project discussions and safety meeting:

WX: Clear, 50's °F, 5mph wind.

Brian Mullen	R&M	QEP/FIELD CHEM./SSH0
Alex Brown	R&M	Geotech
Matt Cross	Denali	Lead Driller
Ben Celado	Denali	Drill Helper
John Thatcher	FAA Contractor	AOA Escort

2200 Travel to TW-D staging area.

2230 Begin drilling RM20-05 (BH-E).

2255 *SAMPLE*

0.5' BET20-TH05-01 Primary
to BET20-TH05-03 Duplicate → Time = 2305
2.5' BMM/AMB leach 4oz HDPE
PFAS (EPA 537.1 mod.) [soil]
Placed in pre-chilled cooler.
Sampled from split-spoon.

2330 *SAMPLE*

BET20-TH05-02
7.5' BMM/AMB 1x 4oz HDPE
to PFAS (EPA 537.1 mod.) [soil]
9.5' 08/17/2020
Placed in pre-chilled cooler

BET MRR
2690-02

8/17-18/2020
B. Mullen

2355 Complete test boring RM20-05 (BH-E). Decan water from cleaning split-spoons emptied into auger hole. Backfilled with cuttings placed in lifts in same order removed from hole. Excess cuttings (approx 8 gallons) added to drum 6. (See pg. 30 for drum I.D.). Backfilled with cuttings 10' to 2', Gravel 2' to 0.5', cold patch asphalt 0.5' to 0.0'.

0010 Begin drilling RM20-29 (BH-CC).

0020 *SAMPLE*

0.0' to 2.0' BET20-TH29-01

BMM/AMB

1 x 4oz HDPE

PFAS (EPA 537.1 mod.) [Soil]

08/18/2020, Placed in pre-chilled cooler, from SPT

0055 *SAMPLE*

10.0' to 12.0' BET20-TH29-02

BMM/AMB

1 x 4oz HDPE

PFAS (EPA 537.1 mod.) [Soil]

08/18/2020

Placed in pre-chilled cooler

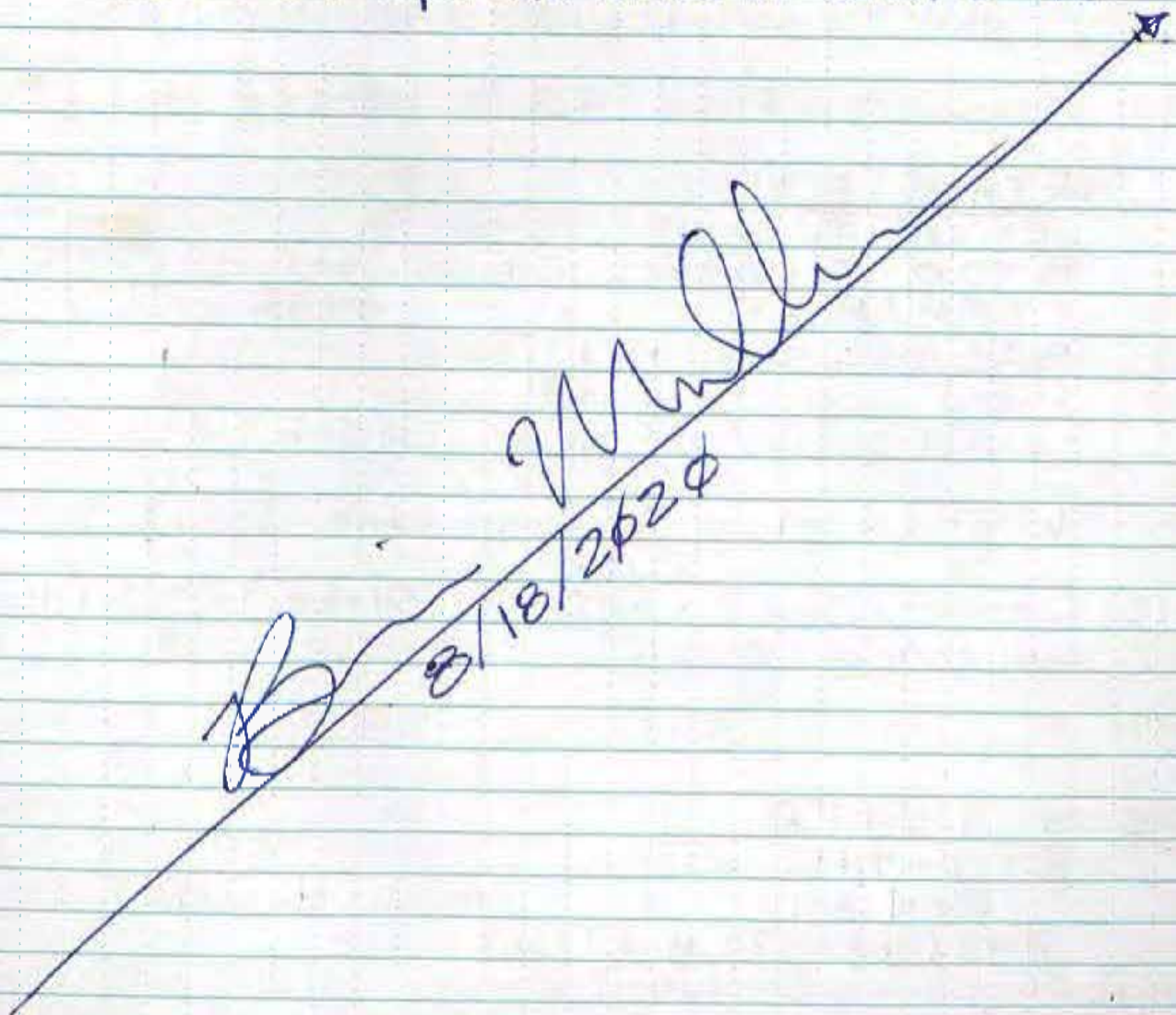
0200 Complete RM20-29 (BH-CC). Decan water from cleaning split-spoons emptied into auger hole. Backfilled with cuttings, placed in 10' lifts in same order removed from hole. Cuttings 30' to 20', Gravel 2.0' to 0.0'. Excess cuttings (approx. 8 gallons) placed in drum 6. (See page 30 for drum I.D.).

0205 Begin moving drums from TW-D and TW-C staging areas to DOT&PF Airport storage lot. This site was selected by DOT&PF assistant airport manager Tim Bee for long-term storage of Drums.

BET MRR
2090.02

8/18/2020
B. Mullen

Ø53Ø Complete moving and unloading of drums at long-term storage location. Per direction of DOT&PF Assistant Airport Manager Tim Bee, drum storage location is airport property south of Tower Road south of South Air Cargo Apron. Drums are on west side of gravel lot to the north of red-brown connex, recreational grade GPS coordinates: N 60.77815, W 161.84976. Total 6 drums ~90% full of suspected hazardous waste (PFAS) soil, plus 2 empty drums. Drums are labeled matching descriptions included within this notebook, labels on tops and sides of each drum.

A diagonal line with an arrowhead at the top right corner spans across the lower half of the page. Overlaid on this line is a handwritten signature that appears to be 'B. Mullen' and the date '8/18/2020' written below the signature.

BET MRR
Z690.02

8/18/2020
B. Mullen

1900 Begin demobilization of lighted X's. Pick up X's at FAA Tower staging area and return to KNIK yard on Standard Oil Road. Fill diesel tanks to full at Bethel Gas Station

1950 Clean-up labels on drums and prepare for long-term storage, with tarp per Assistant Airport Manager Request.

2200 Meet with FAA Contractor AOA Escort and prepare for Test Pits:

Brian Mullen	R&M	GEP/Field Chem/SSHO
Alex Brown	R&M	Geotech
Tyler Wahnschaffe	FAA Contractor	AOA Escort

2230 Begin Test Pit RM20-31 (BH-EE)

SAMPLE

2255 BET20-TH31-01 Primary
BET20-TH31-02 Duplicate → Time = 2305
1.0' to 2.0' BMM/AMB each 4oz HDPE
PFAS (EPA 537.1 Mod.) [Soil]
Placed in pre-chilled cooler
sampled from floor of test pit

WX = 60°F, Clear, 0-5mph wind

2315 Complete Test Pit RM20-31 (BH-EE). Backfilled with cuttings 2' to 0'.

2320 Begin Test Pit RM20-32 (BH-FF).

SAMPLE

2335 BET20-TH32-01
1.0' to 7.0' BMM/AMB 1 x 4oz HDPE
PFAS (EPA 537.1 Mod.) [Soil]
Placed in pre-chilled cooler.
sampled from wall of test pit

BET MRR
2690.02

8/18-19/2020
B. Mullen

2355 Complete Test Pit RM20-32 (BH-FF). Backfill
with cuttings 2' to 0'.

0000 Begin test pit RM20-33 (BH-GG).

0010 *SAMPLE*

BET20-TH33-01

1.0' BMM/AMB 1 x 4oz HDPE
to PFAS (EPA 537.1 mod.) [soil]
2.0' 08/19/2020
Sampled from wall of test pit
Placed in pre-chilled cooler.

0025 Complete Test Pit RM20-33 (BH-GG).
Backfill with cuttings 2' to 0'.

0035 Begin test pit RM20-34 (BH-HH)

0055 *SAMPLE*

BET20-TH34-01

1.0' BMM/AMB 1 x 4oz HDPE
to PFAS (EPA 537.1 mod.) [soil]
2.0' 08/19/2020
Sampled from wall of test pit.
Placed in pre-chilled cooler

0100 Complete test pit RM20-34 (BH-HH).
Backfill with cuttings 2' to 0'.

0105 Begin test pit RM20-35 (BH-II).

0115 *SAMPLE*

BET20-TH35-01

1.0' BMM/AMB 1 x 4oz HDPE
to PFAS (EPA 537.1 mod.) [soil]
2.0' 08/19/2020
Sampled from wall of test pit
Placed in pre-chilled cooler.

BET MRR
2690.02

08/19/2020
B. Mullen

0125 Complete test pit RM20-35 (BH-II). Backfill with cuttings 2' to 0'.

0135 Begin test pit RM20-36 (BH-JJ).

~~0200 *SAMPLE*~~

1.0' BET20-TH36-01
BMM/AMB 1 x 4 oz HDPE
to PFAS (EPA 537.1 mod.) [soil]
2.0' 08/19/2020
Placed in pre-chilled cooler.
Sampled from test pit wall.

0220 Complete test pit RM20-36 (BH-JJ). Backfill with cuttings 2' to 0'.

Measure off-set distances select test pitings.

0310 All crew depart AOA.

0335 Prepare cooler "BARITONE" for shipping. Cooler contains all samples dated after 2200 on 8/16/20, and also Rinstate blank BET20-WA-RB04.

0417 Sign and relinquish COC, Sign and date custody seal on cooler "BARITONE". Intention is to ship cooler on Alaska air cargo once open later in the day. Seal cooler.

B. Mullen
08/19/2020

BET MRR
2690.02

08/19/2020
BARR

1400 Prepare Field gear for cargo shipment to Anchorage.

1600 Travel to Alaska Air cargo to ship out cargo and environmental chemical sample coolers "TENOR" and "BARITONE".

1630 "TENOR" and "BARITONE" transferred to Alaska Air Cargo.

Continue other demobilization activities.



[Signature]
08/19/2020

BET MRK
2690.02

08/20/2023
B. Mullen

1000 B. Mullen and A. Brown arrive to
Bethel Airport for Alaska Airlines
departure to Anchorage.

1345 Flight departs.

1500 B. Mullen and A. Brown land in
Anchorage.



APPENDIX D

CHEMICAL DATA SUMMARY

FIELD SAMPLE ID	TA LABORATORY SAMPLE ID	LOCATION ID	DEPTH (feet)	MATRIX	SAMPLE TYPE	Container	SAMPLER	DATE/TIME	SAMPLE DELIVERY GROUP	COOLER	EPA 537.1 Modified
BET20-TH01-01	320-63958-27	BH-A	0.9 to 2.3 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/15/2020 11:00 PM	320-63958	Tenor	X
BET20-TH01-03	320-63958-29	BH-A	2.5 to 4.5 feet	Soil	Duplicate (BET20-TH01-02)	1 4oz HDPE	Brian Mullen / Alex Brown	8/15/2020 11:30 PM	320-63958	Tenor	X
BET20-TH01-02	320-63958-28	BH-A	2.5 to 4.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/15/2020 11:20 PM	320-63958	Tenor	X
BET20-TH02-01	320-63958-30	BH-B	0.4 to 2.3 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/16/2020 12:25 AM	320-63958	Tenor	X
BET20-TH02-02	320-63958-31	BH-B	20.0 to 22.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/16/2020 1:30 AM	320-63958	Tenor	X
BET20-TH03-01	320-63958-32	BH-C	0.4 to 2.4 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/16/2020 3:50 AM	320-63958	Tenor	X
BET20-TH03-02	320-63958-33	BH-C	5.0 to 7.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/16/2020 4:15 AM	320-63958	Tenor	X
BET20-TH04-01	320-63979-2	BH-D	1.3 to 3.3 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/16/2020 11:20 PM	320-63979	Baritone	X
BET20-TH04-03	320-63979-4	BH-D	1.3 to 3.3 feet	Soil	Duplicate (BET20-TH04-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/16/2020 11:30 PM	320-63979	Baritone	X
BET20-TH04-02	320-63979-3	BH-D	15.0 to 20.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/17/2020 12:05 AM	320-63979	Baritone	X
BET20-TH05-01	320-63979-7	BH-E	0.5 to 2.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/17/2020 10:55 PM	320-63979	Baritone	X
BET20-TH05-03	320-63979-9	BH-E	0.5 to 2.5 feet	Soil	Duplicate (BET20-TH05-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/17/2020 11:05 PM	320-63979	Baritone	X
BET20-TH05-02	320-63979-8	BH-E	7.5 to 9.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/17/2020 11:30 PM	320-63979	Baritone	X
BET20-TH06-01	320-63979-5	BH-F	0.5 to 2.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/17/2020 2:15 AM	320-63979	Baritone	X
BET20-TH06-02	320-63979-6	BH-F	20.0 to 22.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/17/2020 3:20 AM	320-63979	Baritone	X
BET20-TH07-01	320-63739-26	BH-G	0.4 to 0.7 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/10/2020 3:05 AM	320-63739	Soprano	X
BET20-TH07-02	320-63739-27	BH-G	10.0 to 12.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/10/2020 3:40 AM	320-63739	Soprano	X
BET20-TH08-01	320-63739-1	BH-H	0.5 to 1.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/6/2020 12:25 AM	320-63739	Soprano	X
BET20-TH08-03	320-63739-3	BH-H	0.5 to 1.0 feet	Soil	Duplicate (BET20-TH08-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/6/2020 12:35 AM	320-63739	Soprano	X
BET20-TH08-02	320-63739-2	BH-H	15.0 to 17.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/6/2020 1:50 AM	320-63739	Soprano	X
BET20-TH09-01	320-63739-22	BH-I	0.1 to 0.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/9/2020 4:10 AM	320-63739	Soprano	X
BET20-TH09-02	320-63739-28	BH-I	2.5 to 4.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/10/2020 10:35 PM	320-63739	Soprano	X
BET20-TH09-03	320-63739-29	BH-I	2.5 to 4.5 feet	Soil	Duplicate (BET20-TH09-02)	1 4oz HDPE	Brian Mullen / Alex Brown	8/10/2020 10:45 PM	320-63739	Soprano	X
BET20-TH10-01	320-63739-9	BH-J	1.0 to 1.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/7/2020 1:45 AM	320-63739	Soprano	X
BET20-TH10-02	320-63739-10	BH-J	15.0 to 17.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/7/2020 2:50 AM	320-63739	Soprano	X
BET20-TH11-01	320-63739-4	BH-K	0.0 to 0.3 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/6/2020 3:40 AM	320-63739	Soprano	X
BET20-TH11-02	320-63739-5	BH-K	5.0 to 7.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/6/2020 4:05 AM	320-63739	Soprano	X
BET20-TH12-01	320-63739-17	BH-L	1.5 to 2.8 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/9/2020 12:20 AM	320-63739	Soprano	X
BET20-TH12-03	320-63739-19	BH-L	1.5 to 2.8 feet	Soil	Duplicate (BET20-TH12-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/9/2020 12:35 AM	320-63739	Soprano	X
BET20-TH12-02	320-63739-18	BH-L	10.0 to 12.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/9/2020 1:30 AM	320-63739	Soprano	X
BET20-TH13-01	320-63739-20	BH-M	0.1 to 0.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/9/2020 2:35 AM	320-63739	Soprano	X
BET20-TH13-02	320-63739-21	BH-M	15.0 to 17.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/9/2020 3:05 AM	320-63739	Soprano	X
BET20-TH14-01	320-63739-30	BH-N	1.3 to 3.3 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/11/2020 12:30 AM	320-63739	Soprano	X
BET20-TH14-02	320-63739-31	BH-N	20.0 to 22.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/11/2020 1:40 AM	320-63739	Soprano	X
BET20-TH15-01	320-63739-32	BH-O	0.1 to 0.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/11/2020 3:25 AM	320-63739	Soprano	X
BET20-TH15-02	320-63739-33	BH-O	7.5 to 9.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/11/2020 3:55 AM	320-63739	Soprano	X
BET20-TH16-01	320-63739-15	BH-P	1.9 to 2.9 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/8/2020 2:15 AM	320-63739	Soprano	X
BET20-TH16-02	320-63739-16	BH-P	10.0 to 12.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/8/2020 2:55 AM	320-63739	Soprano	X
BET20-TH17-01	320-63958-8	BH-Q	0.1 to 0.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/12/2020 10:55 PM	320-63958	Tenor	X
BET20-TH17-03	320-63958-9	BH-Q	0.1 to 0.5 feet	Soil	Duplicate (BET20-TH17-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/12/2020 11:05 PM	320-63958	Tenor	X
BET20-TH17-02	320-63958-7	BH-Q	2.5 to 4.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/12/2020 11:00 PM	320-63958	Tenor	X

FIELD SAMPLE ID	TA LABORATORY SAMPLE ID	LOCATION ID	DEPTH (feet)	MATRIX	SAMPLE TYPE	Container	SAMPLER	DATE/TIME	SAMPLE DELIVERY GROUP	COOLER	EPA 537.1 Modified
BET20-TH18-01	320-63958-25	BH-R	1.3 to 3.3 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/15/2020 1:50 AM	320-63958	Tenor	X
BET20-TH18-02	320-63958-26	BH-R	4.0 to 6.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/15/2020 2:05 AM	320-63958	Tenor	X
BET20-TH19-01	320-63958-10	BH-S	1.5 to 3.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/13/2020 1:40 AM	320-63958	Tenor	X
BET20-TH19-02	320-63958-11	BH-S	15.0 to 17.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/13/2020 2:20 AM	320-63958	Tenor	X
BET20-TH20-01	320-63958-12	BH-T	0.1 to 0.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/13/2020 3:20 AM	320-63958	Tenor	X
BET20-TH20-02	320-63958-13	BH-T	7.5 to 9.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/13/2020 3:50 AM	320-63958	Tenor	X
BET20-TH21-01	320-63958-5	BH-U	0.9 to 2.6 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/12/2020 3:30 AM	320-63958	Tenor	X
BET20-TH21-02	320-63958-6	BH-U	10.0 to 12.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/12/2020 4:15 AM	320-63958	Tenor	X
BET20-TH22-01	320-63958-14	BH-V	0.1 to 0.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/13/2020 10:50 PM	320-63958	Tenor	X
BET20-TH22-03	320-63958-16	BH-V	0.1 to 0.5 feet	Soil	Duplicate (BET20-TH22-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/13/2020 11:05 PM	320-63958	Tenor	X
BET20-TH22-02	320-63958-15	BH-V	20.0 to 22.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/13/2020 11:53 PM	320-63958	Tenor	X
BET20-TH23-01	320-63958-22	BH-W	1.5 to 3.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/14/2020 11:55 PM	320-63958	Tenor	X
BET20-TH23-03	320-63958-24	BH-W	1.5 to 3.5 feet	Soil	Duplicate (BET20-TH23-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/15/2020 12:05 AM	320-63958	Tenor	X
BET20-TH23-02	320-63958-23	BH-W	4.0 to 6.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/15/2020 12:10 AM	320-63958	Tenor	X
BET20-TH24-01	320-63958-20	BH-X	0.6 to 2.6 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/14/2020 3:20 AM	320-63958	Tenor	X
BET20-TH24-02	320-63958-21	BH-X	5.0 to 7.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/14/2020 3:40 AM	320-63958	Tenor	X
BET20-TH25-01	320-63958-18	BH-Y	1.1 to 3.1 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/14/2020 1:30 AM	320-63958	Tenor	X
BET20-TH25-02	320-63958-19	BH-Y	15.0 to 17.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/14/2020 1:57 AM	320-63958	Tenor	X
BET20-TH26-01	320-63739-23	BH-Z	2.0 to 4.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/10/2020 12:05 AM	320-63739	Soprano	X
BET20-TH26-03	320-63739-25	BH-Z	2.0 to 4.0 feet	Soil	Duplicate (BET20-TH26-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/10/2020 12:20 AM	320-63739	Soprano	X
BET20-TH26-02	320-63739-24	BH-Z	25.0 to 27.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/10/2020 1:00 AM	320-63739	Soprano	X
BET20-TH27-01	320-63739-6	BH-AA	0.1 to 0.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/6/2020 10:55 PM	320-63739	Soprano	X
BET20-TH27-03	320-63739-8	BH-AA	0.1 to 0.5 feet	Soil	Duplicate (BET20-TH27-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/6/2020 11:15 PM	320-63739	Soprano	X
BET20-TH27-02	320-63739-7	BH-AA	10.0 to 12.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/6/2020 11:30 PM	320-63739	Soprano	X
BET20-TH28-01	320-63739-11	BH-BB	0.1 to 0.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/7/2020 11:05 PM	320-63739	Soprano	X
BET20-TH28-03	320-63739-13	BH-BB	0.1 to 0.5 feet	Soil	Duplicate (BET20-TH28-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/7/2020 11:20 PM	320-63739	Soprano	X
BET20-TH28-02	320-63739-12	BH-BB	20.0 to 22.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/7/2020 11:45 PM	320-63739	Soprano	X
BET20-TH29-01	320-63979-10	BH-CC	0.0 to 2.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/18/2020 12:20 AM	320-63979	Baritone	X
BET20-TH29-02	320-63979-11	BH-CC	10.0 to 12.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/18/2020 12:55 AM	320-63979	Baritone	X
BET20-TH30-01	320-63958-2	BH-DD	0.1 to 0.5 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/11/2020 11:50 PM	320-63958	Tenor	X
BET20-TH30-03	320-63958-4	BH-DD	0.1 to 0.5 feet	Soil	Duplicate (BET20-TH30-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/11/2020 11:55 PM	320-63958	Tenor	X
BET20-TH30-02	320-63958-3	BH-DD	20.0 to 22.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/12/2020 12:35 AM	320-63958	Tenor	X
BET20-TH31-01	320-63979-12	BH-EE	1.0 to 2.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/18/2020 10:55 PM	320-63979	Baritone	X
BET20-TH31-02	320-63979-13	BH-EE	1.0 to 2.0 feet	Soil	Duplicate (BET20-TH31-01)	1 4oz HDPE	Brian Mullen / Alex Brown	8/18/2020 11:05 PM	320-63979	Baritone	X
BET20-TH32-01	320-63979-14	BH-FF	1.0 to 2.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/18/2020 11:35 PM	320-63979	Baritone	X
BET20-TH33-01	320-63979-15	BH-GG	1.0 to 2.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/19/2020 12:10 AM	320-63979	Baritone	X
BET20-TH34-01	320-63979-16	BH-HH	1.0 to 2.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/19/2020 12:55 AM	320-63979	Baritone	X
BET20-TH35-01	320-63979-17	BH-II	1.0 to 2.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/19/2020 1:15 AM	320-63979	Baritone	X
BET20-TH36-01	320-63979-18	BH-JJ	1.0 to 2.0 feet	Soil	Primary	1 4oz HDPE	Brian Mullen / Alex Brown	8/19/2020 2:00 AM	320-63979	Baritone	X

FIELD SAMPLE ID	TA LABORATORY SAMPLE ID	LOCATION ID	DEPTH (feet)	MATRIX	SAMPLE TYPE	Container	SAMPLER	DATE/TIME	SAMPLE DELIVERY GROUP	COOLER	EPA 537.1 Modified
BET20-WA-RB01	320-63739-14	8/5 to 8/8/2020	Not Applicable	Water	Rinsate Blank	2 250ml HDPE	Brian Mullen / Alex Brown	8/8/2020 2:05 AM	320-63739	Soprano	X
BET20-WA-RB02	320-63958-1	8/9 to 8/11/2020	Not Applicable	Water	Rinsate Blank	2 250ml HDPE	Brian Mullen / Alex Brown	8/11/2020 11:15 PM	320-63958	Tenor	X
BET20-WA-RB03	320-63958-17	8/12 to 8/14/2020	Not Applicable	Water	Rinsate Blank	2 250ml HDPE	Brian Mullen / Alex Brown	8/14/2020 1:20 AM	320-63958	Tenor	X
BET20-WA-RB04	320-63979-1	8/15 to 8/19/2020	Not Applicable	Water	Rinsate Blank	2 250ml HDPE	Brian Mullen / Alex Brown	8/16/2020 12:15 AM	320-63979	Baritone	X
										Soil Preservative	None
										Water Preservative	None

Notes:

All samples sent to SGS-Anchorage for analysis except for PFAS which were sent to TestAmerica-Sacramento for analysis.

All samples had a requested 14-day turnaround time (TAT)

All samples preserved between 0 and 6°C

oz = ounces

ml = milliliters

HDPE = high density polyethylene

R&M Project No.: 2690.02	Field Sample ID:		BET20-TH01-01	BET20-TH01-02	BET20-TH01-03	BET20-TH02-01	BET20-TH02-02	BET20-TH03-01	BET20-TH03-02		
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63958-27	320-63958-28	320-63958-29	320-63958-30	320-63958-31	320-63958-32	320-63958-33		
	Location ID:		BH-A	BH-A	BH-A	BH-B	BH-B	BH-C	BH-C		
	Sample Type:		Primary	Primary	Duplicate (BET20-TH01-02)	Primary	Primary	Primary	Primary		
	Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Test Boring ID:		RM20-01	RM20-01	RM20-01	RM20-02	RM20-02	RM20-03	RM20-03		
	Depth:		0.9 to 2.3 feet	2.5 to 4.5 feet	2.5 to 4.5 feet	0.4 to 2.3 feet	20.0 to 22.0 feet	0.4 to 2.4 feet	5.0 to 7.0 feet		
	Date Sampled:		8/15/2020 11:00 PM	8/15/2020 11:20 PM	8/15/2020 11:30 PM	8/16/2020 12:25 AM	8/16/2020 1:30 AM	8/16/2020 3:50 AM	8/16/2020 4:15 AM		
	Percent Solids ⁵		94.3	95	95.2	95.5	68.6	96.1	94.8		
	Percent Moisture ⁵		5.7	5	4.8	4.5	31.4	3.9	5.2		
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg			
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²						
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		0.38 U	0.38 U	0.39 U	0.36 U	0.53 U	0.36 U	0.34 U
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		0.15 U	0.15 U	0.16 U	0.15 U	0.22 U	0.15 U	0.14 U
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		0.26 U	0.26 U	0.26 U	0.24 U	0.36 U	0.25 U	0.23 U
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		0.38 U	0.38 U	0.39 U	0.36 U	0.53 U	0.36 U	0.34 U
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		0.40 U	0.40 U	0.41 U	0.38 U	0.56 U	0.38 U	0.36 U
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		0.026 U	0.026 U	0.026 U	0.024 U	0.036 U	0.025 U	0.023 U
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.13 J B	0.10 J B	0.088 J B	0.075 J B	0.13 J B	0.15 J B	0.090 J B
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		0.040 U	0.040 U	0.041 U	0.038 U	0.056 U	0.038 U	0.036 U
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		0.022 U	0.023 U	0.023 U	0.021 U	0.032 U	0.022 U	0.020 U
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		0.068 U	0.069 U	0.070 U	0.065 U	0.096 U	0.066 U	0.062 U
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		0.036 U	0.036 U	0.036 U	0.034 U	0.050 U	0.034 U	0.033 U
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		0.030 U	0.030 U	0.030 U	0.028 U	0.042 U	0.029 U	0.027 U
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		0.032 U	0.032 U	0.032 U	0.030 U	0.045 U	0.030 U	0.029 U
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		0.043 U	0.043 U	0.044 U	0.041 U	0.060 U	0.041 U	0.039 U
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		0.020 U	0.021 U	0.021 U	0.020 U	0.029 U	0.020 U	0.019 U
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		0.037 U	0.037 U	0.038 U	0.035 U	0.052 U	0.035 U	0.033 U
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		0.084 U	0.085 U	0.085 U	0.080 U	0.12 U	0.081 U	0.076 U
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	0.46 J B QN	0.37 J B QN	0.22 J B QN	0.26 J B QN	0.43 J B QN	0.33 J B QN	0.40 J B QN
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	0.088 U	0.089 U	0.090 U	0.084 U	0.12 U	0.085 U	0.080 U
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		0.020 U	0.021 U	0.021 U	0.020 U	0.029 U	0.020 U	0.019 U
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		0.079 U	0.079 U	0.080 U	0.075 U	0.11 U	0.076 U	0.072 U
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		0.055 U	0.056 U	0.056 U	0.053 U	0.078 U	0.053 U	0.050 U
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		0.052 U	0.053 U	0.053 U	0.050 U	0.073 U	0.050 U	0.047 U
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		0.037 U	0.037 U	0.038 U	0.035 U	0.052 U	0.035 U	0.033 U

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

2 Results that were non-detect are reported as the limit of detection (LOD) with a U flag and are in gray italicized text.

Flagging Notes:

U Flag: Result was not detected above the detection limit (DL) and the result is reported as the LOD.

J Flag: Result refers to a concentration greater than the DL but below the limit of quantitation (LOQ).

B Flag: Indicates that the reported value is similar in concentration to the result of a related blank sample.

QN Flag: Indicates that the reported result is an estimated value due to a deficiency in related quality control criteria with an unknown bias.

R&M Project No.: 2690.02	Field Sample ID:		BET20-TH04-01	BET20-TH04-03	BET20-TH04-02	BET20-TH05-01	BET20-TH05-03	BET20-TH05-02	BET20-TH06-01		
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63979-2	320-63979-4	320-63979-3	320-63979-7	320-63979-9	320-63979-8	320-63979-5		
	Location ID:		BH-D	BH-D	BH-D	BH-E	BH-E	BH-E	BH-F		
	Sample Type:		Primary	Duplicate (BET20-TH04-01)	Primary	Primary	Duplicate (BET20-TH05-01)	Primary	Primary		
	Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Test Boring ID:		RM20-04	RM20-04	RM20-04	RM20-05	RM20-05	RM20-05	RM20-06		
	Depth:		1.3 to 3.3 feet	1.3 to 3.3 feet	15.0 to 20.0 feet	0.5 to 2.5 feet	0.5 to 2.5 feet	7.5 to 9.5 feet	0.5 to 2.5 feet		
	Date Sampled:		8/16/2020 11:20 PM	8/16/2020 11:30 PM	8/17/2020 12:05 AM	8/17/2020 10:55 PM	8/17/2020 11:05 PM	8/17/2020 11:30 PM	8/17/2020 2:15 AM		
	Percent Solids ⁵		90.8	90	93	95.7	95.2	95.3	95.8		
	Percent Moisture ⁵		9.2	10	7	4.3	4.8	4.7	4.2		
	Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg		
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²						
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		0.39 U	0.41 U	0.38 U	0.38 U	0.37 U	0.36 U	0.38 U
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		0.16 U	0.16 U	0.16 U	0.15 U	0.15 U	0.15 U	0.16 U
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		0.26 U	0.27 U	0.26 U	0.26 U	0.25 U	0.24 U	0.26 U
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		0.39 U	0.41 U	0.38 U	0.38 U	0.37 U	0.36 U	0.38 U
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		0.41 U	0.43 U	0.40 U	0.40 U	0.39 U	0.38 U	0.40 U
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		0.026 U	0.027 U	0.026 U	0.026 U	0.025 U	0.024 U	0.026 U
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.21 B	0.20 J B	0.20 J B	0.17 J B	0.17 J B	0.13 J B	0.21 B
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		0.041 U	0.043 U	0.040 U	0.040 U	0.039 U	0.038 U	0.040 U
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		0.023 U	0.024 U	0.023 U	0.023 U	0.022 U	0.021 U	0.023 U
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		0.070 U	0.073 U	0.069 U	0.069 U	0.067 U	0.065 U	0.069 U
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		0.037 U	0.038 U	0.036 U	0.036 U	0.035 U	0.034 U	0.036 U
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		0.030 U	0.032 U	0.030 U	0.030 U	0.029 U	0.028 U	0.030 U
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		0.53	0.45	0.49	0.061 J	0.060 J	0.030 U	0.032 U
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		0.044 U	0.046 U	0.069 J	0.043 U	0.042 U	0.041 U	0.043 U
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		0.021 U	0.022 U	0.021 U	0.021 U	0.020 U	0.019 U	0.021 U
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		0.038 U	0.039 U	0.037 U	0.037 U	0.036 U	0.035 U	0.037 U
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		0.086 U	0.090 U	0.085 U	0.085 U	0.082 U	0.080 U	0.085 U
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	0.73	0.80	0.21 U	0.39 J QN	0.20 J QN	0.19 U QN	0.49 J QN
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	0.16 J	0.15 J	4.0	0.089 U	0.087 U	0.084 U	0.089 U
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		0.021 U	0.022 U	0.027 J	0.021 U	0.020 U	0.019 U	0.021 U
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		0.081 U	0.084 U	0.080 U	0.080 U	0.077 U	0.075 U	0.080 U
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		0.057 U	0.059 U	0.056 U	0.056 U	0.054 U	0.052 U	0.056 U
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		0.054 U	0.056 U	0.053 U	0.053 U	0.051 U	0.050 U	0.053 U
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		0.038 U	0.039 U	0.037 U	0.037 U	0.036 U	0.035 U	0.037 U

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

2 Results that were non-detect are reported as the limit of detection (LOD) with a U flag and are in gray italicized text.

Flagging Notes:

U Flag: Result was not detected above the detection limit (DL) and the result is reported as the LOD.

J Flag: Result refers to a concentration greater than the DL but below the limit of quantitation (LOQ).

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QN Flag: Indicates that the reported result is an estimated value due to a deficiency in related quality control criteria with an unknown bias.

R&M Project No.: 2690.02	Field Sample ID:		BET20-TH06-02	BET20-TH07-01	BET20-TH07-02	BET20-TH08-01	BET20-TH08-03	BET20-TH08-02	BET20-TH09-01		
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63979-6	320-63739-26	320-63739-27	320-63739-1	320-63739-3	320-63739-2	320-63739-22		
	Location ID:		BH-F	BH-G	BH-G	BH-H	BH-H	BH-H	BH-I		
	Sample Type:		Primary	Primary	Primary	Primary	Duplicate (BET20-TH08-01)	Primary	Primary		
	Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Test Boring ID:		RM20-06	RM20-07	RM20-07	RM20-08	RM20-08	RM20-08	RM20-09		
	Depth:		20.0 to 22.0 feet	0.4 to 0.7 feet	10.0 to 12.0 feet	0.5 to 1.0 feet	0.5 to 1.0 feet	15.0 to 17.0 feet	0.1 to 0.5 feet		
	Date Sampled:		8/17/2020 3:20 AM	8/10/2020 3:05 AM	8/10/2020 3:40 AM	8/6/2020 12:25 AM	8/6/2020 12:35 AM	8/6/2020 1:50 AM	8/9/2020 4:10 AM		
	Percent Solids ⁵		95.5	95.6	94.4	95.3	95.2	94.7	94.2		
	Percent Moisture ⁵		4.5	4.4	5.6	4.7	4.8	5.3	5.8		
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg			
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²						
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		0.37 U	0.35 U	0.39 U	0.38 U	0.38 U	0.37 U	0.37 U
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		0.15 U	0.14 U	0.16 U	0.16 U	0.15 U	0.15 U	0.17 J
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		0.25 U	0.24 U	0.26 U	0.26 U	0.26 U	0.25 U	0.25 U
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		0.37 U	0.35 U	0.39 U	0.38 U	0.38 U	0.37 U	0.37 U
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		0.39 U	0.37 U	0.41 U	0.40 U	0.40 U	0.39 U	0.39 U
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		0.025 U	0.024 U	0.026 U	0.026 U	0.026 U	0.025 U	0.025 U
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.17 J B	0.093 J B	0.097 J B	0.14 J B	0.15 J B	0.14 J B	0.079 J B
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		0.039 U	0.037 U	0.041 U	0.040 U	0.040 U	0.039 U	0.039 U
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		0.022 U	0.021 U	0.023 U	0.023 U	0.022 U	0.022 U	0.022 U
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		0.067 U	0.064 U	0.070 U	0.069 U	0.068 U	0.067 U	0.066 U
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		0.035 U	0.034 U	0.037 U	0.036 U	0.036 U	0.035 U	0.035 U
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		0.029 U	0.028 U	0.030 U	0.030 U	0.030 U	0.029 U	0.029 U
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		0.031 U	0.030 U	0.032 U	0.032 U	0.032 U	0.031 U	0.037 J
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		0.042 U	0.040 U	0.044 U	0.043 U	0.043 U	0.042 U	0.042 U
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		0.020 U	0.019 U	0.021 U	0.021 U	0.020 U	0.020 U	0.020 U
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		0.036 U	0.034 U	0.038 U	0.037 U	0.037 U	0.036 U	0.036 U
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		0.082 U	0.079 U	0.086 U	0.085 U	0.084 U	0.082 U	0.081 U
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	0.32 J QN	0.39 J B QN	0.29 J B QN	0.21 U	0.20 U	0.20 U QN	0.20 U QN
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	0.086 U	0.082 U	0.090 U	0.089 U	0.088 U	0.086 U	0.085 U
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		0.020 U	0.019 U	0.021 U	0.021 U	0.020 U	0.020 U	0.020 U
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		0.077 U	0.074 U	0.081 U	0.080 U	0.079 U	0.077 U	0.076 U
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		0.054 U	0.052 U	0.057 U	0.056 U	0.055 U	0.054 U	0.054 U
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		0.051 U	0.049 U	0.053 U	0.053 U	0.052 U	0.051 U	0.051 U
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		0.036 U	0.034 U	0.038 U	0.037 U	0.037 U	0.036 U	0.036 U

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

2 Results that were non-detect are reported as the limit of detection (LOD) with a U flag and are in gray italicized text.

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R&M Project No.: 2690.02	Field Sample ID:		BET20-TH09-02	BET20-TH09-03	BET20-TH10-01	BET20-TH10-02	BET20-TH11-01	BET20-TH11-02	BET20-TH12-01		
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63739-28	320-63739-29	320-63739-9	320-63739-10	320-63739-4	320-63739-5	320-63739-17		
	Location ID:		BH-I	BH-I	BH-J	BH-J	BH-K	BH-K	BH-L		
	Sample Type:		Primary	Duplicate (BET20-TH09-02)	Primary	Primary	Primary	Primary	Primary		
	Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Test Boring ID:		RM20-09	RM20-09	RM20-10	RM20-10	RM20-11	RM20-11	RM20-12		
	Depth:		2.5 to 4.5 feet	2.5 to 4.5 feet	1.0 to 1.5 feet	15.0 to 17.0 feet	0.0 to 0.3 feet	5.0 to 7.0 feet	1.5 to 2.8 feet		
	Date Sampled:		8/10/2020 10:35 PM	8/10/2020 10:45 PM	8/7/2020 1:45 AM	8/7/2020 2:50 AM	8/6/2020 3:40 AM	8/6/2020 4:05 AM	8/9/2020 12:20 AM		
	Percent Solids ⁵		93.6	93.1	96.4	93.4	91.7	91.7	95.2		
	Percent Moisture ⁵		6.4	6.9	3.6	6.6	8.3	8.3	4.8		
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg			
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²						
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		0.38 U	0.39 U	0.38 U	0.37 U	0.39 U	0.39 U	0.37 U
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		0.15 U	0.70 J	0.15 U	0.15 U	0.16 U	0.16 U	0.15 U
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		0.25 U	0.26 U	0.26 U	0.25 U	0.26 U	0.26 U	0.25 U
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		0.38 U	0.39 U	0.38 U	0.37 U	0.39 U	0.39 U	0.37 U
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		0.40 U	0.41 U	0.40 U	0.39 U	0.41 U	0.41 U	0.38 U
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		0.025 U	0.026 U	0.026 U	0.025 U	0.026 U	0.026 U	0.025 U
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.095 J B	0.10 J B	0.16 J B	0.14 J B	0.15 J B	0.030 U	0.12 J B
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		0.040 U	0.041 U	0.040 U	0.039 U	0.041 U	0.041 U	0.038 U
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		0.022 U	0.023 U	0.023 U	0.022 U	0.023 U	0.023 U	0.022 U
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		0.068 U	0.070 U	0.069 U	0.067 U	0.070 U	0.071 U	0.066 U
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		0.035 U	0.037 U	0.036 U	0.035 U	0.037 U	0.037 U	0.035 U
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		0.029 U	0.030 U	0.030 U	0.029 U	0.030 U	0.031 U	0.029 U
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		0.031 U	0.033 U	0.044 J B	0.031 U	0.032 U	0.033 U	0.035 J
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		0.043 U	0.044 U	0.043 U	0.042 U	0.044 U	0.044 U	0.041 U
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		0.020 U	0.021 U	0.020 U	0.020 U	0.021 U	0.021 U	0.020 U
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		0.037 U	0.038 U	0.037 U	0.036 U	0.038 U	0.038 U	0.036 U
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		0.083 U	0.086 U	0.084 U	0.082 U	0.086 U	0.087 U	0.081 U
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	0.31 J B QN	0.63 B QN	0.27 J B QN	0.20 U QN	0.21 U QN	0.38 J B QN	0.20 U
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	0.087 U	0.090 U	0.088 U	0.086 U	0.090 U	0.091 U	0.085 U
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		0.020 U	0.021 U	0.020 U	0.020 U	0.021 U	0.021 U	0.020 U
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		0.078 U	0.081 U	0.079 U	0.077 U	0.081 U	0.082 U	0.076 U
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		0.055 U	0.057 U	0.055 U	0.054 U	0.057 U	0.057 U	0.053 U
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		0.052 U	0.053 U	0.052 U	0.051 U	0.053 U	0.054 U	0.050 U
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		0.037 U	0.038 U	0.037 U	0.036 U	0.038 U	0.038 U	0.036 U

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

2 Results that were non-detect are reported as the limit of detection (LOD) with a U flag and are in gray italicized text.

Flagging Notes:

U Flag: Result was not detected above the detection limit (DL) and the result is reported as the LOD.

J Flag: Result refers to a concentration greater than the DL but below the limit of quantitation (LOQ).

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QN Flag: Indicates that the reported result is an estimated value due to a deficiency in related quality control criteria with an unknown bias.

R&M Project No.: 2690.02	Field Sample ID:		BET20-TH12-03	BET20-TH12-02	BET20-TH13-01	BET20-TH13-02	BET20-TH14-01	BET20-TH14-02	BET20-TH15-01		
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63739-19	320-63739-18	320-63739-20	320-63739-21	320-63739-30	320-63739-31	320-63739-32		
	Location ID:		BH-L	BH-L	BH-M	BH-M	BH-N	BH-N	BH-O		
	Sample Type:		Duplicate (BET20-TH12-01)	Primary	Primary	Primary	Primary	Primary	Primary		
	Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Test Boring ID:		RM20-12	RM20-12	RM20-13	RM20-13	RM20-14	RM20-14	RM20-15		
	Depth:		1.5 to 2.8 feet	10.0 to 12.0 feet	0.1 to 0.5 feet	15.0 to 17.0 feet	1.3 to 3.3 feet	20.0 to 22.0 feet	0.1 to 0.5 feet		
	Date Sampled:		8/9/2020 12:35 AM	8/9/2020 1:30 AM	8/9/2020 2:35 AM	8/9/2020 3:05 AM	8/11/2020 12:30 AM	8/11/2020 1:40 AM	8/11/2020 3:25 AM		
	Percent Solids ⁵		94.5	80.7	94.2	81	95.9	77	93.1		
	Percent Moisture ⁵		5.5	19.3	5.8	19	4.1	23	6.9		
	Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg		
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²						
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		0.39 U	0.43 U	0.38 U	0.43 U	0.37 U	0.47 U	0.38 U
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		0.16 U	0.17 U	0.15 U	0.18 J	0.15 U	0.19 U	0.15 U
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		0.26 U	0.29 U	0.26 U	0.29 U	0.25 U	0.32 U	0.26 U
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		0.39 U	0.43 U	0.38 U	0.43 U	0.37 U	0.47 U	0.38 U
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		0.41 U	0.45 U	0.40 U	0.45 U	0.39 U	0.50 U	0.40 U
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		0.026 U	0.029 U	0.026 U	0.029 U	0.025 U	0.032 U	0.026 U
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.12 J B	0.15 J B	0.095 J B	0.12 J B	0.094 J B	0.12 J B	0.099 J B
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		0.041 U	0.045 U	0.040 U	0.045 U	0.039 U	0.050 U	0.040 U
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		0.023 U	0.025 U	0.023 U	0.025 U	0.022 U	0.028 U	0.023 U
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		0.070 U	0.078 U	0.069 U	0.077 U	0.067 U	0.086 U	0.069 U
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		0.037 U	0.041 U	0.036 U	0.040 U	0.035 U	0.045 U	0.036 U
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		0.030 U	0.034 U	0.030 U	0.034 U	0.029 U	0.037 U	0.030 U
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		0.033 U	0.036 U	0.032 U	0.036 U	0.092 J	0.040 U	0.032 U
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		0.044 U	0.049 U	0.043 U	0.049 U	0.042 U	0.054 U	0.043 U
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		0.021 U	0.023 U	0.021 U	0.023 U	0.020 U	0.026 U	0.020 U
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		0.038 U	0.042 U	0.037 U	0.042 U	0.036 U	0.046 U	0.037 U
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		0.086 U	0.095 U	0.084 U	0.095 U	0.081 U	0.10 U	0.084 U
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	0.21 U	0.23 U QN	0.36 J B QN	0.45 J B QN	1.0 B QN	0.37 J B QN	0.42 J B QN
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	0.090 U	0.10 U	0.088 U	0.099 U	0.085 U	0.11 U	0.088 U
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		0.021 U	0.023 U	0.021 U	0.023 U	0.020 U	0.026 U	0.020 U
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		0.081 U	0.089 U	0.079 U	0.089 U	0.076 U	0.099 U	0.079 U
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		0.057 U	0.063 U	0.055 U	0.062 U	0.054 U	0.069 U	0.055 U
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		0.054 U	0.059 U	0.052 U	0.059 U	0.051 U	0.065 U	0.052 U
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		0.038 U	0.042 U	0.037 U	0.042 U	0.036 U	0.046 U	0.037 U

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

2 Results that were non-detect are reported as the limit of detection (LOD) with a U flag and are in gray italicized text.

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R&M Project No.: 2690.02	Field Sample ID:		BET20-TH15-02	BET20-TH16-01	BET20-TH16-02	BET20-TH17-01	BET20-TH17-03	BET20-TH17-02	BET20-TH18-01		
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63739-33	320-63739-15	320-63739-16	320-63958-8	320-63958-9	320-63958-7	320-63958-25		
	Location ID:		BH-O	BH-P	BH-P	BH-Q	BH-Q	BH-Q	BH-R		
	Sample Type:		Primary	Primary	Primary	Primary	Duplicate (BET20-TH17-01)	Primary	Primary		
	Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Test Boring ID:		RM20-15	RM20-16	RM20-16	RM20-17	RM20-17	RM20-17	RM20-18		
	Depth:		7.5 to 9.5 feet	1.9 to 2.9 feet	10.0 to 12.0 feet	0.1 to 0.5 feet	0.1 to 0.5 feet	2.5 to 4.5 feet	1.3 to 3.3 feet		
	Date Sampled:		8/11/2020 3:55 AM	8/8/2020 2:15 AM	8/8/2020 2:55 AM	8/12/2020 10:55 PM	8/12/2020 11:05 PM	8/12/2020 11:00 PM	8/15/2020 1:50 AM		
	Percent Solids ⁵		90.9	96.3	94.7	94.4	95	94.9	92.9		
	Percent Moisture ⁵		9.1	3.7	5.3	5.6	5	5.1	7.1		
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg			
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²						
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		0.38 U	0.38 U	0.37 U	0.37 U	0.35 U	0.38 U	0.38 U
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		0.15 U	0.15 U	0.15 U	0.15 U	0.14 U	0.16 U	0.16 U
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		0.26 U	0.26 U	0.25 U	0.25 U	0.24 U	0.26 U	0.26 U
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		0.38 U	0.38 U	0.37 U	0.37 U	0.35 U	0.38 U	0.38 U
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		0.40 U	0.40 U	0.39 U	0.39 U	0.37 U	0.40 U	0.40 U
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		0.026 U	0.026 U	0.074 J	0.025 U	0.024 U	0.026 U	0.026 U
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.090 J B	0.13 J B	0.14 J B	0.16 J B	0.17 J B	0.13 J B	0.15 J B
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		0.040 U	0.040 U	0.039 U	0.039 U	0.037 U	0.040 U	0.040 U
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		0.023 U	0.022 U	0.022 U	0.022 U	0.021 U	0.023 U	0.023 U
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		0.069 U	0.068 U	0.066 U	0.066 U	0.064 U	0.069 U	0.069 U
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		0.036 U	0.036 U	0.17 J	0.035 U	0.034 U	0.036 U	0.036 U
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		0.030 U	0.030 U	0.029 U	0.029 U	0.028 U	0.030 U	0.030 U
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		0.14 J	0.097 J B	1.1 B	0.031 U	0.030 U	0.064 J	0.032 U
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		0.043 U	0.043 U	0.19 J	0.042 U	0.040 U	0.043 U	0.044 U
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		0.021 U	0.020 U	0.020 U	0.020 U	0.019 U	0.021 U	0.021 U
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		0.037 U	0.037 U	0.036 U	0.036 U	0.035 U	0.037 U	0.037 U
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		0.084 U	0.084 U	0.081 U	0.081 U	0.079 U	0.085 U	0.085 U
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	13 B QN	0.20 U QN	25 B QN	0.20 U	0.19 U	0.21 J QN	0.21 U QN
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	0.088 U	0.088 U	0.11 J	0.085 U	0.082 U	0.089 U	0.089 U
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		0.021 U	0.020 U	0.15 J	0.020 U	0.019 U	0.021 U	0.021 U
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		0.079 U	0.079 U	0.076 U	0.076 U	0.074 U	0.080 U	0.080 U
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		0.055 U	0.055 U	0.054 U	0.053 U	0.052 U	0.056 U	0.056 U
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		0.052 U	0.052 U	0.051 U	0.050 U	0.049 U	0.053 U	0.053 U
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		0.037 U	0.037 U	0.036 U	0.036 U	0.035 U	0.037 U	0.037 U

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

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R&M Project No.: 2690.02	Field Sample ID:		BET20-TH18-02	BET20-TH19-01	BET20-TH19-02	BET20-TH20-01	BET20-TH20-02	BET20-TH21-01	BET20-TH21-02		
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63958-26	320-63958-10	320-63958-11	320-63958-12	320-63958-13	320-63958-5	320-63958-6		
	Location ID:		BH-R	BH-S	BH-S	BH-T	BH-T	BH-U	BH-U		
	Sample Type:		Primary	Primary	Primary	Primary	Primary	Primary	Primary		
	Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Test Boring ID:		RM20-18	RM20-19	RM20-19	RM20-20	RM20-20	RM20-21	RM20-21		
	Depth:		4.0 to 6.0 feet	1.5 to 3.5 feet	15.0 to 17.0 feet	0.1 to 0.5 feet	7.5 to 9.5 feet	0.9 to 2.6 feet	10.0 to 12.0 feet		
	Date Sampled:		8/15/2020 2:05 AM	8/13/2020 1:40 AM	8/13/2020 2:20 AM	8/13/2020 3:20 AM	8/13/2020 3:50 AM	8/12/2020 3:30 AM	8/12/2020 4:15 AM		
	Percent Solids ⁵		95.9	94.6	96.2	92.2	93.1	90.8	89.3		
	Percent Moisture ⁵		4.1	5.4	3.8	7.8	6.9	9.2	10.7		
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg			
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²						
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		0.38 U	0.36 U	0.38 U	0.36 U	0.39 U	0.39 U	0.40 U
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		0.16 U	0.15 U	0.15 U	0.15 U	0.16 U	0.16 U	0.16 U
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		0.26 U	0.24 U	0.26 U	0.24 U	0.26 U	0.26 U	0.27 U
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		0.38 U	0.36 U	0.38 U	0.36 U	0.39 U	0.39 U	0.40 U
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		0.40 U	0.38 U	0.40 U	0.38 U	0.41 U	0.41 U	0.42 U
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		0.026 U	0.11 J	0.049 J	0.024 U	0.026 U	0.026 U	0.027 U
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.11 J B	0.14 J B	0.14 J B	0.12 J B	0.13 J B	0.17 J B	0.15 J B
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		0.040 U	0.038 U	0.040 U	0.038 U	0.041 U	0.041 U	0.042 U
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		0.023 U	0.021 U	0.023 U	0.021 U	0.023 U	0.023 U	0.024 U
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		0.069 U	0.065 U	0.069 U	0.065 U	0.071 U	0.071 U	0.073 U
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		0.036 U	0.036 J	0.036 U	0.034 U	0.037 U	0.037 U	0.038 U
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		0.030 U	0.050 J	0.030 U	0.028 U	0.031 U	0.031 U	0.031 U
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		0.032 U	0.98	0.032 U	0.030 U	0.047 J	0.033 U	0.034 U
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		0.043 U	0.26	0.043 U	0.041 U	0.044 U	0.044 U	0.046 U
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		0.021 U	0.019 U	0.021 U	0.019 U	0.021 U	0.021 U	0.022 U
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		0.037 U	0.035 U	0.037 U	0.035 U	0.038 U	0.038 U	0.039 U
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		0.085 U	0.080 U	0.085 U	0.079 U	0.087 U	0.087 U	0.089 U
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	0.46 J B QN	1.5 QN	0.21 U QN	0.19 U QN	0.21 J QN	0.21 U QN	0.22 U QN
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	0.089 U	0.097 J	0.089 U	0.083 U	0.091 U	0.091 U	0.093 U
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		0.021 U	0.20	0.021 U	0.019 U	0.021 U	0.021 U	0.022 U
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		0.080 U	0.075 U	0.080 U	0.074 U	0.081 U	0.081 U	0.084 U
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		0.056 U	0.052 U	0.056 U	0.052 U	0.057 U	0.057 U	0.059 U
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		0.053 U	0.050 U	0.053 U	0.049 U	0.054 U	0.054 U	0.055 U
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		0.037 U	0.035 U	0.037 U	0.035 U	0.038 U	0.038 U	0.039 U

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

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R&M Project No.: 2690.02	Field Sample ID:		BET20-TH22-01	BET20-TH22-03	BET20-TH22-02	BET20-TH23-01	BET20-TH23-03	BET20-TH23-02	BET20-TH24-01		
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63958-14	320-63958-16	320-63958-15	320-63958-22	320-63958-24	320-63958-23	320-63958-20		
	Location ID:		BH-V	BH-V	BH-V	BH-W	BH-W	BH-W	BH-X		
	Sample Type:		Primary	Duplicate (BET20-TH22-01)	Primary	Primary	Duplicate (BET20-TH23-01)	Primary	Primary		
	Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Test Boring ID:		RM20-22	RM20-22	RM20-22	RM20-23	RM20-23	RM20-23	RM20-24		
	Depth:		0.1 to 0.5 feet	0.1 to 0.5 feet	20.0 to 22.0 feet	1.5 to 3.5 feet	1.5 to 3.5 feet	4.0 to 6.0 feet	0.6 to 2.6 feet		
	Date Sampled:		8/13/2020 10:50 PM	8/13/2020 11:05 PM	8/13/2020 11:53 PM	8/14/2020 11:55 PM	8/15/2020 12:05 AM	8/15/2020 12:10 AM	8/14/2020 3:20 AM		
	Percent Solids ⁵		96.6	96.3	86.2	97.1	96.9	95.7	93		
	Percent Moisture ⁵		3.4	3.7	13.8	2.9	3.1	4.3	7		
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg			
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²						
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		0.38 U	0.37 U	0.37 U	0.34 U	0.38 U	0.37 U	0.38 U
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		0.15 U	0.15 U	0.15 U	0.14 U	0.15 U	0.15 U	0.15 U
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		0.25 U	0.25 U	0.25 U	0.23 U	0.25 U	0.25 U	0.25 U
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		0.38 U	0.37 U	0.37 U	0.34 U	0.38 U	0.37 U	0.38 U
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		0.40 U	0.39 U	0.39 U	0.36 U	0.40 U	0.39 U	0.40 U
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		0.025 U	0.025 U	0.025 U	0.023 U	0.025 U	0.025 U	0.025 U
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.13 J B	0.13 J B	0.14 J B	0.12 J B	0.16 J B	0.14 J B	0.12 J B
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		0.040 U	0.039 U	0.039 U	0.036 U	0.040 U	0.039 U	0.040 U
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		0.022 U	0.022 U	0.022 U	0.020 U	0.022 U	0.022 U	0.022 U
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		0.068 U	0.068 U	0.066 U	0.062 U	0.068 U	0.067 U	0.068 U
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		0.036 U	0.035 U	0.035 U	0.032 U	0.036 U	0.035 U	0.036 U
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		0.029 U	0.029 U	0.029 U	0.027 U	0.030 U	0.029 U	0.030 U
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		0.032 U	0.031 J I	0.031 U	0.029 U	0.032 U	0.031 U	0.063 J
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		0.043 U	0.043 U	0.042 U	0.039 U	0.043 U	0.042 U	0.043 U
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		0.020 U	0.020 U	0.020 U	0.018 U	0.020 U	0.020 U	0.020 U
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		0.037 U	0.036 U	0.036 U	0.033 U	0.037 U	0.036 U	0.037 U
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		0.083 U	0.083 U	0.081 U	0.076 U	0.083 U	0.082 U	0.084 U
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	0.20 U	0.20 U	0.20 U QN	0.18 U	0.20 U	0.20 U QN	0.20 U QN
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	0.087 U	0.087 U	0.085 U	0.079 U	0.088 U	0.086 U	0.088 U
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		0.020 U	0.020 U	0.020 U	0.018 U	0.020 U	0.020 U	0.020 U
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		0.078 U	0.078 U	0.076 U	0.071 U	0.078 U	0.077 U	0.078 U
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		0.055 U	0.055 U	0.053 U	0.050 U	0.055 U	0.054 U	0.055 U
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		0.052 U	0.052 U	0.050 U	0.047 U	0.052 U	0.051 U	0.052 U
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		0.037 U	0.036 U	0.036 U	0.033 U	0.037 U	0.036 U	0.037 U

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

2 Results that were non-detect are reported as the limit of detection (LOD) with a U flag and are in gray italicized text.

Flagging Notes:

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J Flag: Result refers to a concentration greater than the DL but below the limit of quantitation (LOQ).

B Flag: Indicates that the reported value is similar in concentration to the result of a related blank sample.

QN Flag: Indicates that the reported result is an estimated value due to a deficiency in related quality control criteria with an unknown bias.

R&M Project No.: 2690.02	Field Sample ID:		BET20-TH24-02	BET20-TH25-01	BET20-TH25-02	BET20-TH26-01	BET20-TH26-03	BET20-TH26-02	BET20-TH27-01		
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63958-21	320-63958-18	320-63958-19	320-63739-23	320-63739-25	320-63739-24	320-63739-6		
	Location ID:		BH-X	BH-Y	BH-Y	BH-Z	BH-Z	BH-Z	BH-AA		
	Sample Type:		Primary	Primary	Primary	Primary	Duplicate (BET20-TH26-01)	Primary	Primary		
	Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Test Boring ID:		RM20-24	RM20-25	RM20-25	RM20-26	RM20-26	RM20-26	RM20-27		
	Depth:		5.0 to 7.0 feet	1.1 to 3.1 feet	15.0 to 17.0 feet	2.0 to 4.0 feet	2.0 to 4.0 feet	25.0 to 27.0 feet	0.1 to 0.5 feet		
	Date Sampled:		8/14/2020 3:40 AM	8/14/2020 1:30 AM	8/14/2020 1:57 AM	8/10/2020 12:05 AM	8/10/2020 12:20 AM	8/10/2020 1:00 AM	8/6/2020 10:55 PM		
	Percent Solids ⁵		94.4	92.4	96.5	94.6	94.9	79.4	89.2		
	Percent Moisture ⁵		5.6	7.6	3.5	5.4	5.1	20.6	10.8		
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg			
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²						
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		0.39 U	0.39 U	0.35 U	0.37 U	0.37 U	0.46 U	0.40 U
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		0.16 U	0.16 U	0.14 U	0.16 J	0.15 U	0.18 U	0.16 U
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		0.27 U	0.26 U	0.24 U	0.25 U	0.25 U	0.31 U	0.27 U
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		0.39 U	0.39 U	0.35 U	0.37 U	0.37 U	0.46 U	0.40 U
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		0.41 U	0.41 U	0.37 U	0.39 U	0.39 U	0.48 U	0.42 U
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		0.027 U	0.026 U	0.024 U	0.025 U	0.025 U	0.031 U	0.027 U
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.11 J B	0.15 J B	0.12 J B	0.092 J B	0.12 J B	0.11 J B	0.15 J B
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		0.041 U	0.041 U	0.037 U	0.039 U	0.039 U	0.048 U	0.042 U
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		0.023 U	0.023 U	0.021 U	0.022 U	0.022 U	0.027 U	0.024 U
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		0.071 U	0.070 U	0.063 U	0.067 U	0.067 U	0.082 U	0.072 U
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		0.037 U	0.037 U	0.033 U	0.035 U	0.035 U	0.043 U	0.037 U
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		0.031 U	0.030 U	0.027 U	0.029 U	0.029 U	0.036 U	0.031 U
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		0.033 U	0.032 U	0.029 U	0.031 U	0.032 J	0.038 U	0.033 U
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		0.045 U	0.044 U	0.040 U	0.042 U	0.042 U	0.052 U	0.045 U
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		0.021 U	0.021 U	0.019 U	0.020 U	0.020 U	0.025 U	0.021 U
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		0.038 U	0.038 U	0.034 U	0.036 U	0.036 U	0.044 U	0.039 U
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		0.087 U	0.086 U	0.077 U	0.082 U	0.081 U	0.10 U	0.088 U
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	0.21 U QN	0.21 U QN	0.19 U QN	0.32 J B	0.22 J H B	0.25 U QN	0.39 J B QN
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	0.091 U	0.090 U	0.081 U	0.086 U	0.085 U	0.11 U	0.092 U
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		0.021 U	0.021 U	0.019 U	0.020 U	0.020 U	0.025 U	0.021 U
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		0.082 U	0.081 U	0.073 U	0.077 U	0.076 U	0.095 U	0.082 U
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		0.057 U	0.057 U	0.051 U	0.054 U	0.054 U	0.066 U	0.058 U
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		0.054 U	0.053 U	0.048 U	0.051 U	0.051 U	0.063 U	0.055 U
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		0.038 U	0.038 U	0.034 U	0.036 U	0.036 U	0.044 U	0.039 U

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

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R&M Project No.: 2690.02	Field Sample ID:		BET20-TH27-03	BET20-TH27-02	BET20-TH28-01	BET20-TH28-03	BET20-TH28-02	BET20-TH29-01	BET20-TH29-02		
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63739-8	320-63739-7	320-63739-11	320-63739-13	320-63739-12	320-63979-10	320-63979-11		
	Location ID:		BH-AA	BH-AA	BH-BB	BH-BB	BH-BB	BH-CC	BH-CC		
	Sample Type:		Duplicate (BET20-TH27-01)	Primary	Primary	Duplicate (BET20-TH28-01)	Primary	Primary	Primary		
	Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Test Boring ID:		RM20-27	RM20-27	RM20-28	RM20-28	RM20-28	RM20-29	RM20-29		
	Depth:		0.1 to 0.5 feet	10.0 to 12.0 feet	0.1 to 0.5 feet	0.1 to 0.5 feet	20.0 to 22.0 feet	0.0 to 2.0 feet	10.0 to 12.0 feet		
	Date Sampled:		8/6/2020 11:15 PM	8/6/2020 11:30 PM	8/7/2020 11:05 PM	8/7/2020 11:20 PM	8/7/2020 11:45 PM	8/18/2020 12:20 AM	8/18/2020 12:55 AM		
	Percent Solids ⁵		90.1	90.2	92.2	90.5	76.7	95.8	92.9		
	Percent Moisture ⁵		9.9	9.8	7.8	9.5	23.3	4.2	7.1		
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg			
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²						
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		0.39 U	0.39 U	0.37 U	0.40 U	0.47 U	0.36 U	0.38 U
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		0.16 U	0.16 U	0.15 U	0.16 U	0.19 U	0.15 U	0.16 U
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		0.27 U	0.26 U	0.25 U	0.27 U	0.32 U	0.25 U	0.26 U
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		0.39 U	0.39 U	0.37 U	0.40 U	0.47 U	0.36 U	0.38 U
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		0.42 U	0.41 U	0.39 U	0.42 U	0.50 U	0.38 U	0.41 U
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		0.027 U	0.026 U	0.025 U	0.027 U	0.032 U	0.025 U	0.026 U
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.16 J B	0.17 J B	0.19 J B	0.19 J B	0.22 J B	0.16 J B	0.18 J B
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		0.042 U	0.041 U	0.039 U	0.042 U	0.050 U	0.038 U	0.041 U
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		0.023 U	0.023 U	0.026 J	0.024 U	0.028 U	0.022 U	0.023 U
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		0.072 U	0.070 U	0.068 U	0.072 U	0.086 U	0.066 U	0.070 U
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		0.037 U	0.037 U	0.035 U	0.038 U	0.045 U	0.034 U	0.036 U
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		0.031 U	0.030 U	0.029 U	0.031 U	0.037 U	0.029 U	0.030 U
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		0.033 U	0.032 U	0.031 U	0.033 U	0.040 U	0.031 U	0.032 U
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		0.045 U	0.044 U	0.043 U	0.045 U	0.054 U	0.041 U	0.044 U
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		0.021 U	0.021 U	0.020 U	0.022 U	0.026 U	0.020 U	0.021 U
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		0.038 U	0.038 U	0.036 U	0.039 U	0.046 U	0.035 U	0.037 U
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		0.088 U	0.086 U	0.083 U	0.088 U	0.10 U	0.081 U	0.085 U
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	0.21 U QN	0.21 U QN	0.28 J B	0.22 J B	0.26 U QN	0.20 U QN	0.36 J QN
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	0.092 U	0.090 U	0.087 U	0.093 U	0.11 U	0.085 U	0.089 U
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		0.021 U	0.021 U	0.020 U	0.022 U	0.026 U	0.020 U	0.021 U
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		0.082 U	0.081 U	0.078 U	0.083 U	0.098 U	0.076 U	0.080 U
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		0.058 U	0.056 U	0.055 U	0.058 U	0.069 U	0.053 U	0.056 U
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		0.054 U	0.053 U	0.052 U	0.055 U	0.065 U	0.050 U	0.053 U
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		0.038 U	0.038 U	0.036 U	0.039 U	0.046 U	0.035 U	0.037 U

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

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R&M Project No.: 2690.02	Field Sample ID:		BET20-TH30-01	BET20-TH30-03	BET20-TH30-02	BET20-TH31-01	BET20-TH31-02	BET20-TH32-01	BET20-TH33-01		
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63958-2	320-63958-4	320-63958-3	320-63979-12	320-63979-13	320-63979-14	320-63979-15		
	Location ID:		BH-DD	BH-DD	BH-DD	BH-EE	BH-EE	BH-FF	BH-GG		
	Sample Type:		Primary	Duplicate (BET20-TH30-01)	Primary	Primary	Duplicate (BET20-TH31-01)	Primary	Primary		
	Matrix:		Soil	Soil	Soil	Soil	Soil	Soil	Soil		
	Test Boring ID:		RM20-30	RM20-30	RM20-30	RM20-31	RM20-31	RM20-32	RM20-33		
	Depth:		0.1 to 0.5 feet	0.1 to 0.5 feet	20.0 to 22.0 feet	1.0 to 2.0 feet	1.0 to 2.0 feet	1.0 to 2.0 feet	1.0 to 2.0 feet		
	Date Sampled:		8/11/2020 11:50 PM	8/11/2020 11:55 PM	8/12/2020 12:35 AM	8/18/2020 10:55 PM	8/18/2020 11:05 PM	8/18/2020 11:35 PM	8/19/2020 12:10 AM		
	Percent Solids ⁵		94	94.1	84.3	91.2	91.4	92.1	88.6		
	Percent Moisture ⁵		6	5.9	15.7	8.8	8.6	7.9	11.4		
Units:		µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg			
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²						
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		0.39 U	0.36 U	0.39 U	0.36 U	0.39 U	0.39 U	0.41 U
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		0.16 U	0.15 U	0.16 U	0.14 U	0.16 U	0.16 U	0.16 U
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		0.26 U	0.24 U	0.26 U	0.24 U	0.26 U	0.26 U	0.27 U
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		0.39 U	0.36 U	0.39 U	0.36 U	0.39 U	0.39 U	0.41 U
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		0.41 U	0.38 U	0.41 U	0.38 U	0.41 U	0.41 U	0.43 U
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		0.026 U	0.024 U	0.026 U	0.024 U	0.026 U	0.026 U	0.027 U
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.16 J B	0.17 J B	0.17 J B	0.16 J B	0.21 B	0.17 J B	0.19 J B
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		0.041 U	0.038 U	0.041 U	0.038 U	0.041 U	0.041 U	0.043 U
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		0.023 U	0.021 U	0.023 U	0.021 U	0.023 U	0.023 U	0.024 U
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		0.070 U	0.065 U	0.070 U	0.065 U	0.070 U	0.070 U	0.074 U
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		0.037 U	0.034 U	0.037 U	0.034 U	0.036 U	0.037 U	0.038 U
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		0.030 U	0.028 U	0.030 U	0.028 U	0.030 U	0.031 U	0.038 J
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		0.032 U	0.030 U	0.032 U	0.030 U	0.032 U	0.033 U	0.037 J
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		0.044 U	0.041 U	0.044 U	0.041 U	0.044 U	0.044 U	0.046 U
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		0.021 U	0.019 U	0.021 U	0.019 U	0.021 U	0.021 U	0.022 U
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		0.038 U	0.035 U	0.038 U	0.035 U	0.037 U	0.038 U	0.040 U
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		0.086 U	0.080 U	0.086 U	0.079 U	0.085 U	0.086 U	0.090 U
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	0.21 U QN	0.48 J QN	0.26 J QN	0.31 J	0.24 J	0.30 J QN	0.35 J QN
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	0.090 U	0.084 U	0.090 U	0.083 U	0.090 U	0.090 U	0.095 U
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		0.021 U	0.019 U	0.021 U	0.019 U	0.021 U	0.021 U	0.022 U
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		0.081 U	0.075 U	0.081 U	0.074 U	0.080 U	0.081 U	0.085 U
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		0.057 U	0.053 U	0.057 U	0.052 U	0.056 U	0.057 U	0.059 U
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		0.053 U	0.050 U	0.053 U	0.049 U	0.053 U	0.054 U	0.056 U
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		0.038 U	0.035 U	0.038 U	0.035 U	0.037 U	0.038 U	0.040 U

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

2 Results that were non-detect are reported as the limit of detection (LOD) with a U flag and are in gray italicized text.

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R&M Project No.: 2690.02	Field Sample ID:		BET20-TH34-01	BET20-TH35-01	BET20-TH36-01				
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63979-16	320-63979-17	320-63979-18				
	Location ID:		BH-HH	BH-II	BH-JJ				
	Sample Type:		Primary	Primary	Primary				
	Matrix:		Soil	Soil	Soil				
	Test Boring ID:		RM20-34	RM20-35	RM20-36				
	Depth:		1.0 to 2.0 feet	1.0 to 2.0 feet	1.0 to 2.0 feet				
	Date Sampled:		8/19/2020 12:55 AM	8/19/2020 1:15 AM	8/19/2020 2:00 AM				
	Percent Solids ⁵		94.5	92.8	94.1				
	Percent Moisture ⁵		5.5	7.2	5.9				
Units:		µg/kg	µg/kg	µg/kg					
Analysis	Analyte	CAS Number	HHCL ¹	MGWCL ¹	Results ²				
EPA 537.1 Modified	4:2 FTS	757124-72-4	None Assigned		<i>0.36 U</i>	<i>0.38 U</i>	<i>0.38 U</i>		
EPA 537.1 Modified	6:2 FTS	27619-97-2	None Assigned		<i>0.15 U</i>	<i>0.16 U</i>	<i>0.15 U</i>		
EPA 537.1 Modified	8:2 FTS	39108-34-4	None Assigned		<i>0.24 U</i>	<i>0.26 U</i>	<i>0.25 U</i>		
EPA 537.1 Modified	NETFOSAA	2991-50-6	None Assigned		<i>0.36 U</i>	<i>0.38 U</i>	<i>0.38 U</i>		
EPA 537.1 Modified	NMeFOSAA	2355-31-9	None Assigned		<i>0.38 U</i>	<i>0.41 U</i>	<i>0.40 U</i>		
EPA 537.1 Modified	PFBS	375-73-5	None Assigned		<i>0.024 U</i>	<i>0.026 U</i>	<i>0.025 U</i>		
EPA 537.1 Modified	PFBA	375-22-4	None Assigned		0.18 J B	0.16 J B	0.17 J B		
EPA 537.1 Modified	PFDS	335-77-3	None Assigned		<i>0.038 U</i>	<i>0.041 U</i>	<i>0.040 U</i>		
EPA 537.1 Modified	PFDA	335-76-2	None Assigned		<i>0.021 U</i>	<i>0.023 U</i>	<i>0.022 U</i>		
EPA 537.1 Modified	PFDoA	307-55-1	None Assigned		<i>0.065 U</i>	<i>0.070 U</i>	<i>0.068 U</i>		
EPA 537.1 Modified	PFHpS	375-92-8	None Assigned		<i>0.034 U</i>	<i>0.036 U</i>	<i>0.036 U</i>		
EPA 537.1 Modified	PFHpA	375-85-9	None Assigned		<i>0.028 U</i>	<i>0.030 U</i>	<i>0.030 U</i>		
EPA 537.1 Modified	PFHxS	355-46-4	None Assigned		<i>0.030 U</i>	<i>0.032 U</i>	<i>0.032 U</i>		
EPA 537.1 Modified	PFHxA	307-24-4	None Assigned		<i>0.041 U</i>	<i>0.044 U</i>	<i>0.043 U</i>		
EPA 537.1 Modified	PFNS	68259-12-1	None Assigned		<i>0.019 U</i>	<i>0.021 U</i>	<i>0.020 U</i>		
EPA 537.1 Modified	PFNA	375-95-1	None Assigned		<i>0.035 U</i>	<i>0.037 U</i>	<i>0.037 U</i>		
EPA 537.1 Modified	FOSA	754-91-6	None Assigned		<i>0.080 U</i>	<i>0.085 U</i>	<i>0.084 U</i>		
EPA 537.1 Modified	PFOS	1763-23-1	1,600	3.0	0.29 J QN	0.23 J QN	0.29 J QN		
EPA 537.1 Modified	PFOA	335-67-1	1,600	1.7	<i>0.084 U</i>	<i>0.089 U</i>	<i>0.088 U</i>		
EPA 537.1 Modified	PFPeS	2706-91-4	None Assigned		<i>0.019 U</i>	<i>0.021 U</i>	<i>0.020 U</i>		
EPA 537.1 Modified	PFPeA	2706-90-3	None Assigned		<i>0.075 U</i>	<i>0.080 U</i>	<i>0.079 U</i>		
EPA 537.1 Modified	PFTeA	376-06-7	None Assigned		<i>0.052 U</i>	<i>0.056 U</i>	<i>0.055 U</i>		
EPA 537.1 Modified	PFTriA	72629-94-8	None Assigned		<i>0.050 U</i>	<i>0.053 U</i>	<i>0.052 U</i>		
EPA 537.1 Modified	PFUnA	2058-94-8	None Assigned		<i>0.035 U</i>	<i>0.037 U</i>	<i>0.037 U</i>		

Notes:

1 Cleanup levels are based on the most stringent 18 AAC 75 migration to groundwater or under 40-inch zone human health levels (ADEC, 2018a)

2 Results that were non-detect are reported as the limit of detection (LOD) with a U flag and are in gray italicized text.

Flagging Notes:

U Flag: Result was not detected above the detection limit (DL) and the result is reported as the LOD.

J Flag: Result refers to a concentration greater than the DL but below the limit of quantitation (LOQ).

B Flag: Indicates that the reported value is similar in concentration to the result of a related blank sample.

QN Flag: Indicates that the reported result is an estimated value due to a deficiency in related quality control criteria with an unknown bias.

R&M Project No.: 2690.02	Field Sample ID:		BET20-WA-RB01	BET20-WA-RB02	BET20-WA-RB03	BET20-WA-RB04			
BET Main Runway Reconstruction Project	TA-Sacramento Lab Sample ID:		320-63739-14	320-63958-1	320-63958-17	320-63979-1			
	Location ID:		8/5 to 8/8/2020	8/9 to 8/11/2020	8/12 to 8/14/2020	8/15 to 8/19/2020			
	Sample Type:		Rinsate Blank	Rinsate Blank	Rinsate Blank	Rinsate Blank			
	Matrix:		Water	Water	Water	Water			
	Date Sampled:		8/8/2020 2:05 AM	8/11/2020 11:15 PM	8/14/2020 1:20 AM	8/16/2020 12:15 AM			
	Units:		ng/L	ng/L	ng/L	ng/L			
Analysis	Analyte	CAS Number	Results ¹						
EPA 537.1 Modified	4:2 FTS	757124-72-4	4.6 U	4.7 U	4.5 U	4.8 U			
EPA 537.1 Modified	6:2 FTS	27619-97-2	1.8 U	1.8 U	1.7 U	1.8 U			
EPA 537.1 Modified	8:2 FTS	39108-34-4	1.8 U	1.8 U	1.7 U	1.8 U			
EPA 537.1 Modified	NETFOSAA	2991-50-6	1.7 U	1.7 U	1.7 U	1.7 U			
EPA 537.1 Modified	NMeFOSAA	2355-31-9	2.7 U	2.8 U	2.7 U	2.9 U			
EPA 537.1 Modified	PFBS	375-73-5	0.18 U	0.18 U	0.17 U	0.18 U			
EPA 537.1 Modified	PFBA	375-22-4	0.31 U	0.33 J	0.47 J	0.32 U			
EPA 537.1 Modified	PFDS	335-77-3	0.28 U	0.29 U	0.28 U	0.29 U			
EPA 537.1 Modified	PFDA	335-76-2	0.27 U	0.28 U	0.27 U	0.29 U			
EPA 537.1 Modified	PFDoA	307-55-1	0.48 U	0.50 U	0.48 U	0.51 U			
EPA 537.1 Modified	PFHpS	375-92-8	0.17 U	0.17 U	0.17 U	0.17 U			
EPA 537.1 Modified	PFHpA	375-85-9	0.22 U	0.23 U	0.22 U	0.23 U			
EPA 537.1 Modified	PFHxS	355-46-4	0.26 J B	0.15 U	0.25 J B	0.30 J B			
EPA 537.1 Modified	PFHxA	307-24-4	0.51 U	0.53 U	0.50 U	0.53 U			
EPA 537.1 Modified	PFNS	68259-12-1	0.14 U	0.15 U	0.14 U	0.15 U			
EPA 537.1 Modified	PFNA	375-95-1	0.24 U	0.25 U	0.23 U	0.25 U			
EPA 537.1 Modified	FOSA	754-91-6	0.31 U	0.36 J B	0.56 J B	0.51 J B			
EPA 537.1 Modified	PFOS	1763-23-1	0.47 U	0.49 U	0.47 U	0.50 U			
EPA 537.1 Modified	PFOA	335-67-1	0.75 U	0.77 U	0.74 U	0.78 U			
EPA 537.1 Modified	PFPeS	2706-91-4	0.26 U	0.27 U	0.26 U	0.28 U			
EPA 537.1 Modified	PFPeA	2706-90-3	0.43 U	0.45 U	0.43 U	0.45 U			
EPA 537.1 Modified	PFTeA	376-06-7	0.25 U	0.34 J B	0.25 U	0.27 U			
EPA 537.1 Modified	PFTriA	72629-94-8	1.1 U	1.2 U	1.1 U	1.2 U			
EPA 537.1 Modified	PFUnA	2058-94-8	0.97 U	1.0 U	0.96 U	1.0 U			

Notes:

1 Results that were non-detect are reported as the limit of detection (LOD) with a U flag and are in gray italicized text.

Flagging Notes:

U Flag: Result was not detected above the detection limit (DL) and the result is reported as the LOD.

J Flag: Result refers to a concentration greater than the DL but below the limit of quantitation (LOQ).

B Flag: Indicates that the reported value is similar in concentration to the result of a related blank sample.

APPENDIX E
LEVEL 2 LABORATORY DATA REPORTS

ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

Laboratory Job ID: 320-63739-1

Client Project/Site: Bethel Airport Main Runway Reconstruction

For:

R&M Consultants, Inc
9101 Vanguard Drive
Anchorage, Alaska 99507

Attn: Christopher Fell



*Authorized for release by:
9/11/2020 4:30:09 PM*

Jill Kellmann, Client Service Manager
(916)374-4402
Jill.Kellmann@Eurofinset.com

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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



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Definitions/Glossary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*5	Isotope dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Case Narrative

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Job ID: 320-63739-1

Laboratory: Eurofins TestAmerica, Sacramento

Narrative

Receipt

The samples were received on 8/15/2020 8:50 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.8° C.

GC/MS Semi VOA

Method 537 (modified): Perfluorooctanesulfonic acid (PFOS) was detected above the reporting limit (RL) in the method blank associated with preparation batch 320-405032 and analytical batch 320-405870 as well as in the following sample: BET20-TH16-02 (320-63739-16) and (MB 320-405032/1-A). The sample was re-extracted outside of holding time. Both sets of data have been reported.

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

LCMS

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for several the following samples: BET20-TH11-01 (320-63739-4), BET20-TH11-02 (320-63739-5), BET20-TH27-01 (320-63739-6), BET20-TH27-03 (320-63739-8), BET20-TH28-01 (320-63739-11), aBET20-TH28-03 (320-63739-13), and BET20-TH09-01 (320-63739-22). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS and M2-8:2 FTS for the following samples: BET20-TH27-01 (320-63739-6), BET20-TH27-03 (320-63739-8), BET20-TH10-01 (320-63739-9), (320-63739-A-9-C MS) and (320-63739-A-9-D MSD), BET20-TH28-02 (320-63739-12), and BET20-TH28-03 (320-63739-13). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS for the following sample: BET20-TH10-02 (320-63739-10), BET20-TH12-01 (320-63739-17), BET20-TH12-03 (320-63739-19), and BET20-TH13-02 (320-63739-21). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The method blank for preparation batch 320-405814 contained Perfluorooctanesulfonic acid (PFOS) above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 537 (modified): The laboratory control sample (LCS) for preparation batch 320-405814 and analytical batch 320-406495 recovered outside control limits for the following analyte: Perfluorooctanesulfonic acid (PFOS). This analyte was biased high in the LCS and all the results in the associated samples were below the reporting limit; therefore, the data been reported.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside of the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. BET20-TH09-01 (320-63739-22)

Method 537 (modified): The method blank for preparation batch 320-405032 contained Perfluorooctanesulfonic acid (PFOS) above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 537 (modified): The laboratory control sample (LCS) for preparation batch 320-405032 and analytical batch 320-405870 recovered outside control limits for the following analytes: Perfluorooctanesulfonic acid (PFOS). This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported. BET20-TH08-01 (320-63739-1), BET20-TH08-02 (320-63739-2), BET20-TH08-03 (320-63739-3), BET20-TH11-01 (320-63739-4), BET20-TH11-02 (320-63739-5), BET20-TH27-01 (320-63739-6), BET20-TH27-02 (320-63739-7), BET20-TH27-03 (320-63739-8), BET20-TH10-01 (320-63739-9), BET20-TH10-02 (320-63739-10), BET20-TH28-01 (320-63739-11), BET20-TH28-02 (320-63739-12), BET20-TH28-03 (320-63739-13), BET20-TH16-01 (320-63739-15), BET20-TH12-01 (320-63739-17), BET20-TH12-02 (320-63739-18), BET20-TH12-03 (320-63739-19) and (LCS 320-405032/2-A)

Method 537 (modified): The laboratory control sample (LCS) for preparation batch 320-405032 and analytical batch 320-405870 recovered outside control limits for the following analytes: Perfluorooctanesulfonic acid (PFOS). The associated sample was re-prepared outside holding time. Both sets of data have been reported. BET20-TH16-02 (320-63739-16) and (LCS 320-405032/2-A)

Case Narrative

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Job ID: 320-63739-1 (Continued)

Laboratory: Eurofins TestAmerica, Sacramento (Continued)

Method 537 (modified): Several Isotope Dilution Analyte (IDA) recoveries associated with the following sample are below the method recommended limit: (LCS 320-405032/2-A) and (MB 320-405032/1-A). The samples were re-extracted outside of the holding time with IDA recoveries within control limits. Both sets of data are reported. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Method 537 (modified): Results for sample BET20-TH16-02 (320-63739-16) was reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): The method blank for preparation batch 320-405814 and analytical batch 320-406495 contained Perfluorooctanesulfonic acid (PFOS) above the method detection limit. Perfluorooctanesulfonic acid (PFOS) in the following samples was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 537 (modified): The method blank for preparation batch 320-405814 and analytical batch 320-406495 contained Perfluorooctanesulfonic acid (PFOS) above the reporting limit. The following samples had detections above the reporting limit for Perfluorooctanesulfonic acid (PFOS) above the reporting limit and were extracted outside holding time. Both sets of data have been reported.

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

General Chemistry

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

Organic Prep

Method SHAKE: The following sample was observed to be cloudy after extraction/final volume: BET20-TH13-01 (320-63739-20).

Method SHAKE: The following sample was observed to be yellow and cloudy after extraction/final volume: BET20-TH09-01 (320-63739-22).

Method SHAKE: The following samples were observed to be yellow after extraction/final volume: BET20-TH11-01 (320-63739-4), BET20-TH11-02 (320-63739-5), BET20-TH27-01 (320-63739-6), BET20-TH10-01 (320-63739-9), (320-63739-A-9 MS), (320-63739-A-9 MSD), BET20-TH28-01 (320-63739-11), BET20-TH28-03 (320-63739-13).

Method SHAKE: The following sample was observed to be light yellow after extraction: BET20-TH15-01 (320-63739-32).

Method SHAKE: The following samples was re-prepared outside of preparation holding time due to a positive result in the method blank (MB) PFOS: BET20-TH10-01 (320-63739-9), BET20-TH28-01 (320-63739-11), BET20-TH28-03 (320-63739-13), BET20-TH16-02 (320-63739-16), (320-63739-A-9 MS), (320-63739-A-9 MSD), BET20-TH26-03 (320-63739-25), BET20-TH09-03 (320-63739-29), BET20-TH14-01 (320-63739-30), BET20-TH15-02 (320-63739-33), (320-63739-A-25 MS), and (320-63739-A-25 MSD).

Method SHAKE: The following samples were re-prepared outside of preparation holding time due to low IDA percent recovery in the MB and LCS: BET20-TH08-01 (320-63739-1), BET20-TH08-02 (320-63739-2), BET20-TH08-03 (320-63739-3), BET20-TH11-01 (320-63739-4), BET20-TH11-02 (320-63739-5), BET20-TH27-01 (320-63739-6), BET20-TH27-02 (320-63739-7), BET20-TH27-03 (320-63739-8), BET20-TH10-02 (320-63739-10), BET20-TH28-02 (320-63739-12), BET20-TH16-01 (320-63739-15), BET20-TH12-01 (320-63739-17), BET20-TH12-02 (320-63739-18), BET20-TH12-03 (320-63739-19), (320-63739-A-1 MS) and (320-63739-A-1 MSD).

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

Detection Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH08-01

Lab Sample ID: 320-63739-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.14	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	0.40	J H B	0.49	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH08-02

Lab Sample ID: 320-63739-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.14	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH08-03

Lab Sample ID: 320-63739-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J B	0.20	0.029	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH11-01

Lab Sample ID: 320-63739-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH11-02

Lab Sample ID: 320-63739-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	0.38	J B *	0.53	0.21	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	0.34	J H B	0.53	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH27-01

Lab Sample ID: 320-63739-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J B	0.21	0.030	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.39	J B *	0.53	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH27-02

Lab Sample ID: 320-63739-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH27-03

Lab Sample ID: 320-63739-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J B	0.21	0.030	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH10-01

Lab Sample ID: 320-63739-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J B	0.20	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.044	J	0.20	0.032	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.27	J B *	0.51	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH10-02

Lab Sample ID: 320-63739-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.14	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Detection Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH28-01

Lab Sample ID: 320-63739-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.19	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.026	J	0.20	0.022	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.28	J B *	0.51	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH28-02

Lab Sample ID: 320-63739-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.22	J B	0.26	0.036	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH28-03

Lab Sample ID: 320-63739-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.19	J B	0.22	0.030	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.22	J B *	0.54	0.22	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-WA-RB01

Lab Sample ID: 320-63739-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.26	J B	1.8	0.15	ng/L	1		537 (modified)	Total/NA

Client Sample ID: BET20-TH16-01

Lab Sample ID: 320-63739-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J B	0.20	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.097	J	0.20	0.032	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH16-02

Lab Sample ID: 320-63739-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.14	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.19	J	0.20	0.042	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.11	J	0.20	0.085	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.074	J	0.20	0.025	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.15	J	0.20	0.020	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.1		0.20	0.031	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.17	J	0.20	0.035	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	25	B *	5.0	2.0	ug/Kg	10	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH12-01

Lab Sample ID: 320-63739-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.035	J	0.20	0.031	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	0.28	J H B	0.52	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH12-02

Lab Sample ID: 320-63739-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J B	0.23	0.032	ug/Kg	1	✳	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Detection Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH12-03

Lab Sample ID: 320-63739-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH13-01

Lab Sample ID: 320-63739-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.095	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.36	J B *	0.51	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH13-02

Lab Sample ID: 320-63739-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J B	0.23	0.032	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.45	J B *	0.58	0.23	ug/Kg	1	✳	537 (modified)	Total/NA
6:2 FTS	0.18	J	2.3	0.17	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH09-01

Lab Sample ID: 320-63739-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.079	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.037	J I	0.20	0.031	ug/Kg	1	✳	537 (modified)	Total/NA
6:2 FTS	0.17	J	2.0	0.15	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH26-01

Lab Sample ID: 320-63739-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.092	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.32	J B *	0.50	0.20	ug/Kg	1	✳	537 (modified)	Total/NA
6:2 FTS	0.16	J	2.0	0.15	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH26-02

Lab Sample ID: 320-63739-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.11	J B	0.25	0.034	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH26-03

Lab Sample ID: 320-63739-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.032	J	0.20	0.031	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.54	B *	0.50	0.20	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	0.22	J H B	0.51	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH07-01

Lab Sample ID: 320-63739-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.093	J B	0.19	0.027	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.39	J B *	0.48	0.19	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH07-02

Lab Sample ID: 320-63739-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.097	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.29	J B *	0.52	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Detection Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH09-02

Lab Sample ID: 320-63739-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.095	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.31	J B *	0.51	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH09-03

Lab Sample ID: 320-63739-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.10	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.63	B *	0.52	0.21	ug/Kg	1	✳	537 (modified)	Total/NA
6:2 FTS	0.70	J	2.1	0.16	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	0.22	J H B	0.51	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH14-01

Lab Sample ID: 320-63739-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.094	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.092	J	0.20	0.031	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.0	B *	0.50	0.20	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	0.81	H B	0.52	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH14-02

Lab Sample ID: 320-63739-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J B	0.26	0.036	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.37	J B *	0.64	0.26	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH15-01

Lab Sample ID: 320-63739-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.099	J B	0.20	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.42	J B *	0.51	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH15-02

Lab Sample ID: 320-63739-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.090	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.14	J	0.21	0.032	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	13	B *	0.51	0.21	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RE	12	H B	0.53	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Euofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH08-01

Lab Sample ID: 320-63739-1

Date Collected: 08/06/20 00:25

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.3

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.14	J B	0.21	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.043	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.089	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.52	0.21	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
4:2 FTS	ND		2.1	0.38	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/19/20 13:47	08/22/20 19:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	89		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C5 PFPeA	91		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C2 PFHxA	94		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C4 PFHpA	98		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C4 PFOA	97		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C5 PFNA	96		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C2 PFDA	96		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C2 PFUnA	96		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C2 PFDoA	99		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C2 PFTeDA	102		25 - 150	08/19/20 13:47	08/22/20 19:20	1
18O2 PFHxS	91		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C4 PFOS	93		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C8 FOSA	92		25 - 150	08/19/20 13:47	08/22/20 19:20	1
d3-NMeFOSAA	86		25 - 150	08/19/20 13:47	08/22/20 19:20	1
d5-NEtFOSAA	91		25 - 150	08/19/20 13:47	08/22/20 19:20	1
M2-6:2 FTS	80		25 - 150	08/19/20 13:47	08/22/20 19:20	1
M2-8:2 FTS	85		25 - 150	08/19/20 13:47	08/22/20 19:20	1
M2-4:2 FTS	80		25 - 150	08/19/20 13:47	08/22/20 19:20	1
13C3 PFBS	89		25 - 150	08/19/20 13:47	08/22/20 19:20	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH08-01

Lab Sample ID: 320-63739-1

Date Collected: 08/06/20 00:25

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.3

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.40	J H B	0.49	0.20	ug/Kg	☼	08/26/20 21:00	08/29/20 04:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.0	0.38	ug/Kg	☼	08/26/20 21:00	08/29/20 04:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.0	0.36	ug/Kg	☼	08/26/20 21:00	08/29/20 04:14	1
4:2 FTS	ND	H	2.0	0.36	ug/Kg	☼	08/26/20 21:00	08/29/20 04:14	1
6:2 FTS	ND	H	2.0	0.15	ug/Kg	☼	08/26/20 21:00	08/29/20 04:14	1
8:2 FTS	ND	H	2.0	0.25	ug/Kg	☼	08/26/20 21:00	08/29/20 04:14	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOS	87		25 - 150				08/26/20 21:00	08/29/20 04:14	1
d3-NMeFOSAA	76		25 - 150				08/26/20 21:00	08/29/20 04:14	1
d5-NEtFOSAA	79		25 - 150				08/26/20 21:00	08/29/20 04:14	1
M2-6:2 FTS	82		25 - 150				08/26/20 21:00	08/29/20 04:14	1
M2-8:2 FTS	84		25 - 150				08/26/20 21:00	08/29/20 04:14	1
M2-4:2 FTS	77		25 - 150				08/26/20 21:00	08/29/20 04:14	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.7		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	95.3		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH08-02

Lab Sample ID: 320-63739-2

Date Collected: 08/06/20 01:50

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.7

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.14	J B	0.20	0.028	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.50	0.20	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/19/20 13:47	08/22/20 19:48	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	81		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C5 PFPeA	83		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C2 PFHxA	81		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C4 PFHpA	88		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C4 PFOA	88		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C5 PFNA	89		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C2 PFDA	88		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C2 PFUnA	87		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C2 PFDoA	85		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C2 PFTeDA	94		25 - 150	08/19/20 13:47	08/22/20 19:48	1
18O2 PFHxS	84		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C4 PFOS	80		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C8 FOSA	80		25 - 150	08/19/20 13:47	08/22/20 19:48	1
d3-NMeFOSAA	75		25 - 150	08/19/20 13:47	08/22/20 19:48	1
d5-NEtFOSAA	78		25 - 150	08/19/20 13:47	08/22/20 19:48	1
M2-6:2 FTS	67		25 - 150	08/19/20 13:47	08/22/20 19:48	1
M2-8:2 FTS	76		25 - 150	08/19/20 13:47	08/22/20 19:48	1
M2-4:2 FTS	65		25 - 150	08/19/20 13:47	08/22/20 19:48	1
13C3 PFBS	80		25 - 150	08/19/20 13:47	08/22/20 19:48	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH08-02

Lab Sample ID: 320-63739-2

Date Collected: 08/06/20 01:50

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.7

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.51	0.20	ug/Kg	☼	08/26/20 21:00	08/29/20 04:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.0	0.40	ug/Kg	☼	08/26/20 21:00	08/29/20 04:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.0	0.38	ug/Kg	☼	08/26/20 21:00	08/29/20 04:42	1
4:2 FTS	ND	H	2.0	0.38	ug/Kg	☼	08/26/20 21:00	08/29/20 04:42	1
6:2 FTS	ND	H	2.0	0.15	ug/Kg	☼	08/26/20 21:00	08/29/20 04:42	1
8:2 FTS	ND	H	2.0	0.26	ug/Kg	☼	08/26/20 21:00	08/29/20 04:42	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	91		25 - 150	08/26/20 21:00	08/29/20 04:42	1
d3-NMeFOSAA	93		25 - 150	08/26/20 21:00	08/29/20 04:42	1
d5-NEtFOSAA	94		25 - 150	08/26/20 21:00	08/29/20 04:42	1
M2-6:2 FTS	98		25 - 150	08/26/20 21:00	08/29/20 04:42	1
M2-8:2 FTS	90		25 - 150	08/26/20 21:00	08/29/20 04:42	1
M2-4:2 FTS	94		25 - 150	08/26/20 21:00	08/29/20 04:42	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.3		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	94.7		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH08-03

Lab Sample ID: 320-63739-3

Date Collected: 08/06/20 00:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.15	J B	0.20	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.079	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.030	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.088	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.068	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.026	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.032	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.51	0.20	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.040	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.084	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.40	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
4:2 FTS	ND		2.0	0.38	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1
8:2 FTS	ND		2.0	0.26	ug/Kg	☼	08/19/20 13:47	08/22/20 19:58	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	81		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C5 PFPeA	84		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C2 PFHxA	90		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C4 PFHpA	90		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C4 PFOA	88		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C5 PFNA	92		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C2 PFDA	87		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C2 PFUnA	91		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C2 PFDoA	92		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C2 PFTeDA	101		25 - 150	08/19/20 13:47	08/22/20 19:58	1
18O2 PFHxS	84		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C4 PFOS	87		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C8 FOSA	87		25 - 150	08/19/20 13:47	08/22/20 19:58	1
d3-NMeFOSAA	76		25 - 150	08/19/20 13:47	08/22/20 19:58	1
d5-NEtFOSAA	75		25 - 150	08/19/20 13:47	08/22/20 19:58	1
M2-6:2 FTS	67		25 - 150	08/19/20 13:47	08/22/20 19:58	1
M2-8:2 FTS	76		25 - 150	08/19/20 13:47	08/22/20 19:58	1
M2-4:2 FTS	72		25 - 150	08/19/20 13:47	08/22/20 19:58	1
13C3 PFBS	83		25 - 150	08/19/20 13:47	08/22/20 19:58	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH08-03

Lab Sample ID: 320-63739-3

Date Collected: 08/06/20 00:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.2

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.49	0.20	ug/Kg	☼	08/26/20 21:00	08/29/20 04:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.0	0.38	ug/Kg	☼	08/26/20 21:00	08/29/20 04:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.0	0.36	ug/Kg	☼	08/26/20 21:00	08/29/20 04:52	1
4:2 FTS	ND	H	2.0	0.36	ug/Kg	☼	08/26/20 21:00	08/29/20 04:52	1
6:2 FTS	ND	H	2.0	0.15	ug/Kg	☼	08/26/20 21:00	08/29/20 04:52	1
8:2 FTS	ND	H	2.0	0.25	ug/Kg	☼	08/26/20 21:00	08/29/20 04:52	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>13C4 PFOS</i>	88		25 - 150	08/26/20 21:00	08/29/20 04:52	1
<i>d3-NMeFOSAA</i>	81		25 - 150	08/26/20 21:00	08/29/20 04:52	1
<i>d5-NEtFOSAA</i>	88		25 - 150	08/26/20 21:00	08/29/20 04:52	1
<i>M2-6:2 FTS</i>	92		25 - 150	08/26/20 21:00	08/29/20 04:52	1
<i>M2-8:2 FTS</i>	96		25 - 150	08/26/20 21:00	08/29/20 04:52	1
<i>M2-4:2 FTS</i>	89		25 - 150	08/26/20 21:00	08/29/20 04:52	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.8		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	95.2		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH11-01

Lab Sample ID: 320-63739-4

Date Collected: 08/06/20 03:40

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 91.7

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.15	J B	0.21	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.090	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.52	0.21	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.086	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
4:2 FTS	ND		2.1	0.39	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/19/20 13:47	08/22/20 20:07	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	68		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C5 PFPeA	71		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C2 PFHxA	76		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C4 PFHpA	76		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C4 PFOA	79		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C5 PFNA	79		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C2 PFDA	76		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C2 PFUnA	81		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C2 PFDoA	80		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C2 PFTeDA	78		25 - 150	08/19/20 13:47	08/22/20 20:07	1
18O2 PFHxS	69		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C4 PFOS	78		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C8 FOSA	72		25 - 150	08/19/20 13:47	08/22/20 20:07	1
d3-NMeFOSAA	78		25 - 150	08/19/20 13:47	08/22/20 20:07	1
d5-NEtFOSAA	83		25 - 150	08/19/20 13:47	08/22/20 20:07	1
M2-6:2 FTS	108		25 - 150	08/19/20 13:47	08/22/20 20:07	1
M2-8:2 FTS	123		25 - 150	08/19/20 13:47	08/22/20 20:07	1
M2-4:2 FTS	95		25 - 150	08/19/20 13:47	08/22/20 20:07	1
13C3 PFBS	70		25 - 150	08/19/20 13:47	08/22/20 20:07	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH11-01

Lab Sample ID: 320-63739-4

Date Collected: 08/06/20 03:40

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 91.7

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.52	0.21	ug/Kg	☼	08/26/20 21:00	08/29/20 05:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.1	0.40	ug/Kg	☼	08/26/20 21:00	08/29/20 05:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.1	0.38	ug/Kg	☼	08/26/20 21:00	08/29/20 05:01	1
4:2 FTS	ND	H	2.1	0.38	ug/Kg	☼	08/26/20 21:00	08/29/20 05:01	1
6:2 FTS	ND	H	2.1	0.16	ug/Kg	☼	08/26/20 21:00	08/29/20 05:01	1
8:2 FTS	ND	H	2.1	0.26	ug/Kg	☼	08/26/20 21:00	08/29/20 05:01	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	93		25 - 150	08/26/20 21:00	08/29/20 05:01	1
d3-NMeFOSAA	102		25 - 150	08/26/20 21:00	08/29/20 05:01	1
d5-NEtFOSAA	103		25 - 150	08/26/20 21:00	08/29/20 05:01	1
M2-6:2 FTS	214	*5	25 - 150	08/26/20 21:00	08/29/20 05:01	1
M2-8:2 FTS	185	*5	25 - 150	08/26/20 21:00	08/29/20 05:01	1
M2-4:2 FTS	156	*5	25 - 150	08/26/20 21:00	08/29/20 05:01	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.3		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	91.7		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH11-02

Lab Sample ID: 320-63739-5

Date Collected: 08/06/20 04:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 91.7

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.21	0.030	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.082	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.031	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.091	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.071	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.054	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.033	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorooctanesulfonic acid (PFOS)	0.38	J B *	0.53	0.21	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.087	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
4:2 FTS	ND		2.1	0.39	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
6:2 FTS	ND		2.1	0.16	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1
8:2 FTS	ND		2.1	0.26	ug/Kg	✱	08/19/20 13:47	08/22/20 20:16	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	84		25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C5 PFPeA	90		25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C2 PFHxA	102		25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C4 PFHpA	112		25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C4 PFOA	98		25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C5 PFNA	111		25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C2 PFDA	98		25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C2 PFUnA	104		25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C2 PFDoA	103		25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C2 PFTeDA	109		25 - 150	08/19/20 13:47	08/22/20 20:16	1
18O2 PFHxS	107		25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C4 PFOS	111		25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C8 FOSA	89		25 - 150	08/19/20 13:47	08/22/20 20:16	1
d3-NMeFOSAA	81		25 - 150	08/19/20 13:47	08/22/20 20:16	1
d5-NEtFOSAA	86		25 - 150	08/19/20 13:47	08/22/20 20:16	1
M2-6:2 FTS	188	*5	25 - 150	08/19/20 13:47	08/22/20 20:16	1
M2-8:2 FTS	217	*5	25 - 150	08/19/20 13:47	08/22/20 20:16	1
M2-4:2 FTS	273	*5	25 - 150	08/19/20 13:47	08/22/20 20:16	1
13C3 PFBS	102		25 - 150	08/19/20 13:47	08/22/20 20:16	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH11-02

Lab Sample ID: 320-63739-5

Date Collected: 08/06/20 04:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 91.7

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.34	J H B	0.53	0.21	ug/Kg	☼	08/26/20 21:00	08/29/20 05:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.1	0.41	ug/Kg	☼	08/26/20 21:00	08/29/20 05:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.1	0.39	ug/Kg	☼	08/26/20 21:00	08/29/20 05:29	1
4:2 FTS	ND	H	2.1	0.39	ug/Kg	☼	08/26/20 21:00	08/29/20 05:29	1
6:2 FTS	ND	H	2.1	0.16	ug/Kg	☼	08/26/20 21:00	08/29/20 05:29	1
8:2 FTS	ND	H	2.1	0.27	ug/Kg	☼	08/26/20 21:00	08/29/20 05:29	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOS	96		25 - 150				08/26/20 21:00	08/29/20 05:29	1
d3-NMeFOSAA	83		25 - 150				08/26/20 21:00	08/29/20 05:29	1
d5-NEtFOSAA	95		25 - 150				08/26/20 21:00	08/29/20 05:29	1
M2-6:2 FTS	218	*5	25 - 150				08/26/20 21:00	08/29/20 05:29	1
M2-8:2 FTS	247	*5	25 - 150				08/26/20 21:00	08/29/20 05:29	1
M2-4:2 FTS	281	*5	25 - 150				08/26/20 21:00	08/29/20 05:29	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.3		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	91.7		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH27-01

Lab Sample ID: 320-63739-6

Date Collected: 08/06/20 22:55

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 89.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.15	J B	0.21	0.030	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.082	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.045	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.031	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.092	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.039	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.024	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.039	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.072	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.055	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.058	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.027	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.033	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorooctanesulfonic acid (PFOS)	0.39	J B *	0.53	0.21	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.042	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.088	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.42	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.40	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
4:2 FTS	ND		2.1	0.40	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1
8:2 FTS	ND		2.1	0.27	ug/Kg	☼	08/19/20 13:47	08/22/20 20:26	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	81		25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C5 PFPeA	87		25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C2 PFHxA	91		25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C4 PFHpA	93		25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C4 PFOA	94		25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C5 PFNA	101		25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C2 PFDA	94		25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C2 PFUnA	99		25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C2 PFDoA	98		25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C2 PFTeDA	100		25 - 150	08/19/20 13:47	08/22/20 20:26	1
18O2 PFHxS	92		25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C4 PFOS	98		25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C8 FOSA	93		25 - 150	08/19/20 13:47	08/22/20 20:26	1
d3-NMeFOSAA	85		25 - 150	08/19/20 13:47	08/22/20 20:26	1
d5-NEtFOSAA	87		25 - 150	08/19/20 13:47	08/22/20 20:26	1
M2-6:2 FTS	131		25 - 150	08/19/20 13:47	08/22/20 20:26	1
M2-8:2 FTS	164	*5	25 - 150	08/19/20 13:47	08/22/20 20:26	1
M2-4:2 FTS	169	*5	25 - 150	08/19/20 13:47	08/22/20 20:26	1
13C3 PFBS	91		25 - 150	08/19/20 13:47	08/22/20 20:26	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH27-01

Lab Sample ID: 320-63739-6

Date Collected: 08/06/20 22:55

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 89.2

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.52	0.21	ug/Kg	☼	08/26/20 21:00	08/29/20 05:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.1	0.41	ug/Kg	☼	08/26/20 21:00	08/29/20 05:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.1	0.39	ug/Kg	☼	08/26/20 21:00	08/29/20 05:38	1
4:2 FTS	ND	H	2.1	0.39	ug/Kg	☼	08/26/20 21:00	08/29/20 05:38	1
6:2 FTS	ND	H	2.1	0.16	ug/Kg	☼	08/26/20 21:00	08/29/20 05:38	1
8:2 FTS	ND	H	2.1	0.26	ug/Kg	☼	08/26/20 21:00	08/29/20 05:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>13</i> C4 PFOS	100		25 - 150	08/26/20 21:00	08/29/20 05:38	1
<i>d</i> 3-NMeFOSAA	111		25 - 150	08/26/20 21:00	08/29/20 05:38	1
<i>d</i> 5-NEtFOSAA	105		25 - 150	08/26/20 21:00	08/29/20 05:38	1
<i>M</i> 2-6:2 FTS	182	*5	25 - 150	08/26/20 21:00	08/29/20 05:38	1
<i>M</i> 2-8:2 FTS	214	*5	25 - 150	08/26/20 21:00	08/29/20 05:38	1
<i>M</i> 2-4:2 FTS	236	*5	25 - 150	08/26/20 21:00	08/29/20 05:38	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	10.8		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	89.2		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH27-02

Lab Sample ID: 320-63739-7

Date Collected: 08/06/20 23:30

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.17	J B	0.21	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.090	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.52	0.21	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.086	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
4:2 FTS	ND		2.1	0.39	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/19/20 13:47	08/22/20 20:54	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	69		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C5 PFPeA	73		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C2 PFHxA	75		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C4 PFHpA	77		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C4 PFOA	78		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C5 PFNA	78		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C2 PFDA	80		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C2 PFUnA	82		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C2 PFDoA	79		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C2 PFTeDA	85		25 - 150	08/19/20 13:47	08/22/20 20:54	1
18O2 PFHxS	76		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C4 PFOS	78		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C8 FOSA	77		25 - 150	08/19/20 13:47	08/22/20 20:54	1
d3-NMeFOSAA	65		25 - 150	08/19/20 13:47	08/22/20 20:54	1
d5-NEtFOSAA	67		25 - 150	08/19/20 13:47	08/22/20 20:54	1
M2-6:2 FTS	69		25 - 150	08/19/20 13:47	08/22/20 20:54	1
M2-8:2 FTS	78		25 - 150	08/19/20 13:47	08/22/20 20:54	1
M2-4:2 FTS	81		25 - 150	08/19/20 13:47	08/22/20 20:54	1
13C3 PFBS	74		25 - 150	08/19/20 13:47	08/22/20 20:54	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH27-02

Lab Sample ID: 320-63739-7

Date Collected: 08/06/20 23:30

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.2

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.52	0.21	ug/Kg	☼	08/26/20 21:00	08/29/20 05:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.1	0.41	ug/Kg	☼	08/26/20 21:00	08/29/20 05:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.1	0.39	ug/Kg	☼	08/26/20 21:00	08/29/20 05:48	1
4:2 FTS	ND	H	2.1	0.39	ug/Kg	☼	08/26/20 21:00	08/29/20 05:48	1
6:2 FTS	ND	H	2.1	0.16	ug/Kg	☼	08/26/20 21:00	08/29/20 05:48	1
8:2 FTS	ND	H	2.1	0.26	ug/Kg	☼	08/26/20 21:00	08/29/20 05:48	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	91		25 - 150	08/26/20 21:00	08/29/20 05:48	1
d3-NMeFOSAA	86		25 - 150	08/26/20 21:00	08/29/20 05:48	1
d5-NEtFOSAA	90		25 - 150	08/26/20 21:00	08/29/20 05:48	1
M2-6:2 FTS	100		25 - 150	08/26/20 21:00	08/29/20 05:48	1
M2-8:2 FTS	107		25 - 150	08/26/20 21:00	08/29/20 05:48	1
M2-4:2 FTS	109		25 - 150	08/26/20 21:00	08/29/20 05:48	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.8		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	90.2		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH27-03

Lab Sample ID: 320-63739-8

Date Collected: 08/06/20 23:15

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J B	0.21	0.030	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.082	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.045	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.031	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.092	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.072	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.054	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.058	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.027	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.033	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.53	0.21	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.042	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.088	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.42	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
4:2 FTS	ND		2.1	0.39	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1
8:2 FTS	ND		2.1	0.27	ug/Kg	☼	08/19/20 13:47	08/22/20 21:03	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	78		25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C5 PFPeA	82		25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C2 PFHxA	86		25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C4 PFHpA	89		25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C4 PFOA	94		25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C5 PFNA	90		25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C2 PFDA	89		25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C2 PFUnA	93		25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C2 PFDoA	95		25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C2 PFTeDA	102		25 - 150	08/19/20 13:47	08/22/20 21:03	1
18O2 PFHxS	89		25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C4 PFOS	90		25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C8 FOSA	89		25 - 150	08/19/20 13:47	08/22/20 21:03	1
d3-NMeFOSAA	88		25 - 150	08/19/20 13:47	08/22/20 21:03	1
d5-NEtFOSAA	86		25 - 150	08/19/20 13:47	08/22/20 21:03	1
M2-6:2 FTS	129		25 - 150	08/19/20 13:47	08/22/20 21:03	1
M2-8:2 FTS	151	*5	25 - 150	08/19/20 13:47	08/22/20 21:03	1
M2-4:2 FTS	157	*5	25 - 150	08/19/20 13:47	08/22/20 21:03	1
13C3 PFBS	82		25 - 150	08/19/20 13:47	08/22/20 21:03	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH27-03

Lab Sample ID: 320-63739-8

Date Collected: 08/06/20 23:15

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.1

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.55	0.22	ug/Kg	☼	08/26/20 21:00	08/29/20 05:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.2	0.43	ug/Kg	☼	08/26/20 21:00	08/29/20 05:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.2	0.40	ug/Kg	☼	08/26/20 21:00	08/29/20 05:57	1
4:2 FTS	ND	H	2.2	0.40	ug/Kg	☼	08/26/20 21:00	08/29/20 05:57	1
6:2 FTS	ND	H	2.2	0.16	ug/Kg	☼	08/26/20 21:00	08/29/20 05:57	1
8:2 FTS	ND	H	2.2	0.27	ug/Kg	☼	08/26/20 21:00	08/29/20 05:57	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>13</i> C4 PFOS	93		25 - 150	08/26/20 21:00	08/29/20 05:57	1
<i>d</i> 3-NMeFOSAA	92		25 - 150	08/26/20 21:00	08/29/20 05:57	1
<i>d</i> 5-NEtFOSAA	93		25 - 150	08/26/20 21:00	08/29/20 05:57	1
<i>M</i> 2-6:2 FTS	162	*5	25 - 150	08/26/20 21:00	08/29/20 05:57	1
<i>M</i> 2-8:2 FTS	184	*5	25 - 150	08/26/20 21:00	08/29/20 05:57	1
<i>M</i> 2-4:2 FTS	188	*5	25 - 150	08/26/20 21:00	08/29/20 05:57	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.9		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	90.1		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH10-01

Lab Sample ID: 320-63739-9

Date Collected: 08/07/20 01:45

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 96.4

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J B	0.20	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.079	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.030	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.088	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.023	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.069	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.026	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorohexanesulfonic acid (PFHxS)	0.044	J	0.20	0.032	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorooctanesulfonic acid (PFOS)	0.27	J B *	0.51	0.20	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.040	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.084	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.40	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
4:2 FTS	ND		2.0	0.38	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1
8:2 FTS	ND		2.0	0.26	ug/Kg	☼	08/19/20 13:47	08/22/20 21:12	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	78		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C5 PFPeA	80		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C2 PFHxA	83		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C4 PFHpA	86		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C4 PFOA	87		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C5 PFNA	89		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C2 PFDA	91		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C2 PFUnA	91		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C2 PFDoA	92		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C2 PFTeDA	99		25 - 150	08/19/20 13:47	08/22/20 21:12	1
18O2 PFHxS	88		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C4 PFOS	86		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C8 FOSA	88		25 - 150	08/19/20 13:47	08/22/20 21:12	1
d3-NMeFOSAA	79		25 - 150	08/19/20 13:47	08/22/20 21:12	1
d5-NEtFOSAA	85		25 - 150	08/19/20 13:47	08/22/20 21:12	1
M2-6:2 FTS	112		25 - 150	08/19/20 13:47	08/22/20 21:12	1
M2-8:2 FTS	139		25 - 150	08/19/20 13:47	08/22/20 21:12	1
M2-4:2 FTS	83		25 - 150	08/19/20 13:47	08/22/20 21:12	1
13C3 PFBS	84		25 - 150	08/19/20 13:47	08/22/20 21:12	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH10-01

Lab Sample ID: 320-63739-9

Date Collected: 08/07/20 01:45

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 96.4

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.45	0.18	ug/Kg	☼	08/25/20 11:50	08/27/20 20:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	1.8	0.35	ug/Kg	☼	08/25/20 11:50	08/27/20 20:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	1.8	0.33	ug/Kg	☼	08/25/20 11:50	08/27/20 20:43	1
4:2 FTS	ND	H	1.8	0.33	ug/Kg	☼	08/25/20 11:50	08/27/20 20:43	1
6:2 FTS	ND	H	1.8	0.14	ug/Kg	☼	08/25/20 11:50	08/27/20 20:43	1
8:2 FTS	ND	H	1.8	0.23	ug/Kg	☼	08/25/20 11:50	08/27/20 20:43	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	91		25 - 150	08/25/20 11:50	08/27/20 20:43	1
d3-NMeFOSAA	103		25 - 150	08/25/20 11:50	08/27/20 20:43	1
d5-NEtFOSAA	119		25 - 150	08/25/20 11:50	08/27/20 20:43	1
M2-6:2 FTS	161	*5	25 - 150	08/25/20 11:50	08/27/20 20:43	1
M2-8:2 FTS	185	*5	25 - 150	08/25/20 11:50	08/27/20 20:43	1
M2-4:2 FTS	139		25 - 150	08/25/20 11:50	08/27/20 20:43	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.6		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	96.4		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH10-02

Lab Sample ID: 320-63739-10

Date Collected: 08/07/20 02:50

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.4

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.14	J B	0.20	0.028	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.50	0.20	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/19/20 13:47	08/22/20 21:22	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	69		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C5 PFPeA	71		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C2 PFHxA	74		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C4 PFHpA	78		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C4 PFOA	74		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C5 PFNA	77		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C2 PFDA	77		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C2 PFUnA	74		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C2 PFDoA	76		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C2 PFTeDA	78		25 - 150	08/19/20 13:47	08/22/20 21:22	1
18O2 PFHxS	76		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C4 PFOS	75		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C8 FOSA	71		25 - 150	08/19/20 13:47	08/22/20 21:22	1
d3-NMeFOSAA	73		25 - 150	08/19/20 13:47	08/22/20 21:22	1
d5-NEtFOSAA	72		25 - 150	08/19/20 13:47	08/22/20 21:22	1
M2-6:2 FTS	81		25 - 150	08/19/20 13:47	08/22/20 21:22	1
M2-8:2 FTS	100		25 - 150	08/19/20 13:47	08/22/20 21:22	1
M2-4:2 FTS	123		25 - 150	08/19/20 13:47	08/22/20 21:22	1
13C3 PFBS	73		25 - 150	08/19/20 13:47	08/22/20 21:22	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH10-02

Lab Sample ID: 320-63739-10

Date Collected: 08/07/20 02:50

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.4

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.53	0.21	ug/Kg	☼	08/26/20 21:00	08/29/20 06:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.1	0.41	ug/Kg	☼	08/26/20 21:00	08/29/20 06:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.1	0.39	ug/Kg	☼	08/26/20 21:00	08/29/20 06:06	1
4:2 FTS	ND	H	2.1	0.39	ug/Kg	☼	08/26/20 21:00	08/29/20 06:06	1
6:2 FTS	ND	H	2.1	0.16	ug/Kg	☼	08/26/20 21:00	08/29/20 06:06	1
8:2 FTS	ND	H	2.1	0.26	ug/Kg	☼	08/26/20 21:00	08/29/20 06:06	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>13</i> C4 PFOS	95		25 - 150	08/26/20 21:00	08/29/20 06:06	1
<i>d</i> 3-NMeFOSAA	98		25 - 150	08/26/20 21:00	08/29/20 06:06	1
<i>d</i> 5-NEtFOSAA	97		25 - 150	08/26/20 21:00	08/29/20 06:06	1
M2-6:2 FTS	126		25 - 150	08/26/20 21:00	08/29/20 06:06	1
M2-8:2 FTS	138		25 - 150	08/26/20 21:00	08/29/20 06:06	1
M2-4:2 FTS	156	*5	25 - 150	08/26/20 21:00	08/29/20 06:06	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.6		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	93.4		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH28-01

Lab Sample ID: 320-63739-11

Date Collected: 08/07/20 23:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 92.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.19	J B	0.20	0.028	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.078	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.087	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorodecanoic acid (PFDA)	0.026	J	0.20	0.022	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.068	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorooctanesulfonic acid (PFOS)	0.28	J B *	0.51	0.20	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.083	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/19/20 13:47	08/22/20 21:31	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	77		25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C5 PFPeA	82		25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C2 PFHxA	88		25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C4 PFHpA	96		25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C4 PFOA	91		25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C5 PFNA	105		25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C2 PFDA	96		25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C2 PFUnA	105		25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C2 PFDoA	100		25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C2 PFTeDA	95		25 - 150	08/19/20 13:47	08/22/20 21:31	1
18O2 PFHxS	95		25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C4 PFOS	101		25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C8 FOSA	86		25 - 150	08/19/20 13:47	08/22/20 21:31	1
d3-NMeFOSAA	71		25 - 150	08/19/20 13:47	08/22/20 21:31	1
d5-NEtFOSAA	73		25 - 150	08/19/20 13:47	08/22/20 21:31	1
M2-6:2 FTS	190	*5	25 - 150	08/19/20 13:47	08/22/20 21:31	1
M2-8:2 FTS	222	*5	25 - 150	08/19/20 13:47	08/22/20 21:31	1
M2-4:2 FTS	235	*5	25 - 150	08/19/20 13:47	08/22/20 21:31	1
13C3 PFBS	89		25 - 150	08/19/20 13:47	08/22/20 21:31	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH28-01

Lab Sample ID: 320-63739-11

Date Collected: 08/07/20 23:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 92.2

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.52	0.21	ug/Kg	☼	08/25/20 11:50	08/27/20 21:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.1	0.41	ug/Kg	☼	08/25/20 11:50	08/27/20 21:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.1	0.39	ug/Kg	☼	08/25/20 11:50	08/27/20 21:11	1
4:2 FTS	ND	H	2.1	0.39	ug/Kg	☼	08/25/20 11:50	08/27/20 21:11	1
6:2 FTS	ND	H	2.1	0.16	ug/Kg	☼	08/25/20 11:50	08/27/20 21:11	1
8:2 FTS	ND	H	2.1	0.26	ug/Kg	☼	08/25/20 11:50	08/27/20 21:11	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>13</i> C4 PFOS	103		25 - 150	08/25/20 11:50	08/27/20 21:11	1
<i>d</i> 3-NMeFOSAA	126		25 - 150	08/25/20 11:50	08/27/20 21:11	1
<i>d</i> 5-NEtFOSAA	140		25 - 150	08/25/20 11:50	08/27/20 21:11	1
<i>M</i> 2-6:2 FTS	223	*5	25 - 150	08/25/20 11:50	08/27/20 21:11	1
<i>M</i> 2-8:2 FTS	256	*5	25 - 150	08/25/20 11:50	08/27/20 21:11	1
<i>M</i> 2-4:2 FTS	323	*5	25 - 150	08/25/20 11:50	08/27/20 21:11	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.8		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	92.2		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH28-02

Lab Sample ID: 320-63739-12

Date Collected: 08/07/20 23:45

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 76.7

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.22	J B	0.26	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluoropentanoic acid (PFPeA)	ND		0.26	0.098	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorohexanoic acid (PFHxA)	ND		0.26	0.054	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluoroheptanoic acid (PFHpA)	ND		0.26	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorooctanoic acid (PFOA)	ND		0.26	0.11	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorononanoic acid (PFNA)	ND		0.26	0.046	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorodecanoic acid (PFDA)	ND		0.26	0.028	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluoroundecanoic acid (PFUnA)	ND		0.26	0.046	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorododecanoic acid (PFDoA)	ND		0.26	0.086	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorotridecanoic acid (PFTriA)	ND		0.26	0.065	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.26	0.069	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.26	0.032	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.26	0.026	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.26	0.040	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.26	0.045	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.64	0.26	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorononanesulfonic acid (PFNS)	ND		0.26	0.026	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.26	0.050	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
Perfluorooctanesulfonamide (FOSA)	ND		0.26	0.10	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.6	0.50	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.6	0.47	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
4:2 FTS	ND		2.6	0.47	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
6:2 FTS	ND		2.6	0.19	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1
8:2 FTS	ND		2.6	0.32	ug/Kg	☼	08/19/20 13:47	08/22/20 21:41	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	65		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C5 PFPeA	69		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C2 PFHxA	71		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C4 PFHpA	75		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C4 PFOA	74		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C5 PFNA	75		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C2 PFDA	74		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C2 PFUnA	76		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C2 PFDoA	76		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C2 PFTeDA	73		25 - 150	08/19/20 13:47	08/22/20 21:41	1
18O2 PFHxS	74		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C4 PFOS	80		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C8 FOSA	68		25 - 150	08/19/20 13:47	08/22/20 21:41	1
d3-NMeFOSAA	75		25 - 150	08/19/20 13:47	08/22/20 21:41	1
d5-NEtFOSAA	75		25 - 150	08/19/20 13:47	08/22/20 21:41	1
M2-6:2 FTS	91		25 - 150	08/19/20 13:47	08/22/20 21:41	1
M2-8:2 FTS	120		25 - 150	08/19/20 13:47	08/22/20 21:41	1
M2-4:2 FTS	131		25 - 150	08/19/20 13:47	08/22/20 21:41	1
13C3 PFBS	74		25 - 150	08/19/20 13:47	08/22/20 21:41	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH28-02

Lab Sample ID: 320-63739-12

Date Collected: 08/07/20 23:45

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 76.7

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.65	0.26	ug/Kg	☼	08/26/20 21:00	08/29/20 06:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.6	0.50	ug/Kg	☼	08/26/20 21:00	08/29/20 06:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.6	0.48	ug/Kg	☼	08/26/20 21:00	08/29/20 06:16	1
4:2 FTS	ND	H	2.6	0.48	ug/Kg	☼	08/26/20 21:00	08/29/20 06:16	1
6:2 FTS	ND	H	2.6	0.19	ug/Kg	☼	08/26/20 21:00	08/29/20 06:16	1
8:2 FTS	ND	H	2.6	0.32	ug/Kg	☼	08/26/20 21:00	08/29/20 06:16	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	99		25 - 150	08/26/20 21:00	08/29/20 06:16	1
d3-NMeFOSAA	104		25 - 150	08/26/20 21:00	08/29/20 06:16	1
d5-NEtFOSAA	111		25 - 150	08/26/20 21:00	08/29/20 06:16	1
M2-6:2 FTS	144		25 - 150	08/26/20 21:00	08/29/20 06:16	1
M2-8:2 FTS	164	*5	25 - 150	08/26/20 21:00	08/29/20 06:16	1
M2-4:2 FTS	194	*5	25 - 150	08/26/20 21:00	08/29/20 06:16	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	23.3		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	76.7		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH28-03

Lab Sample ID: 320-63739-13

Date Collected: 08/07/20 23:20

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.5

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.19	J B	0.22	0.030	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluoropentanoic acid (PFPeA)	ND		0.22	0.083	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorohexanoic acid (PFHxA)	ND		0.22	0.045	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.031	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorooctanoic acid (PFOA)	ND		0.22	0.093	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.039	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.024	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.039	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.072	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.055	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.058	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.027	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.22	0.022	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.22	0.033	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.22	0.038	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorooctanesulfonic acid (PFOS)	0.22	J B *	0.54	0.22	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.22	0.022	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.22	0.042	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
Perfluorooctanesulfonamide (FOSA)	ND		0.22	0.088	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.2	0.42	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.2	0.40	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
4:2 FTS	ND		2.2	0.40	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
6:2 FTS	ND		2.2	0.16	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1
8:2 FTS	ND		2.2	0.27	ug/Kg	☼	08/19/20 13:47	08/22/20 21:50	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	74		25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C5 PFPeA	80		25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C2 PFHxA	85		25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C4 PFHpA	93		25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C4 PFOA	90		25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C5 PFNA	95		25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C2 PFDA	88		25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C2 PFUnA	94		25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C2 PFDoA	90		25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C2 PFTeDA	99		25 - 150	08/19/20 13:47	08/22/20 21:50	1
18O2 PFHxS	90		25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C4 PFOS	95		25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C8 FOSA	91		25 - 150	08/19/20 13:47	08/22/20 21:50	1
d3-NMeFOSAA	82		25 - 150	08/19/20 13:47	08/22/20 21:50	1
d5-NEtFOSAA	86		25 - 150	08/19/20 13:47	08/22/20 21:50	1
M2-6:2 FTS	150		25 - 150	08/19/20 13:47	08/22/20 21:50	1
M2-8:2 FTS	179	*5	25 - 150	08/19/20 13:47	08/22/20 21:50	1
M2-4:2 FTS	229	*5	25 - 150	08/19/20 13:47	08/22/20 21:50	1
13C3 PFBS	85		25 - 150	08/19/20 13:47	08/22/20 21:50	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH28-03

Lab Sample ID: 320-63739-13

Date Collected: 08/07/20 23:20

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.5

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.54	0.22	ug/Kg	☼	08/25/20 11:50	08/27/20 21:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.2	0.42	ug/Kg	☼	08/25/20 11:50	08/27/20 21:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.2	0.40	ug/Kg	☼	08/25/20 11:50	08/27/20 21:21	1
4:2 FTS	ND	H	2.2	0.40	ug/Kg	☼	08/25/20 11:50	08/27/20 21:21	1
6:2 FTS	ND	H	2.2	0.16	ug/Kg	☼	08/25/20 11:50	08/27/20 21:21	1
8:2 FTS	ND	H	2.2	0.27	ug/Kg	☼	08/25/20 11:50	08/27/20 21:21	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>13</i> C4 PFOS	104		25 - 150	08/25/20 11:50	08/27/20 21:21	1
<i>d</i> 3-NMeFOSAA	117		25 - 150	08/25/20 11:50	08/27/20 21:21	1
<i>d</i> 5-NEtFOSAA	129		25 - 150	08/25/20 11:50	08/27/20 21:21	1
<i>M</i> 2-6:2 FTS	256	*5	25 - 150	08/25/20 11:50	08/27/20 21:21	1
<i>M</i> 2-8:2 FTS	280	*5	25 - 150	08/25/20 11:50	08/27/20 21:21	1
<i>M</i> 2-4:2 FTS	374	*5	25 - 150	08/25/20 11:50	08/27/20 21:21	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.5		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	90.5		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-WA-RB01

Lab Sample ID: 320-63739-14

Date Collected: 08/08/20 02:05

Matrix: Water

Date Received: 08/15/20 08:50

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.8	0.31	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.43	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.51	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.22	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.75	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.1	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.25	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.26	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorohexanesulfonic acid (PFHxS)	0.26	J B	1.8	0.15	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.17	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.47	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.14	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		08/20/20 04:34	08/20/20 16:27	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.31	ng/L		08/20/20 04:34	08/20/20 16:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	2.7	ng/L		08/20/20 04:34	08/20/20 16:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.7	ng/L		08/20/20 04:34	08/20/20 16:27	1
4:2 FTS	ND		18	4.6	ng/L		08/20/20 04:34	08/20/20 16:27	1
6:2 FTS	ND		18	1.8	ng/L		08/20/20 04:34	08/20/20 16:27	1
8:2 FTS	ND		18	1.8	ng/L		08/20/20 04:34	08/20/20 16:27	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	98		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C5 PFPeA	106		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C2 PFHxA	104		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C4 PFHpA	106		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C4 PFOA	104		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C5 PFNA	108		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C2 PFDA	116		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C2 PFUnA	113		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C2 PFDoA	116		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C2 PFTeDA	110		25 - 150				08/20/20 04:34	08/20/20 16:27	1
18O2 PFHxS	104		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C4 PFOS	106		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C8 FOSA	93		25 - 150				08/20/20 04:34	08/20/20 16:27	1
d3-NMeFOSAA	82		25 - 150				08/20/20 04:34	08/20/20 16:27	1
d5-NEtFOSAA	88		25 - 150				08/20/20 04:34	08/20/20 16:27	1
M2-6:2 FTS	84		25 - 150				08/20/20 04:34	08/20/20 16:27	1
M2-8:2 FTS	90		25 - 150				08/20/20 04:34	08/20/20 16:27	1
M2-4:2 FTS	74		25 - 150				08/20/20 04:34	08/20/20 16:27	1
13C3 PFBS	109		25 - 150				08/20/20 04:34	08/20/20 16:27	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH16-01

Lab Sample ID: 320-63739-15

Date Collected: 08/08/20 02:15

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 96.3

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.13	J B	0.20	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.079	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.030	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.088	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.037	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.068	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.026	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorohexanesulfonic acid (PFHxS)	0.097	J	0.20	0.032	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.51	0.20	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluoronanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.040	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.084	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.40	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
4:2 FTS	ND		2.0	0.38	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1
8:2 FTS	ND		2.0	0.26	ug/Kg	☼	08/19/20 13:47	08/22/20 21:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	74		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C5 PFPeA	79		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C2 PFHxA	78		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C4 PFHpA	82		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C4 PFOA	83		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C5 PFNA	86		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C2 PFDA	81		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C2 PFUnA	84		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C2 PFDoA	84		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C2 PFTeDA	97		25 - 150	08/19/20 13:47	08/22/20 21:59	1
18O2 PFHxS	77		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C4 PFOS	81		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C8 FOSA	78		25 - 150	08/19/20 13:47	08/22/20 21:59	1
d3-NMeFOSAA	79		25 - 150	08/19/20 13:47	08/22/20 21:59	1
d5-NEtFOSAA	78		25 - 150	08/19/20 13:47	08/22/20 21:59	1
M2-6:2 FTS	72		25 - 150	08/19/20 13:47	08/22/20 21:59	1
M2-8:2 FTS	74		25 - 150	08/19/20 13:47	08/22/20 21:59	1
M2-4:2 FTS	63		25 - 150	08/19/20 13:47	08/22/20 21:59	1
13C3 PFBS	76		25 - 150	08/19/20 13:47	08/22/20 21:59	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH16-01

Lab Sample ID: 320-63739-15

Date Collected: 08/08/20 02:15

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 96.3

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.50	0.20	ug/Kg	☼	08/26/20 21:00	08/29/20 06:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.0	0.39	ug/Kg	☼	08/26/20 21:00	08/29/20 06:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.0	0.37	ug/Kg	☼	08/26/20 21:00	08/29/20 06:25	1
4:2 FTS	ND	H	2.0	0.37	ug/Kg	☼	08/26/20 21:00	08/29/20 06:25	1
6:2 FTS	ND	H	2.0	0.15	ug/Kg	☼	08/26/20 21:00	08/29/20 06:25	1
8:2 FTS	ND	H	2.0	0.25	ug/Kg	☼	08/26/20 21:00	08/29/20 06:25	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	80		25 - 150	08/26/20 21:00	08/29/20 06:25	1
d3-NMeFOSAA	82		25 - 150	08/26/20 21:00	08/29/20 06:25	1
d5-NEtFOSAA	87		25 - 150	08/26/20 21:00	08/29/20 06:25	1
M2-6:2 FTS	88		25 - 150	08/26/20 21:00	08/29/20 06:25	1
M2-8:2 FTS	94		25 - 150	08/26/20 21:00	08/29/20 06:25	1
M2-4:2 FTS	80		25 - 150	08/26/20 21:00	08/29/20 06:25	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.7		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	96.3		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH16-02

Lab Sample ID: 320-63739-16

Date Collected: 08/08/20 02:55

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.7

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.14	J B	0.20	0.028	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.076	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorohexanoic acid (PFHxA)	0.19	J	0.20	0.042	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorooctanoic acid (PFOA)	0.11	J	0.20	0.085	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.066	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorobutanesulfonic acid (PFBS)	0.074	J	0.20	0.025	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluoropentanesulfonic acid (PFPeS)	0.15	J	0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorohexanesulfonic acid (PFHxS)	1.1		0.20	0.031	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.17	J	0.20	0.035	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.081	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/19/20 13:47	08/22/20 22:09	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	73		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C5 PFPeA	75		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C2 PFHxA	79		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C4 PFHpA	81		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C4 PFOA	82		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C5 PFNA	81		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C2 PFDA	81		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C2 PFUnA	85		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C2 PFDoA	84		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C2 PFTeDA	88		25 - 150	08/19/20 13:47	08/22/20 22:09	1
18O2 PFHxS	75		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C4 PFOS	78		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C8 FOSA	78		25 - 150	08/19/20 13:47	08/22/20 22:09	1
d3-NMeFOSAA	75		25 - 150	08/19/20 13:47	08/22/20 22:09	1
d5-NEtFOSAA	74		25 - 150	08/19/20 13:47	08/22/20 22:09	1
M2-6:2 FTS	68		25 - 150	08/19/20 13:47	08/22/20 22:09	1
M2-8:2 FTS	81		25 - 150	08/19/20 13:47	08/22/20 22:09	1
M2-4:2 FTS	77		25 - 150	08/19/20 13:47	08/22/20 22:09	1
13C3 PFBS	73		25 - 150	08/19/20 13:47	08/22/20 22:09	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH16-02

Lab Sample ID: 320-63739-16

Date Collected: 08/08/20 02:55

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.7

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	25	B *	5.0	2.0	ug/Kg	☼	08/19/20 13:47	08/24/20 18:08	10
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFOS	70		25 - 150				08/19/20 13:47	08/24/20 18:08	10

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.0	0.39	ug/Kg	☼	08/25/20 11:50	08/27/20 21:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.0	0.37	ug/Kg	☼	08/25/20 11:50	08/27/20 21:30	1
4:2 FTS	ND	H	2.0	0.37	ug/Kg	☼	08/25/20 11:50	08/27/20 21:30	1
6:2 FTS	ND	H	2.0	0.15	ug/Kg	☼	08/25/20 11:50	08/27/20 21:30	1
8:2 FTS	ND	H	2.0	0.25	ug/Kg	☼	08/25/20 11:50	08/27/20 21:30	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFOS	84		25 - 150				08/25/20 11:50	08/27/20 21:30	1
d3-NMeFOSAA	104		25 - 150				08/25/20 11:50	08/27/20 21:30	1
d5-NEtFOSAA	112		25 - 150				08/25/20 11:50	08/27/20 21:30	1
M2-6:2 FTS	112		25 - 150				08/25/20 11:50	08/27/20 21:30	1
M2-8:2 FTS	135		25 - 150				08/25/20 11:50	08/27/20 21:30	1
M2-4:2 FTS	120		25 - 150				08/25/20 11:50	08/27/20 21:30	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.3		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	94.7		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH12-01

Lab Sample ID: 320-63739-17

Date Collected: 08/09/20 00:20

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.12	J B	0.20	0.028	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.076	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.041	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.085	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.066	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.050	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.053	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorohexanesulfonic acid (PFHxS)	0.035	J	0.20	0.031	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.49	0.20	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluoronanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.038	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.081	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/19/20 13:47	08/22/20 22:18	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92		25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C5 PFPeA	99		25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C2 PFHxA	104		25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C4 PFHpA	104		25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C4 PFOA	104		25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C5 PFNA	108		25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C2 PFDA	103		25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C2 PFUnA	113		25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C2 PFDoA	108		25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C2 PFTeDA	116		25 - 150	08/19/20 13:47	08/22/20 22:18	1
18O2 PFHxS	102		25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C4 PFOS	106		25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C8 FOSA	105		25 - 150	08/19/20 13:47	08/22/20 22:18	1
d3-NMeFOSAA	107		25 - 150	08/19/20 13:47	08/22/20 22:18	1
d5-NEtFOSAA	110		25 - 150	08/19/20 13:47	08/22/20 22:18	1
M2-6:2 FTS	126		25 - 150	08/19/20 13:47	08/22/20 22:18	1
M2-8:2 FTS	140		25 - 150	08/19/20 13:47	08/22/20 22:18	1
M2-4:2 FTS	192	*5	25 - 150	08/19/20 13:47	08/22/20 22:18	1
13C3 PFBS	99		25 - 150	08/19/20 13:47	08/22/20 22:18	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH12-01

Lab Sample ID: 320-63739-17

Date Collected: 08/09/20 00:20

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.2

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.28	J H B	0.52	0.21	ug/Kg	☼	08/26/20 21:00	08/29/20 06:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.1	0.40	ug/Kg	☼	08/26/20 21:00	08/29/20 06:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.1	0.38	ug/Kg	☼	08/26/20 21:00	08/29/20 06:34	1
4:2 FTS	ND	H	2.1	0.38	ug/Kg	☼	08/26/20 21:00	08/29/20 06:34	1
6:2 FTS	ND	H	2.1	0.16	ug/Kg	☼	08/26/20 21:00	08/29/20 06:34	1
8:2 FTS	ND	H	2.1	0.26	ug/Kg	☼	08/26/20 21:00	08/29/20 06:34	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOS	90		25 - 150				08/26/20 21:00	08/29/20 06:34	1
d3-NMeFOSAA	88		25 - 150				08/26/20 21:00	08/29/20 06:34	1
d5-NEtFOSAA	89		25 - 150				08/26/20 21:00	08/29/20 06:34	1
M2-6:2 FTS	126		25 - 150				08/26/20 21:00	08/29/20 06:34	1
M2-8:2 FTS	136		25 - 150				08/26/20 21:00	08/29/20 06:34	1
M2-4:2 FTS	208	*5	25 - 150				08/26/20 21:00	08/29/20 06:34	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.8		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	95.2		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH12-02

Lab Sample ID: 320-63739-18

Date Collected: 08/09/20 01:30

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 80.7

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.15	J B	0.23	0.032	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluoropentanoic acid (PFPeA)	ND		0.23	0.089	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorohexanoic acid (PFHxA)	ND		0.23	0.049	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.034	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.10	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.042	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.025	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.042	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.078	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.059	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.063	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.029	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.23	0.023	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.23	0.036	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.23	0.041	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.58	0.23	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorononanesulfonic acid (PFNS)	ND		0.23	0.023	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.23	0.045	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
Perfluorooctanesulfonamide (FOSA)	ND		0.23	0.095	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.3	0.45	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.3	0.43	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
4:2 FTS	ND		2.3	0.43	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
6:2 FTS	ND		2.3	0.17	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1
8:2 FTS	ND		2.3	0.29	ug/Kg	☼	08/19/20 13:47	08/22/20 22:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	88		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C5 PFPeA	92		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C2 PFHxA	91		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C4 PFHpA	95		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C4 PFOA	98		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C5 PFNA	98		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C2 PFDA	91		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C2 PFUnA	98		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C2 PFDoA	98		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C2 PFTeDA	102		25 - 150	08/19/20 13:47	08/22/20 22:46	1
18O2 PFHxS	98		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C4 PFOS	98		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C8 FOSA	85		25 - 150	08/19/20 13:47	08/22/20 22:46	1
d3-NMeFOSAA	88		25 - 150	08/19/20 13:47	08/22/20 22:46	1
d5-NEtFOSAA	93		25 - 150	08/19/20 13:47	08/22/20 22:46	1
M2-6:2 FTS	89		25 - 150	08/19/20 13:47	08/22/20 22:46	1
M2-8:2 FTS	86		25 - 150	08/19/20 13:47	08/22/20 22:46	1
M2-4:2 FTS	81		25 - 150	08/19/20 13:47	08/22/20 22:46	1
13C3 PFBS	94		25 - 150	08/19/20 13:47	08/22/20 22:46	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH12-02

Lab Sample ID: 320-63739-18

Date Collected: 08/09/20 01:30

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 80.7

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.60	0.24	ug/Kg	☼	08/26/20 21:00	08/29/20 06:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.4	0.47	ug/Kg	☼	08/26/20 21:00	08/29/20 06:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.4	0.44	ug/Kg	☼	08/26/20 21:00	08/29/20 06:44	1
4:2 FTS	ND	H	2.4	0.44	ug/Kg	☼	08/26/20 21:00	08/29/20 06:44	1
6:2 FTS	ND	H	2.4	0.18	ug/Kg	☼	08/26/20 21:00	08/29/20 06:44	1
8:2 FTS	ND	H	2.4	0.30	ug/Kg	☼	08/26/20 21:00	08/29/20 06:44	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	103		25 - 150	08/26/20 21:00	08/29/20 06:44	1
d3-NMeFOSAA	98		25 - 150	08/26/20 21:00	08/29/20 06:44	1
d5-NEtFOSAA	105		25 - 150	08/26/20 21:00	08/29/20 06:44	1
M2-6:2 FTS	111		25 - 150	08/26/20 21:00	08/29/20 06:44	1
M2-8:2 FTS	112		25 - 150	08/26/20 21:00	08/29/20 06:44	1
M2-4:2 FTS	107		25 - 150	08/26/20 21:00	08/29/20 06:44	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.3		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	80.7		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH12-03

Lab Sample ID: 320-63739-19

Date Collected: 08/09/20 00:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.5

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.12	J B	0.21	0.029	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.090	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.054	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.033	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.52	0.21	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.086	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
4:2 FTS	ND		2.1	0.39	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
6:2 FTS	ND		2.1	0.16	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1
8:2 FTS	ND		2.1	0.26	ug/Kg	✱	08/19/20 13:47	08/22/20 22:55	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	69		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C5 PFPeA	71		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C2 PFHxA	76		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C4 PFHpA	76		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C4 PFOA	75		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C5 PFNA	80		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C2 PFDA	74		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C2 PFUnA	66		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C2 PFDoA	56		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C2 PFTeDA	60		25 - 150	08/19/20 13:47	08/22/20 22:55	1
18O2 PFHxS	77		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C4 PFOS	78		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C8 FOSA	69		25 - 150	08/19/20 13:47	08/22/20 22:55	1
d3-NMeFOSAA	56		25 - 150	08/19/20 13:47	08/22/20 22:55	1
d5-NEtFOSAA	54		25 - 150	08/19/20 13:47	08/22/20 22:55	1
M2-6:2 FTS	73		25 - 150	08/19/20 13:47	08/22/20 22:55	1
M2-8:2 FTS	88		25 - 150	08/19/20 13:47	08/22/20 22:55	1
M2-4:2 FTS	122		25 - 150	08/19/20 13:47	08/22/20 22:55	1
13C3 PFBS	75		25 - 150	08/19/20 13:47	08/22/20 22:55	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH12-03

Lab Sample ID: 320-63739-19

Date Collected: 08/09/20 00:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.5

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	ND	H	0.51	0.20	ug/Kg	☼	08/26/20 21:00	08/29/20 06:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND	H	2.0	0.40	ug/Kg	☼	08/26/20 21:00	08/29/20 06:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND	H	2.0	0.37	ug/Kg	☼	08/26/20 21:00	08/29/20 06:53	1
4:2 FTS	ND	H	2.0	0.37	ug/Kg	☼	08/26/20 21:00	08/29/20 06:53	1
6:2 FTS	ND	H	2.0	0.15	ug/Kg	☼	08/26/20 21:00	08/29/20 06:53	1
8:2 FTS	ND	H	2.0	0.25	ug/Kg	☼	08/26/20 21:00	08/29/20 06:53	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>13</i> C4 PFOS	83		25 - 150	08/26/20 21:00	08/29/20 06:53	1
<i>d</i> 3-NMeFOSAA	83		25 - 150	08/26/20 21:00	08/29/20 06:53	1
<i>d</i> 5-NEtFOSAA	82		25 - 150	08/26/20 21:00	08/29/20 06:53	1
<i>M</i> 2-6:2 FTS	92		25 - 150	08/26/20 21:00	08/29/20 06:53	1
<i>M</i> 2-8:2 FTS	108		25 - 150	08/26/20 21:00	08/29/20 06:53	1
<i>M</i> 2-4:2 FTS	160	*5	25 - 150	08/26/20 21:00	08/29/20 06:53	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.5		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	94.5		0.1	0.1	%			08/18/20 17:17	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH13-01

Lab Sample ID: 320-63739-20

Date Collected: 08/09/20 02:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.095	J B	0.21	0.029	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.079	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.043	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.088	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.052	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.055	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorooctanesulfonic acid (PFOS)	0.36	J B *	0.51	0.21	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.084	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
4:2 FTS	ND		2.1	0.38	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
6:2 FTS	ND		2.1	0.15	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/22/20 07:39	08/25/20 16:44	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	87		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C5 PFPeA	90		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C2 PFHxA	91		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C4 PFHpA	89		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C4 PFOA	88		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C5 PFNA	97		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C2 PFDA	93		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C2 PFUnA	91		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C2 PFDoA	92		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C2 PFTeDA	81		25 - 150	08/22/20 07:39	08/25/20 16:44	1
18O2 PFHxS	79		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C4 PFOS	77		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C8 FOSA	77		25 - 150	08/22/20 07:39	08/25/20 16:44	1
d3-NMeFOSAA	80		25 - 150	08/22/20 07:39	08/25/20 16:44	1
d5-NEtFOSAA	85		25 - 150	08/22/20 07:39	08/25/20 16:44	1
M2-6:2 FTS	101		25 - 150	08/22/20 07:39	08/25/20 16:44	1
M2-8:2 FTS	109		25 - 150	08/22/20 07:39	08/25/20 16:44	1
M2-4:2 FTS	122		25 - 150	08/22/20 07:39	08/25/20 16:44	1
13C3 PFBS	77		25 - 150	08/22/20 07:39	08/25/20 16:44	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH13-01

Lab Sample ID: 320-63739-20

Date Collected: 08/09/20 02:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.8		0.1	0.1	%			08/18/20 17:17	1
Percent Solids	94.2		0.1	0.1	%			08/18/20 17:17	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH13-02

Lab Sample ID: 320-63739-21

Date Collected: 08/09/20 03:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 81.0

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.12	J B	0.23	0.032	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluoropentanoic acid (PFPeA)	ND		0.23	0.089	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorohexanoic acid (PFHxA)	ND		0.23	0.049	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.034	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.099	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorononanoic acid (PFNA)	ND		0.23	0.042	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.025	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluoroundecanoic acid (PFUnA)	ND		0.23	0.042	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.077	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorotridecanoic acid (PFTriA)	ND		0.23	0.059	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.23	0.062	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.029	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.23	0.023	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.23	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.23	0.040	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorooctanesulfonic acid (PFOS)	0.45	J B *	0.58	0.23	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorononanesulfonic acid (PFNS)	ND		0.23	0.023	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.23	0.045	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
Perfluorooctanesulfonamide (FOSA)	ND		0.23	0.095	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.3	0.45	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.3	0.43	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
4:2 FTS	ND		2.3	0.43	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
6:2 FTS	0.18	J	2.3	0.17	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1
8:2 FTS	ND		2.3	0.29	ug/Kg	☼	08/22/20 07:39	08/25/20 17:12	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	90		25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C5 PFPeA	87		25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C2 PFHxA	97		25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C4 PFHpA	90		25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C4 PFOA	90		25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C5 PFNA	101		25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C2 PFDA	96		25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C2 PFUnA	94		25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C2 PFDoA	95		25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C2 PFTeDA	86		25 - 150	08/22/20 07:39	08/25/20 17:12	1
18O2 PFHxS	88		25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C4 PFOS	83		25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C8 FOSA	85		25 - 150	08/22/20 07:39	08/25/20 17:12	1
d3-NMeFOSAA	91		25 - 150	08/22/20 07:39	08/25/20 17:12	1
d5-NEtFOSAA	83		25 - 150	08/22/20 07:39	08/25/20 17:12	1
M2-6:2 FTS	129		25 - 150	08/22/20 07:39	08/25/20 17:12	1
M2-8:2 FTS	128		25 - 150	08/22/20 07:39	08/25/20 17:12	1
M2-4:2 FTS	156	*5	25 - 150	08/22/20 07:39	08/25/20 17:12	1
13C3 PFBS	85		25 - 150	08/22/20 07:39	08/25/20 17:12	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH13-02

Lab Sample ID: 320-63739-21

Date Collected: 08/09/20 03:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 81.0

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.0		0.1	0.1	%			08/19/20 09:37	1
Percent Solids	81.0		0.1	0.1	%			08/19/20 09:37	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH09-01

Lab Sample ID: 320-63739-22

Date Collected: 08/09/20 04:10

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.079	J B	0.20	0.028	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.076	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.085	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.066	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorohexanesulfonic acid (PFHxS)	0.037	J I	0.20	0.031	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.50	0.20	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.081	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
6:2 FTS	0.17	J	2.0	0.15	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/22/20 07:39	08/25/20 17:21	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	91		25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C5 PFPeA	89		25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C2 PFHxA	96		25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C4 PFHpA	92		25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C4 PFOA	91		25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C5 PFNA	95		25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C2 PFDA	91		25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C2 PFUnA	94		25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C2 PFDoA	87		25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C2 PFTeDA	71		25 - 150	08/22/20 07:39	08/25/20 17:21	1
18O2 PFHxS	94		25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C4 PFOS	93		25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C8 FOSA	66		25 - 150	08/22/20 07:39	08/25/20 17:21	1
d3-NMeFOSAA	71		25 - 150	08/22/20 07:39	08/25/20 17:21	1
d5-NEtFOSAA	69		25 - 150	08/22/20 07:39	08/25/20 17:21	1
M2-6:2 FTS	177	*5	25 - 150	08/22/20 07:39	08/25/20 17:21	1
M2-8:2 FTS	170	*5	25 - 150	08/22/20 07:39	08/25/20 17:21	1
M2-4:2 FTS	173	*5	25 - 150	08/22/20 07:39	08/25/20 17:21	1
13C3 PFBS	91		25 - 150	08/22/20 07:39	08/25/20 17:21	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH09-01

Lab Sample ID: 320-63739-22

Date Collected: 08/09/20 04:10

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.2

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.8		0.1	0.1	%			08/19/20 09:37	1
Percent Solids	94.2		0.1	0.1	%			08/19/20 09:37	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH26-01

Lab Sample ID: 320-63739-23

Date Collected: 08/10/20 00:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.6

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.092	J B	0.20	0.028	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorooctanesulfonic acid (PFOS)	0.32	J B *	0.50	0.20	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
6:2 FTS	0.16	J	2.0	0.15	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/22/20 07:39	08/25/20 17:31	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	89		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C5 PFPeA	89		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C2 PFHxA	93		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C4 PFHpA	90		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C4 PFOA	89		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C5 PFNA	97		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C2 PFDA	96		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C2 PFUnA	93		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C2 PFDoA	102		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C2 PFTeDA	81		25 - 150	08/22/20 07:39	08/25/20 17:31	1
18O2 PFHxS	79		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C4 PFOS	77		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C8 FOSA	77		25 - 150	08/22/20 07:39	08/25/20 17:31	1
d3-NMeFOSAA	88		25 - 150	08/22/20 07:39	08/25/20 17:31	1
d5-NEtFOSAA	93		25 - 150	08/22/20 07:39	08/25/20 17:31	1
M2-6:2 FTS	105		25 - 150	08/22/20 07:39	08/25/20 17:31	1
M2-8:2 FTS	130		25 - 150	08/22/20 07:39	08/25/20 17:31	1
M2-4:2 FTS	109		25 - 150	08/22/20 07:39	08/25/20 17:31	1
13C3 PFBS	76		25 - 150	08/22/20 07:39	08/25/20 17:31	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH26-01

Lab Sample ID: 320-63739-23

Date Collected: 08/10/20 00:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.6

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.4		0.1	0.1	%			08/19/20 09:37	1
Percent Solids	94.6		0.1	0.1	%			08/19/20 09:37	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH26-02

Lab Sample ID: 320-63739-24

Date Collected: 08/10/20 01:00

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 79.4

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.11	J B	0.25	0.034	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluoropentanoic acid (PFPeA)	ND		0.25	0.095	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorohexanoic acid (PFHxA)	ND		0.25	0.052	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluoroheptanoic acid (PFHpA)	ND		0.25	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorooctanoic acid (PFOA)	ND		0.25	0.11	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorononanoic acid (PFNA)	ND		0.25	0.044	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorodecanoic acid (PFDA)	ND		0.25	0.027	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluoroundecanoic acid (PFUnA)	ND		0.25	0.044	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorododecanoic acid (PFDoA)	ND		0.25	0.082	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorotridecanoic acid (PFTriA)	ND		0.25	0.063	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.25	0.066	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.25	0.031	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.25	0.025	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.25	0.038	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.25	0.043	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorooctanesulfonic acid (PFOS)	ND *		0.62	0.25	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorononanesulfonic acid (PFNS)	ND		0.25	0.025	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.25	0.048	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
Perfluorooctanesulfonamide (FOSA)	ND		0.25	0.10	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.5	0.48	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.5	0.46	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
4:2 FTS	ND		2.5	0.46	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
6:2 FTS	ND		2.5	0.18	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1
8:2 FTS	ND		2.5	0.31	ug/Kg	☼	08/22/20 07:39	08/25/20 17:40	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C5 PFPeA	93		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C2 PFHxA	98		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C4 PFHpA	96		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C4 PFOA	93		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C5 PFNA	101		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C2 PFDA	100		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C2 PFUnA	98		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C2 PFDoA	91		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C2 PFTeDA	89		25 - 150	08/22/20 07:39	08/25/20 17:40	1
18O2 PFHxS	95		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C4 PFOS	90		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C8 FOSA	83		25 - 150	08/22/20 07:39	08/25/20 17:40	1
d3-NMeFOSAA	92		25 - 150	08/22/20 07:39	08/25/20 17:40	1
d5-NEtFOSAA	98		25 - 150	08/22/20 07:39	08/25/20 17:40	1
M2-6:2 FTS	106		25 - 150	08/22/20 07:39	08/25/20 17:40	1
M2-8:2 FTS	131		25 - 150	08/22/20 07:39	08/25/20 17:40	1
M2-4:2 FTS	117		25 - 150	08/22/20 07:39	08/25/20 17:40	1
13C3 PFBS	93		25 - 150	08/22/20 07:39	08/25/20 17:40	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH26-02

Lab Sample ID: 320-63739-24

Date Collected: 08/10/20 01:00

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 79.4

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.6		0.1	0.1	%			08/19/20 09:37	1
Percent Solids	79.4		0.1	0.1	%			08/19/20 09:37	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH26-03

Lab Sample ID: 320-63739-25

Date Collected: 08/10/20 00:20

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.9

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.12	J B	0.20	0.028	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.076	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.085	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorohexanesulfonic acid (PFHxS)	0.032	J	0.20	0.031	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorooctanesulfonic acid (PFOS)	0.54	B *	0.50	0.20	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.081	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/22/20 07:39	08/25/20 17:50	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	90		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C5 PFPeA	90		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C2 PFHxA	98		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C4 PFHpA	96		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C4 PFOA	89		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C5 PFNA	99		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C2 PFDA	92		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C2 PFUnA	96		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C2 PFDoA	103		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C2 PFTeDA	92		25 - 150	08/22/20 07:39	08/25/20 17:50	1
18O2 PFHxS	80		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C4 PFOS	80		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C8 FOSA	85		25 - 150	08/22/20 07:39	08/25/20 17:50	1
d3-NMeFOSAA	84		25 - 150	08/22/20 07:39	08/25/20 17:50	1
d5-NEtFOSAA	86		25 - 150	08/22/20 07:39	08/25/20 17:50	1
M2-6:2 FTS	94		25 - 150	08/22/20 07:39	08/25/20 17:50	1
M2-8:2 FTS	96		25 - 150	08/22/20 07:39	08/25/20 17:50	1
M2-4:2 FTS	94		25 - 150	08/22/20 07:39	08/25/20 17:50	1
13C3 PFBS	77		25 - 150	08/22/20 07:39	08/25/20 17:50	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH26-03

Lab Sample ID: 320-63739-25

Date Collected: 08/10/20 00:20

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.9

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.22	J H B	0.51	0.20	ug/Kg	☼	08/31/20 17:31	09/02/20 10:45	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFOS	75		25 - 150				08/31/20 17:31	09/02/20 10:45	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.1		0.1	0.1	%			08/19/20 10:57	1
Percent Solids	94.9		0.1	0.1	%			08/19/20 10:57	1



Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH07-01

Lab Sample ID: 320-63739-26

Date Collected: 08/10/20 03:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.6

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.093	J B	0.19	0.027	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.074	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.040	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.028	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.082	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.034	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.021	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.034	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.064	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorotridecanoic acid (PFTriA)	ND		0.19	0.049	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.19	0.052	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.024	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.019	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.030	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.19	0.034	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorooctanesulfonic acid (PFOS)	0.39	J B *	0.48	0.19	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.019	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.037	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
Perfluorooctanesulfonamide (FOSA)	ND		0.19	0.079	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.37	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.35	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
4:2 FTS	ND		1.9	0.35	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
6:2 FTS	ND		1.9	0.14	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1
8:2 FTS	ND		1.9	0.24	ug/Kg	☼	08/22/20 07:39	08/25/20 18:18	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C5 PFPeA	91		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C2 PFHxA	94		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C4 PFHpA	96		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C4 PFOA	93		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C5 PFNA	100		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C2 PFDA	95		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C2 PFUnA	96		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C2 PFDoA	104		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C2 PFTeDA	87		25 - 150	08/22/20 07:39	08/25/20 18:18	1
18O2 PFHxS	85		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C4 PFOS	83		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C8 FOSA	81		25 - 150	08/22/20 07:39	08/25/20 18:18	1
d3-NMeFOSAA	77		25 - 150	08/22/20 07:39	08/25/20 18:18	1
d5-NEtFOSAA	82		25 - 150	08/22/20 07:39	08/25/20 18:18	1
M2-6:2 FTS	95		25 - 150	08/22/20 07:39	08/25/20 18:18	1
M2-8:2 FTS	97		25 - 150	08/22/20 07:39	08/25/20 18:18	1
M2-4:2 FTS	100		25 - 150	08/22/20 07:39	08/25/20 18:18	1
13C3 PFBS	83		25 - 150	08/22/20 07:39	08/25/20 18:18	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH07-01

Lab Sample ID: 320-63739-26

Date Collected: 08/10/20 03:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.6

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.4		0.1	0.1	%			08/19/20 10:57	1
Percent Solids	95.6		0.1	0.1	%			08/19/20 10:57	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH07-02

Lab Sample ID: 320-63739-27

Date Collected: 08/10/20 03:40

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.4

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.097	J B	0.21	0.029	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.090	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorooctanesulfonic acid (PFOS)	0.29	J B *	0.52	0.21	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.086	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
4:2 FTS	ND		2.1	0.39	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/22/20 07:39	08/25/20 18:27	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	91		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C5 PFPeA	91		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C2 PFHxA	92		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C4 PFHpA	92		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C4 PFOA	94		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C5 PFNA	100		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C2 PFDA	96		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C2 PFUnA	97		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C2 PFDoA	101		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C2 PFTeDA	88		25 - 150				08/22/20 07:39	08/25/20 18:27	1
18O2 PFHxS	85		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C4 PFOS	82		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C8 FOSA	81		25 - 150				08/22/20 07:39	08/25/20 18:27	1
d3-NMeFOSAA	83		25 - 150				08/22/20 07:39	08/25/20 18:27	1
d5-NEtFOSAA	88		25 - 150				08/22/20 07:39	08/25/20 18:27	1
M2-6:2 FTS	86		25 - 150				08/22/20 07:39	08/25/20 18:27	1
M2-8:2 FTS	83		25 - 150				08/22/20 07:39	08/25/20 18:27	1
M2-4:2 FTS	90		25 - 150				08/22/20 07:39	08/25/20 18:27	1
13C3 PFBS	82		25 - 150				08/22/20 07:39	08/25/20 18:27	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH07-02

Lab Sample ID: 320-63739-27

Date Collected: 08/10/20 03:40

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.4

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.6		0.1	0.1	%			08/19/20 10:57	1
Percent Solids	94.4		0.1	0.1	%			08/19/20 10:57	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH09-02

Lab Sample ID: 320-63739-28

Date Collected: 08/10/20 22:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.6

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.095	J B	0.20	0.028	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.078	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.087	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.037	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.037	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.068	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorooctanesulfonic acid (PFOS)	0.31	J B *	0.51	0.20	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.040	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.083	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.40	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
4:2 FTS	ND		2.0	0.38	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/22/20 07:39	08/25/20 18:37	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	88		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C5 PFPeA	90		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C2 PFHxA	95		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C4 PFHpA	93		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C4 PFOA	90		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C5 PFNA	98		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C2 PFDA	93		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C2 PFUnA	95		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C2 PFDoA	94		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C2 PFTeDA	91		25 - 150	08/22/20 07:39	08/25/20 18:37	1
18O2 PFHxS	84		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C4 PFOS	82		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C8 FOSA	80		25 - 150	08/22/20 07:39	08/25/20 18:37	1
d3-NMeFOSAA	86		25 - 150	08/22/20 07:39	08/25/20 18:37	1
d5-NEtFOSAA	87		25 - 150	08/22/20 07:39	08/25/20 18:37	1
M2-6:2 FTS	121		25 - 150	08/22/20 07:39	08/25/20 18:37	1
M2-8:2 FTS	108		25 - 150	08/22/20 07:39	08/25/20 18:37	1
M2-4:2 FTS	144		25 - 150	08/22/20 07:39	08/25/20 18:37	1
13C3 PFBS	78		25 - 150	08/22/20 07:39	08/25/20 18:37	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH09-02

Lab Sample ID: 320-63739-28

Date Collected: 08/10/20 22:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.6

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.4		0.1	0.1	%			08/19/20 10:57	1
Percent Solids	93.6		0.1	0.1	%			08/19/20 10:57	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH09-03

Lab Sample ID: 320-63739-29

Date Collected: 08/10/20 22:45

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.10	J B	0.21	0.029	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.090	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.033	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorooctanesulfonic acid (PFOS)	0.63	B *	0.52	0.21	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluoronanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.086	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
4:2 FTS	ND		2.1	0.39	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
6:2 FTS	0.70	J	2.1	0.16	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/22/20 07:39	08/25/20 18:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	87		25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C5 PFPeA	85		25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C2 PFHxA	98		25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C4 PFHpA	93		25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C4 PFOA	92		25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C5 PFNA	98		25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C2 PFDA	93		25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C2 PFUnA	94		25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C2 PFDoA	92		25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C2 PFTeDA	80		25 - 150	08/22/20 07:39	08/25/20 18:46	1
18O2 PFHxS	81		25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C4 PFOS	79		25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C8 FOSA	78		25 - 150	08/22/20 07:39	08/25/20 18:46	1
d3-NMeFOSAA	88		25 - 150	08/22/20 07:39	08/25/20 18:46	1
d5-NEtFOSAA	82		25 - 150	08/22/20 07:39	08/25/20 18:46	1
M2-6:2 FTS	124		25 - 150	08/22/20 07:39	08/25/20 18:46	1
M2-8:2 FTS	118		25 - 150	08/22/20 07:39	08/25/20 18:46	1
M2-4:2 FTS	158	*5	25 - 150	08/22/20 07:39	08/25/20 18:46	1
13C3 PFBS	79		25 - 150	08/22/20 07:39	08/25/20 18:46	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH09-03

Lab Sample ID: 320-63739-29

Date Collected: 08/10/20 22:45

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.1

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.22	J H B	0.51	0.20	ug/Kg	☼	08/31/20 17:31	09/02/20 11:13	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFOS	82		25 - 150				08/31/20 17:31	09/02/20 11:13	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.9		0.1	0.1	%			08/19/20 10:57	1
Percent Solids	93.1		0.1	0.1	%			08/19/20 10:57	1



Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH14-01

Lab Sample ID: 320-63739-30

Date Collected: 08/11/20 00:30

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.9

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.094	J B	0.20	0.028	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.076	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.085	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorohexanesulfonic acid (PFHxS)	0.092	J	0.20	0.031	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorooctanesulfonic acid (PFOS)	1.0	B *	0.50	0.20	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.081	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/22/20 07:39	08/25/20 18:55	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	86		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C5 PFPeA	85		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C2 PFHxA	93		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C4 PFHpA	90		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C4 PFOA	90		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C5 PFNA	90		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C2 PFDA	92		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C2 PFUnA	92		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C2 PFDoA	87		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C2 PFTeDA	92		25 - 150	08/22/20 07:39	08/25/20 18:55	1
18O2 PFHxS	76		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C4 PFOS	72		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C8 FOSA	80		25 - 150	08/22/20 07:39	08/25/20 18:55	1
d3-NMeFOSAA	83		25 - 150	08/22/20 07:39	08/25/20 18:55	1
d5-NEtFOSAA	75		25 - 150	08/22/20 07:39	08/25/20 18:55	1
M2-6:2 FTS	107		25 - 150	08/22/20 07:39	08/25/20 18:55	1
M2-8:2 FTS	92		25 - 150	08/22/20 07:39	08/25/20 18:55	1
M2-4:2 FTS	132		25 - 150	08/22/20 07:39	08/25/20 18:55	1
13C3 PFBS	70		25 - 150	08/22/20 07:39	08/25/20 18:55	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH14-01

Lab Sample ID: 320-63739-30

Date Collected: 08/11/20 00:30

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.9

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.81	H B	0.52	0.21	ug/Kg	☼	08/31/20 17:31	09/02/20 11:22	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFOS	53		25 - 150				08/31/20 17:31	09/02/20 11:22	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.1		0.1	0.1	%			08/19/20 10:57	1
Percent Solids	95.9		0.1	0.1	%			08/19/20 10:57	1



Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH14-02

Lab Sample ID: 320-63739-31

Date Collected: 08/11/20 01:40

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 77.0

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.12	J B	0.26	0.036	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluoropentanoic acid (PFPeA)	ND		0.26	0.099	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorohexanoic acid (PFHxA)	ND		0.26	0.054	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluoroheptanoic acid (PFHpA)	ND		0.26	0.037	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorooctanoic acid (PFOA)	ND		0.26	0.11	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorononanoic acid (PFNA)	ND		0.26	0.046	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorodecanoic acid (PFDA)	ND		0.26	0.028	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluoroundecanoic acid (PFUnA)	ND		0.26	0.046	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorododecanoic acid (PFDoA)	ND		0.26	0.086	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorotridecanoic acid (PFTriA)	ND		0.26	0.065	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.26	0.069	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.26	0.032	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.26	0.026	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.26	0.040	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.26	0.045	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorooctanesulfonic acid (PFOS)	0.37	J B *	0.64	0.26	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorononanesulfonic acid (PFNS)	ND		0.26	0.026	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.26	0.050	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Perfluorooctanesulfonamide (FOSA)	ND		0.26	0.10	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.6	0.50	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.6	0.47	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
4:2 FTS	ND		2.6	0.47	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
6:2 FTS	ND		2.6	0.19	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
8:2 FTS	ND		2.6	0.32	ug/Kg	✱	08/22/20 07:39	08/25/20 19:05	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	90		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C5 PFPeA	90		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C2 PFHxA	95		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C4 PFHpA	94		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C4 PFOA	91		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C5 PFNA	99		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C2 PFDA	94		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C2 PFUnA	104		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C2 PFDoA	97		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C2 PFTeDA	82		25 - 150				08/22/20 07:39	08/25/20 19:05	1
18O2 PFHxS	93		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C4 PFOS	90		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C8 FOSA	85		25 - 150				08/22/20 07:39	08/25/20 19:05	1
d3-NMeFOSAA	80		25 - 150				08/22/20 07:39	08/25/20 19:05	1
d5-NEtFOSAA	85		25 - 150				08/22/20 07:39	08/25/20 19:05	1
M2-6:2 FTS	99		25 - 150				08/22/20 07:39	08/25/20 19:05	1
M2-8:2 FTS	107		25 - 150				08/22/20 07:39	08/25/20 19:05	1
M2-4:2 FTS	108		25 - 150				08/22/20 07:39	08/25/20 19:05	1
13C3 PFBS	88		25 - 150				08/22/20 07:39	08/25/20 19:05	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH14-02

Lab Sample ID: 320-63739-31

Date Collected: 08/11/20 01:40

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 77.0

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	23.0		0.1	0.1	%			08/19/20 10:57	1
Percent Solids	77.0		0.1	0.1	%			08/19/20 10:57	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH15-01

Lab Sample ID: 320-63739-32

Date Collected: 08/11/20 03:25

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.099	J B	0.20	0.029	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.079	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.030	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.088	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.037	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.023	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.037	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.069	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.026	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.032	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorooctanesulfonic acid (PFOS)	0.42	J B *	0.51	0.20	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.040	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.084	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.40	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
4:2 FTS	ND		2.0	0.38	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1
8:2 FTS	ND		2.0	0.26	ug/Kg	☼	08/22/20 07:39	08/25/20 19:14	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	85		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C5 PFPeA	84		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C2 PFHxA	87		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C4 PFHpA	87		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C4 PFOA	84		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C5 PFNA	93		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C2 PFDA	92		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C2 PFUnA	85		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C2 PFDoA	83		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C2 PFTeDA	79		25 - 150	08/22/20 07:39	08/25/20 19:14	1
18O2 PFHxS	66		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C4 PFOS	64		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C8 FOSA	73		25 - 150	08/22/20 07:39	08/25/20 19:14	1
d3-NMeFOSAA	81		25 - 150	08/22/20 07:39	08/25/20 19:14	1
d5-NEtFOSAA	89		25 - 150	08/22/20 07:39	08/25/20 19:14	1
M2-6:2 FTS	98		25 - 150	08/22/20 07:39	08/25/20 19:14	1
M2-8:2 FTS	106		25 - 150	08/22/20 07:39	08/25/20 19:14	1
M2-4:2 FTS	106		25 - 150	08/22/20 07:39	08/25/20 19:14	1
13C3 PFBS	61		25 - 150	08/22/20 07:39	08/25/20 19:14	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH15-01

Lab Sample ID: 320-63739-32

Date Collected: 08/11/20 03:25

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.9		0.1	0.1	%			08/19/20 10:57	1
Percent Solids	93.1		0.1	0.1	%			08/19/20 10:57	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH15-02

Lab Sample ID: 320-63739-33

Date Collected: 08/11/20 03:55

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.9

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.090	J B	0.21	0.029	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.079	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.043	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.088	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.052	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.055	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorohexanesulfonic acid (PFHxS)	0.14	J	0.21	0.032	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorooctanesulfonic acid (PFOS)	13	B *	0.51	0.21	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.084	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
4:2 FTS	ND		2.1	0.38	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
6:2 FTS	ND		2.1	0.15	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/22/20 07:39	08/25/20 19:24	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	84		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C5 PFPeA	85		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C2 PFHxA	91		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C4 PFHpA	84		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C4 PFOA	86		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C5 PFNA	90		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C2 PFDA	88		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C2 PFUnA	91		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C2 PFDoA	92		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C2 PFTeDA	83		25 - 150	08/22/20 07:39	08/25/20 19:24	1
18O2 PFHxS	73		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C4 PFOS	71		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C8 FOSA	72		25 - 150	08/22/20 07:39	08/25/20 19:24	1
d3-NMeFOSAA	82		25 - 150	08/22/20 07:39	08/25/20 19:24	1
d5-NEtFOSAA	82		25 - 150	08/22/20 07:39	08/25/20 19:24	1
M2-6:2 FTS	85		25 - 150	08/22/20 07:39	08/25/20 19:24	1
M2-8:2 FTS	95		25 - 150	08/22/20 07:39	08/25/20 19:24	1
M2-4:2 FTS	97		25 - 150	08/22/20 07:39	08/25/20 19:24	1
13C3 PFBS	70		25 - 150	08/22/20 07:39	08/25/20 19:24	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH15-02

Lab Sample ID: 320-63739-33

Date Collected: 08/11/20 03:55

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.9

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	12	H B	0.53	0.21	ug/Kg	☼	08/31/20 17:31	09/02/20 11:31	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFOS	64		25 - 150				08/31/20 17:31	09/02/20 11:31	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.1		0.1	0.1	%			08/19/20 10:57	1
Percent Solids	90.9		0.1	0.1	%			08/19/20 10:57	1



Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-63739-1	BET20-TH08-01	89	91	94	98	97	96	96	96
320-63739-1 - RE	BET20-TH08-01								
320-63739-1 MS	BET20-TH08-01	84	86	88	93	95	95	95	91
320-63739-1 MS - RE	BET20-TH08-01								
320-63739-1 MSD	BET20-TH08-01	94	96	100	106	101	102	100	107
320-63739-1 MSD - RE	BET20-TH08-01								
320-63739-2	BET20-TH08-02	81	83	81	88	88	89	88	87
320-63739-2 - RE	BET20-TH08-02								
320-63739-3	BET20-TH08-03	81	84	90	90	88	92	87	91
320-63739-3 - RE	BET20-TH08-03								
320-63739-4	BET20-TH11-01	68	71	76	76	79	79	76	81
320-63739-4 - RE	BET20-TH11-01								
320-63739-5	BET20-TH11-02	84	90	102	112	98	111	98	104
320-63739-5 - RE	BET20-TH11-02								
320-63739-6	BET20-TH27-01	81	87	91	93	94	101	94	99
320-63739-6 - RE	BET20-TH27-01								
320-63739-7	BET20-TH27-02	69	73	75	77	78	78	80	82
320-63739-7 - RE	BET20-TH27-02								
320-63739-8	BET20-TH27-03	78	82	86	89	94	90	89	93
320-63739-8 - RE	BET20-TH27-03								
320-63739-9	BET20-TH10-01	78	80	83	86	87	89	91	91
320-63739-9 - RE	BET20-TH10-01								
320-63739-9 MS - RE	BET20-TH10-01								
320-63739-9 MSD - RE	BET20-TH10-01								
320-63739-10	BET20-TH10-02	69	71	74	78	74	77	77	74
320-63739-10 - RE	BET20-TH10-02								
320-63739-11	BET20-TH28-01	77	82	88	96	91	105	96	105
320-63739-11 - RE	BET20-TH28-01								
320-63739-12	BET20-TH28-02	65	69	71	75	74	75	74	76
320-63739-12 - RE	BET20-TH28-02								
320-63739-13	BET20-TH28-03	74	80	85	93	90	95	88	94
320-63739-13 - RE	BET20-TH28-03								
320-63739-15	BET20-TH16-01	74	79	78	82	83	86	81	84
320-63739-15 - RE	BET20-TH16-01								
320-63739-16	BET20-TH16-02	73	75	79	81	82	81	81	85
320-63739-16 - DL	BET20-TH16-02								
320-63739-16 - RE	BET20-TH16-02								
320-63739-17	BET20-TH12-01	92	99	104	104	104	108	103	113
320-63739-17 - RE	BET20-TH12-01								
320-63739-18	BET20-TH12-02	88	92	91	95	98	98	91	98
320-63739-18 - RE	BET20-TH12-02								
320-63739-19	BET20-TH12-03	69	71	76	76	75	80	74	66
320-63739-19 - RE	BET20-TH12-03								
320-63739-20	BET20-TH13-01	87	90	91	89	88	97	93	91
320-63739-20 MS	BET20-TH13-01	91	88	95	93	89	97	94	90
320-63739-20 MSD	BET20-TH13-01	89	91	96	93	89	101	85	91
320-63739-21	BET20-TH13-02	90	87	97	90	90	101	96	94
320-63739-22	BET20-TH09-01	91	89	96	92	91	95	91	94
320-63739-23	BET20-TH26-01	89	89	93	90	89	97	96	93

Eurofins TestAmerica, Sacramento

Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-63739-24	BET20-TH26-02	92	93	98	96	93	101	100	98
320-63739-25	BET20-TH26-03	90	90	98	96	89	99	92	96
320-63739-25 - RE	BET20-TH26-03								
320-63739-25 MS - RE	BET20-TH26-03								
320-63739-25 MSD - RE	BET20-TH26-03								
320-63739-26	BET20-TH07-01	92	91	94	96	93	100	95	96
320-63739-27	BET20-TH07-02	91	91	92	92	94	100	96	97
320-63739-28	BET20-TH09-02	88	90	95	93	90	98	93	95
320-63739-29	BET20-TH09-03	87	85	98	93	92	98	93	94
320-63739-29 - RE	BET20-TH09-03								
320-63739-30	BET20-TH14-01	86	85	93	90	90	90	92	92
320-63739-30 - RE	BET20-TH14-01								
320-63739-31	BET20-TH14-02	90	90	95	94	91	99	94	104
320-63739-32	BET20-TH15-01	85	84	87	87	84	93	92	85
320-63739-33	BET20-TH15-02	84	85	91	84	86	90	88	91
320-63739-33 - RE	BET20-TH15-02								
LCS 320-405032/2-A	Lab Control Sample	88	92	91	96	101	93	98	96
LCS 320-405814/2-A	Lab Control Sample	85	87	86	86	85	94	87	92
LCS 320-406422/2-A	Lab Control Sample	86	88	90	96	90	96	91	98
LCS 320-407009/2-A	Lab Control Sample	61	62	64	64	67	68	63	64
LCS 320-408342/2-A	Lab Control Sample								
MB 320-405032/1-A	Method Blank	71	73	72	75	79	74	74	76
MB 320-405814/1-A	Method Blank	93	92	92	93	95	99	95	102
MB 320-406422/1-A	Method Blank	82	87	88	89	85	95	90	94
MB 320-407009/1-A	Method Blank	83	84	89	91	89	93	84	89
MB 320-408342/1-A	Method Blank								

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDaA (25-150)	PFTDA (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOs (25-150)	d5NEFOs (25-150)	M262FTS (25-150)
320-63739-1	BET20-TH08-01	99	102	91	93	92	86	91	80
320-63739-1 - RE	BET20-TH08-01				87		76	79	82
320-63739-1 MS	BET20-TH08-01	100	110	84	86	93	82	84	77
320-63739-1 MS - RE	BET20-TH08-01				87		82	86	94
320-63739-1 MSD	BET20-TH08-01	109	118	96	96	96	91	99	84
320-63739-1 MSD - RE	BET20-TH08-01				88		92	91	94
320-63739-2	BET20-TH08-02	85	94	84	80	80	75	78	67
320-63739-2 - RE	BET20-TH08-02				91		93	94	98
320-63739-3	BET20-TH08-03	92	101	84	87	87	76	75	67
320-63739-3 - RE	BET20-TH08-03				88		81	88	92
320-63739-4	BET20-TH11-01	80	78	69	78	72	78	83	108
320-63739-4 - RE	BET20-TH11-01				93		102	103	214 *5
320-63739-5	BET20-TH11-02	103	109	107	111	89	81	86	188 *5
320-63739-5 - RE	BET20-TH11-02				96		83	95	218 *5
320-63739-6	BET20-TH27-01	98	100	92	98	93	85	87	131
320-63739-6 - RE	BET20-TH27-01				100		111	105	182 *5
320-63739-7	BET20-TH27-02	79	85	76	78	77	65	67	69
320-63739-7 - RE	BET20-TH27-02				91		86	90	100
320-63739-8	BET20-TH27-03	95	102	89	90	89	88	86	129
320-63739-8 - RE	BET20-TH27-03				93		92	93	162 *5
320-63739-9	BET20-TH10-01	92	99	88	86	88	79	85	112

Eurofins TestAmerica, Sacramento

Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFD _o A (25-150)	PFTDA (25-150)	PFH _x S (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)	M262F _T S (25-150)
320-63739-9 - RE	BET20-TH10-01				91		103	119	161 *5
320-63739-9 MS - RE	BET20-TH10-01				99		125	137	174 *5
320-63739-9 MSD - RE	BET20-TH10-01				91		125	141	159 *5
320-63739-10	BET20-TH10-02	76	78	76	75	71	73	72	81
320-63739-10 - RE	BET20-TH10-02				95		98	97	126
320-63739-11	BET20-TH28-01	100	95	95	101	86	71	73	190 *5
320-63739-11 - RE	BET20-TH28-01				103		126	140	223 *5
320-63739-12	BET20-TH28-02	76	73	74	80	68	75	75	91
320-63739-12 - RE	BET20-TH28-02				99		104	111	144
320-63739-13	BET20-TH28-03	90	99	90	95	91	82	86	150
320-63739-13 - RE	BET20-TH28-03				104		117	129	256 *5
320-63739-15	BET20-TH16-01	84	97	77	81	78	79	78	72
320-63739-15 - RE	BET20-TH16-01				80		82	87	88
320-63739-16	BET20-TH16-02	84	88	75	78	78	75	74	68
320-63739-16 - DL	BET20-TH16-02				70				
320-63739-16 - RE	BET20-TH16-02				84		104	112	112
320-63739-17	BET20-TH12-01	108	116	102	106	105	107	110	126
320-63739-17 - RE	BET20-TH12-01				90		88	89	126
320-63739-18	BET20-TH12-02	98	102	98	98	85	88	93	89
320-63739-18 - RE	BET20-TH12-02				103		98	105	111
320-63739-19	BET20-TH12-03	56	60	77	78	69	56	54	73
320-63739-19 - RE	BET20-TH12-03				83		83	82	92
320-63739-20	BET20-TH13-01	92	81	79	77	77	80	85	101
320-63739-20 MS	BET20-TH13-01	96	99	80	82	85	86	88	121
320-63739-20 MSD	BET20-TH13-01	93	94	86	79	81	83	85	109
320-63739-21	BET20-TH13-02	95	86	88	83	85	91	83	129
320-63739-22	BET20-TH09-01	87	71	94	93	66	71	69	177 *5
320-63739-23	BET20-TH26-01	102	81	79	77	77	88	93	105
320-63739-24	BET20-TH26-02	91	89	95	90	83	92	98	106
320-63739-25	BET20-TH26-03	103	92	80	80	85	84	86	94
320-63739-25 - RE	BET20-TH26-03				75				
320-63739-25 MS - RE	BET20-TH26-03				74				
320-63739-25 MSD - RE	BET20-TH26-03				70				
320-63739-26	BET20-TH07-01	104	87	85	83	81	77	82	95
320-63739-27	BET20-TH07-02	101	88	85	82	81	83	88	86
320-63739-28	BET20-TH09-02	94	91	84	82	80	86	87	121
320-63739-29	BET20-TH09-03	92	80	81	79	78	88	82	124
320-63739-29 - RE	BET20-TH09-03				82				
320-63739-30	BET20-TH14-01	87	92	76	72	80	83	75	107
320-63739-30 - RE	BET20-TH14-01				53				
320-63739-31	BET20-TH14-02	97	82	93	90	85	80	85	99
320-63739-32	BET20-TH15-01	83	79	66	64	73	81	89	98
320-63739-33	BET20-TH15-02	92	83	73	71	72	82	82	85
320-63739-33 - RE	BET20-TH15-02				64				
LCS 320-405032/2-A	Lab Control Sample	90	103	98	96	87	0.2 *5	0.3 *5	7 *5
LCS 320-405814/2-A	Lab Control Sample	97	82	89	84	80	72	76	100
LCS 320-406422/2-A	Lab Control Sample	94	87	95	90	88	94	104	128
LCS 320-407009/2-A	Lab Control Sample	66	65	69	67	60	59	58	78
LCS 320-408342/2-A	Lab Control Sample				62				
MB 320-405032/1-A	Method Blank	75	82	82	81	58	0.4 *5	0.4 *5	16 *5

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Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)	M262FTS (25-150)
MB 320-405814/1-A	Method Blank	100	91	93	92	79	77	84	108
MB 320-406422/1-A	Method Blank	89	80	90	90	79	91	97	131
MB 320-407009/1-A	Method Blank	86	87	96	92	82	78	84	125
MB 320-408342/1-A	Method Blank				62				

		Percent Isotope Dilution Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	M282FTS (25-150)	M242FTS (25-150)	C3PFBS (25-150)
320-63739-1	BET20-TH08-01	85	80	89
320-63739-1 - RE	BET20-TH08-01	84	77	
320-63739-1 MS	BET20-TH08-01	82	74	84
320-63739-1 MS - RE	BET20-TH08-01	98	94	
320-63739-1 MSD	BET20-TH08-01	94	84	96
320-63739-1 MSD - RE	BET20-TH08-01	104	90	
320-63739-2	BET20-TH08-02	76	65	80
320-63739-2 - RE	BET20-TH08-02	90	94	
320-63739-3	BET20-TH08-03	76	72	83
320-63739-3 - RE	BET20-TH08-03	96	89	
320-63739-4	BET20-TH11-01	123	95	70
320-63739-4 - RE	BET20-TH11-01	185 *5	156 *5	
320-63739-5	BET20-TH11-02	217 *5	273 *5	102
320-63739-5 - RE	BET20-TH11-02	247 *5	281 *5	
320-63739-6	BET20-TH27-01	164 *5	169 *5	91
320-63739-6 - RE	BET20-TH27-01	214 *5	236 *5	
320-63739-7	BET20-TH27-02	78	81	74
320-63739-7 - RE	BET20-TH27-02	107	109	
320-63739-8	BET20-TH27-03	151 *5	157 *5	82
320-63739-8 - RE	BET20-TH27-03	184 *5	188 *5	
320-63739-9	BET20-TH10-01	139	83	84
320-63739-9 - RE	BET20-TH10-01	185 *5	139	
320-63739-9 MS - RE	BET20-TH10-01	230 *5	142	
320-63739-9 MSD - RE	BET20-TH10-01	223 *5	149	
320-63739-10	BET20-TH10-02	100	123	73
320-63739-10 - RE	BET20-TH10-02	138	156 *5	
320-63739-11	BET20-TH28-01	222 *5	235 *5	89
320-63739-11 - RE	BET20-TH28-01	256 *5	323 *5	
320-63739-12	BET20-TH28-02	120	131	74
320-63739-12 - RE	BET20-TH28-02	164 *5	194 *5	
320-63739-13	BET20-TH28-03	179 *5	229 *5	85
320-63739-13 - RE	BET20-TH28-03	280 *5	374 *5	
320-63739-15	BET20-TH16-01	74	63	76
320-63739-15 - RE	BET20-TH16-01	94	80	
320-63739-16	BET20-TH16-02	81	77	73
320-63739-16 - DL	BET20-TH16-02			
320-63739-16 - RE	BET20-TH16-02	135	120	
320-63739-17	BET20-TH12-01	140	192 *5	99
320-63739-17 - RE	BET20-TH12-01	136	208 *5	
320-63739-18	BET20-TH12-02	86	81	94
320-63739-18 - RE	BET20-TH12-02	112	107	
320-63739-19	BET20-TH12-03	88	122	75
320-63739-19 - RE	BET20-TH12-03	108	160 *5	

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Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Solid

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)		
		M282FTS (25-150)	M242FTS (25-150)	C3PFBS (25-150)
320-63739-20	BET20-TH13-01	109	122	77
320-63739-20 MS	BET20-TH13-01	117	124	81
320-63739-20 MSD	BET20-TH13-01	105	137	83
320-63739-21	BET20-TH13-02	128	156 *5	85
320-63739-22	BET20-TH09-01	170 *5	173 *5	91
320-63739-23	BET20-TH26-01	130	109	76
320-63739-24	BET20-TH26-02	131	117	93
320-63739-25	BET20-TH26-03	96	94	77
320-63739-25 - RE	BET20-TH26-03			
320-63739-25 MS - RE	BET20-TH26-03			
320-63739-25 MSD - RE	BET20-TH26-03			
320-63739-26	BET20-TH07-01	97	100	83
320-63739-27	BET20-TH07-02	83	90	82
320-63739-28	BET20-TH09-02	108	144	78
320-63739-29	BET20-TH09-03	118	158 *5	79
320-63739-29 - RE	BET20-TH09-03			
320-63739-30	BET20-TH14-01	92	132	70
320-63739-30 - RE	BET20-TH14-01			
320-63739-31	BET20-TH14-02	107	108	88
320-63739-32	BET20-TH15-01	106	106	61
320-63739-33	BET20-TH15-02	95	97	70
320-63739-33 - RE	BET20-TH15-02			
LCS 320-405032/2-A	Lab Control Sample	4 *5	3 *5	96
LCS 320-405814/2-A	Lab Control Sample	79	87	85
LCS 320-406422/2-A	Lab Control Sample	112	109	93
LCS 320-407009/2-A	Lab Control Sample	66	65	65
LCS 320-408342/2-A	Lab Control Sample			
MB 320-405032/1-A	Method Blank	12 *5	9 *5	82
MB 320-405814/1-A	Method Blank	93	94	89
MB 320-406422/1-A	Method Blank	105	112	91
MB 320-407009/1-A	Method Blank	88	92	89
MB 320-408342/1-A	Method Blank			

Surrogate Legend

- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- PFHxA = 13C2 PFHxA
- C4PFHA = 13C4 PFHpA
- PFOA = 13C4 PFOA
- PFNA = 13C5 PFNA
- PFDA = 13C2 PFDA
- PFUnA = 13C2 PFUnA
- PFDaA = 13C2 PFDaA
- PFTDA = 13C2 PFTeDA
- PFHxS = 18O2 PFHxS
- PFOS = 13C4 PFOS
- PFOSA = 13C8 FOSA
- d3NMFOS = d3-NMeFOSAA
- d5NEFOS = d5-NEtFOSAA
- M262FTS = M2-6:2 FTS

Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction
 M282FTS = M2-8:2 FTS
 M242FTS = M2-4:2 FTS
 C3PFBS = 13C3 PFBS

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-63739-14	BET20-WA-RB01	98	106	104	106	104	108	116	113
LCS 320-405167/2-A	Lab Control Sample	90	97	95	96	97	100	106	104
MB 320-405167/1-A	Method Blank	91	98	97	96	102	99	102	100

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (25-150)	PFTDA (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)	M262FTS (25-150)
320-63739-14	BET20-WA-RB01	116	110	104	106	93	82	88	84
LCS 320-405167/2-A	Lab Control Sample	109	114	96	97	85	81	83	75
MB 320-405167/1-A	Method Blank	101	120	96	99	86	82	89	80

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M282FTS (25-150)	M242FTS (25-150)	C3PFBS (25-150)
320-63739-14	BET20-WA-RB01	90	74	109
LCS 320-405167/2-A	Lab Control Sample	84	75	100
MB 320-405167/1-A	Method Blank	87	75	101

Surrogate Legend

PFBA = 13C4 PFBA
 PFPeA = 13C5 PFPeA
 PFHxA = 13C2 PFHxA
 C4PFHA = 13C4 PFHpA
 PFOA = 13C4 PFOA
 PFNA = 13C5 PFNA
 PFDA = 13C2 PFDA
 PFUnA = 13C2 PFUnA
 PFDaA = 13C2 PFDaA
 PFTDA = 13C2 PFTeDA
 PFHxS = 18O2 PFHxS
 PFOS = 13C4 PFOS
 PFOSA = 13C8 FOSA
 d3NMFOS = d3-NMeFOSAA
 d5NEFOS = d5-NEtFOSAA
 M262FTS = M2-6:2 FTS
 M282FTS = M2-8:2 FTS
 M242FTS = M2-4:2 FTS
 C3PFBS = 13C3 PFBS

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-405032/1-A
Matrix: Solid
Analysis Batch: 405870

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 405032

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	0.148	J	0.20	0.028	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorooctanesulfonic acid (PFOS)	7.20		0.50	0.20	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.886	J	2.0	0.39	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
4:2 FTS	ND		2.0	0.37	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
6:2 FTS	ND		2.0	0.15	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
8:2 FTS	ND		2.0	0.25	ug/Kg		08/19/20 13:47	08/22/20 19:02	1
Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac			
	%Recovery	Qualifier							
13C4 PFBA	71		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C5 PFPeA	73		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C2 PFHxA	72		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C4 PFHpA	75		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C4 PFOA	79		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C5 PFNA	74		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C2 PFDA	74		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C2 PFUnA	76		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C2 PFDoA	75		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C2 PFTeDA	82		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
18O2 PFHxS	82		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C4 PFOS	81		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C8 FOSA	58		25 - 150	08/19/20 13:47	08/22/20 19:02	1			
d3-NMeFOSAA	0.4	*5	25 - 150	08/19/20 13:47	08/22/20 19:02	1			
d5-NEtFOSAA	0.4	*5	25 - 150	08/19/20 13:47	08/22/20 19:02	1			
M2-6:2 FTS	16	*5	25 - 150	08/19/20 13:47	08/22/20 19:02	1			
M2-8:2 FTS	12	*5	25 - 150	08/19/20 13:47	08/22/20 19:02	1			
M2-4:2 FTS	9	*5	25 - 150	08/19/20 13:47	08/22/20 19:02	1			
13C3 PFBS	82		25 - 150	08/19/20 13:47	08/22/20 19:02	1			

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-405032/2-A
Matrix: Solid
Analysis Batch: 406202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405032

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	2.00	2.15		ug/Kg		108	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	1.87		ug/Kg		93	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	2.05		ug/Kg		102	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	1.99		ug/Kg		99	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	1.80		ug/Kg		90	72 - 132
Perfluorononanoic acid (PFNA)	2.00	2.00		ug/Kg		100	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.01		ug/Kg		101	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	2.04		ug/Kg		102	66 - 126
Perfluorododecanoic acid (PFDoA)	2.00	1.94		ug/Kg		97	71 - 131
Perfluorotridecanoic acid (PFTriA)	2.00	2.55		ug/Kg		127	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	1.87		ug/Kg		94	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.77	1.86		ug/Kg		105	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.81		ug/Kg		97	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.61		ug/Kg		88	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	2.04		ug/Kg		107	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	10.3	*	ug/Kg		557	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	1.93		ug/Kg		101	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.90		ug/Kg		98	71 - 131
Perfluorooctanesulfonamide (FOSA)	2.00	2.23		ug/Kg		112	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.39		ug/Kg		120	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.47		ug/Kg		123	72 - 132
4:2 FTS	1.87	1.82	J	ug/Kg		97	68 - 143
6:2 FTS	1.90	1.77	J	ug/Kg		93	73 - 139
8:2 FTS	1.92	1.90	J	ug/Kg		99	75 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	88		25 - 150
13C5 PFPeA	92		25 - 150
13C2 PFHxA	91		25 - 150
13C4 PFHpA	96		25 - 150
13C4 PFOA	101		25 - 150
13C5 PFNA	93		25 - 150
13C2 PFDA	98		25 - 150
13C2 PFUnA	96		25 - 150
13C2 PFDoA	90		25 - 150
13C2 PFTeDA	103		25 - 150
18O2 PFHxS	98		25 - 150
13C4 PFOS	96		25 - 150

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-405032/2-A
Matrix: Solid
Analysis Batch: 406202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405032

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C8 FOSA	87		25 - 150
d3-NMeFOSAA	0.2	*5	25 - 150
d5-NEtFOSAA	0.3	*5	25 - 150
M2-6:2 FTS	7	*5	25 - 150
M2-8:2 FTS	4	*5	25 - 150
M2-4:2 FTS	3	*5	25 - 150
13C3 PFBS	96		25 - 150

Lab Sample ID: 320-63739-1 MS
Matrix: Solid
Analysis Batch: 405870

Client Sample ID: BET20-TH08-01
Prep Type: Total/NA
Prep Batch: 405032

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	Limits
				Result	Qualifier				
Perfluorobutanoic acid (PFBA)	0.14	J B	2.03	2.26		ug/Kg	☼	105	76 - 136
Perfluoropentanoic acid (PFPeA)	ND		2.03	1.88		ug/Kg	☼	93	69 - 129
Perfluorohexanoic acid (PFHxA)	ND		2.03	2.07		ug/Kg	☼	102	71 - 131
Perfluoroheptanoic acid (PFHpA)	ND		2.03	1.98		ug/Kg	☼	98	71 - 131
Perfluorooctanoic acid (PFOA)	ND		2.03	1.85		ug/Kg	☼	91	72 - 132
Perfluorononanoic acid (PFNA)	ND		2.03	2.03		ug/Kg	☼	100	73 - 133
Perfluorodecanoic acid (PFDA)	ND		2.03	2.15		ug/Kg	☼	106	72 - 132
Perfluoroundecanoic acid (PFUnA)	ND		2.03	2.18		ug/Kg	☼	107	66 - 126
Perfluorododecanoic acid (PFDoA)	ND		2.03	1.94		ug/Kg	☼	96	71 - 131
Perfluorotridecanoic acid (PFTriA)	ND		2.03	2.28		ug/Kg	☼	112	71 - 131
Perfluorotetradecanoic acid (PFTeA)	ND		2.03	1.97		ug/Kg	☼	97	67 - 127
Perfluorobutanesulfonic acid (PFBS)	ND		1.79	1.78		ug/Kg	☼	99	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	ND		1.90	1.83		ug/Kg	☼	96	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	ND		1.85	1.69		ug/Kg	☼	91	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.93	1.88		ug/Kg	☼	97	76 - 136
Perfluorooctanesulfonic acid (PFOS)	ND	*	1.88	1.94	*	ug/Kg	☼	103	68 - 141
Perfluorononanesulfonic acid (PFNS)	ND		1.95	1.95		ug/Kg	☼	100	72 - 132
Perfluorodecanesulfonic acid (PFDS)	ND		1.96	1.98		ug/Kg	☼	101	71 - 131
Perfluorooctanesulfonamide (FOSA)	ND		2.03	2.11		ug/Kg	☼	104	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.03	2.02		ug/Kg	☼	100	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.03	1.95	J	ug/Kg	☼	96	72 - 132
4:2 FTS	ND		1.90	1.80	J	ug/Kg	☼	95	68 - 143
6:2 FTS	ND		1.92	1.85	J	ug/Kg	☼	96	73 - 139
8:2 FTS	ND		1.94	1.86	J	ug/Kg	☼	96	75 - 135

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C4 PFBA	84		25 - 150
13C5 PFPeA	86		25 - 150
13C2 PFHxA	88		25 - 150
13C4 PFHpA	93		25 - 150
13C4 PFOA	95		25 - 150
13C5 PFNA	95		25 - 150
13C2 PFDA	95		25 - 150
13C2 PFUnA	91		25 - 150
13C2 PFDoA	100		25 - 150
13C2 PFTeDA	110		25 - 150
18O2 PFHxS	84		25 - 150
13C4 PFOS	86		25 - 150
13C8 FOSA	93		25 - 150
d3-NMeFOSAA	82		25 - 150
d5-NEtFOSAA	84		25 - 150
M2-6:2 FTS	77		25 - 150
M2-8:2 FTS	82		25 - 150
M2-4:2 FTS	74		25 - 150
13C3 PFBS	84		25 - 150

Lab Sample ID: 320-63739-1 MSD
Matrix: Solid
Analysis Batch: 405870

Client Sample ID: BET20-TH08-01
Prep Type: Total/NA
Prep Batch: 405032

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD
											Limit
Perfluorobutanoic acid (PFBA)	0.14	J B	2.09	2.35		ug/Kg	⊛	106	76 - 136	4	30
Perfluoropentanoic acid (PFPeA)	ND		2.09	1.94		ug/Kg	⊛	93	69 - 129	3	30
Perfluorohexanoic acid (PFHxA)	ND		2.09	2.03		ug/Kg	⊛	97	71 - 131	2	30
Perfluoroheptanoic acid (PFHpA)	ND		2.09	2.02		ug/Kg	⊛	97	71 - 131	2	30
Perfluorooctanoic acid (PFOA)	ND		2.09	1.98		ug/Kg	⊛	95	72 - 132	7	30
Perfluorononanoic acid (PFNA)	ND		2.09	2.17		ug/Kg	⊛	104	73 - 133	7	30
Perfluorodecanoic acid (PFDA)	ND		2.09	2.35		ug/Kg	⊛	112	72 - 132	9	30
Perfluoroundecanoic acid (PFUnA)	ND		2.09	2.14		ug/Kg	⊛	102	66 - 126	2	30
Perfluorododecanoic acid (PFDoA)	ND		2.09	1.98		ug/Kg	⊛	95	71 - 131	2	30
Perfluorotridecanoic acid (PFTriA)	ND		2.09	2.42		ug/Kg	⊛	116	71 - 131	6	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.09	2.10		ug/Kg	⊛	100	67 - 127	6	30
Perfluorobutanesulfonic acid (PFBS)	ND		1.85	1.85		ug/Kg	⊛	100	69 - 129	4	30
Perfluoropentanesulfonic acid (PFPeS)	ND		1.96	1.86		ug/Kg	⊛	95	66 - 126	2	30
Perfluorohexanesulfonic acid (PFHxS)	ND		1.90	1.71		ug/Kg	⊛	90	62 - 122	1	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.99	2.02		ug/Kg	⊛	101	76 - 136	7	30
Perfluorooctanesulfonic acid (PFOS)	ND	*	1.94	1.96	*	ug/Kg	⊛	101	68 - 141	1	30
Perfluorononanesulfonic acid (PFNS)	ND		2.01	2.05		ug/Kg	⊛	102	72 - 132	5	30
Perfluorodecanesulfonic acid (PFDS)	ND		2.02	2.14		ug/Kg	⊛	106	71 - 131	8	30

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-63739-1 MSD
Matrix: Solid
Analysis Batch: 405870

Client Sample ID: BET20-TH08-01
Prep Type: Total/NA
Prep Batch: 405032

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonamide (FOSA)	ND		2.09	2.26		ug/Kg	☼	108	77 - 137	7	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.09	2.13		ug/Kg	☼	102	72 - 132	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.09	2.10		ug/Kg	☼	101	72 - 132	7	30
4:2 FTS	ND		1.95	1.95	J	ug/Kg	☼	100	68 - 143	8	30
6:2 FTS	ND		1.98	1.93	J	ug/Kg	☼	98	73 - 139	5	30
8:2 FTS	ND		2.00	1.96	J	ug/Kg	☼	98	75 - 135	5	30

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C4 PFBA	94		25 - 150
13C5 PFPeA	96		25 - 150
13C2 PFHxA	100		25 - 150
13C4 PFHpA	106		25 - 150
13C4 PFOA	101		25 - 150
13C5 PFNA	102		25 - 150
13C2 PFDA	100		25 - 150
13C2 PFUnA	107		25 - 150
13C2 PFDoA	109		25 - 150
13C2 PFTeDA	118		25 - 150
18O2 PFHxS	96		25 - 150
13C4 PFOS	96		25 - 150
13C8 FOSA	96		25 - 150
d3-NMeFOSAA	91		25 - 150
d5-NEtFOSAA	99		25 - 150
M2-6:2 FTS	84		25 - 150
M2-8:2 FTS	94		25 - 150
M2-4:2 FTS	84		25 - 150
13C3 PFBS	96		25 - 150

Lab Sample ID: MB 320-405167/1-A
Matrix: Water
Analysis Batch: 405345

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 405167

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	ND		2.0	0.35	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		08/20/20 04:34	08/20/20 14:36	1

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-405167/1-A
Matrix: Water
Analysis Batch: 405345

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 405167

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	0.316	J	2.0	0.17	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.16	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		08/20/20 04:34	08/20/20 14:36	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.35	ng/L		08/20/20 04:34	08/20/20 14:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		08/20/20 04:34	08/20/20 14:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		08/20/20 04:34	08/20/20 14:36	1
4:2 FTS	ND		20	5.2	ng/L		08/20/20 04:34	08/20/20 14:36	1
6:2 FTS	ND		20	2.0	ng/L		08/20/20 04:34	08/20/20 14:36	1
8:2 FTS	ND		20	2.0	ng/L		08/20/20 04:34	08/20/20 14:36	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	91		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C5 PFPeA	98		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C2 PFHxA	97		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C4 PFHpA	96		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C4 PFOA	102		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C5 PFNA	99		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C2 PFDA	102		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C2 PFUnA	100		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C2 PFDoA	101		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C2 PFTeDA	120		25 - 150	08/20/20 04:34	08/20/20 14:36	1
18O2 PFHxS	96		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C4 PFOS	99		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C8 FOSA	86		25 - 150	08/20/20 04:34	08/20/20 14:36	1
d3-NMeFOSAA	82		25 - 150	08/20/20 04:34	08/20/20 14:36	1
d5-NEtFOSAA	89		25 - 150	08/20/20 04:34	08/20/20 14:36	1
M2-6:2 FTS	80		25 - 150	08/20/20 04:34	08/20/20 14:36	1
M2-8:2 FTS	87		25 - 150	08/20/20 04:34	08/20/20 14:36	1
M2-4:2 FTS	75		25 - 150	08/20/20 04:34	08/20/20 14:36	1
13C3 PFBS	101		25 - 150	08/20/20 04:34	08/20/20 14:36	1

Lab Sample ID: LCS 320-405167/2-A
Matrix: Water
Analysis Batch: 405345

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405167

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	40.0	39.1		ng/L		98	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	35.6		ng/L		89	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	38.0		ng/L		95	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	38.3		ng/L		96	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	37.5		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	40.0	41.4		ng/L		103	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	37.7		ng/L		94	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	38.6		ng/L		96	68 - 128

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-405167/2-A
Matrix: Water
Analysis Batch: 405345

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405167

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorododecanoic acid (PFDoA)	40.0	37.8		ng/L		94	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	36.7		ng/L		92	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	36.0		ng/L		90	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	33.0		ng/L		93	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	35.8		ng/L		95	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.6		ng/L		90	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	38.8		ng/L		102	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	37.3		ng/L		100	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	37.3		ng/L		97	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	36.7		ng/L		95	71 - 131
Perfluorooctanesulfonamide (FOSA)	40.0	40.4		ng/L		101	73 - 133
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	37.8		ng/L		95	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	38.5		ng/L		96	76 - 136
4:2 FTS	37.4	37.6		ng/L		101	79 - 139
6:2 FTS	37.9	38.3		ng/L		101	59 - 175
8:2 FTS	38.3	35.7		ng/L		93	75 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	90		25 - 150
13C5 PFPeA	97		25 - 150
13C2 PFHxA	95		25 - 150
13C4 PFHpA	96		25 - 150
13C4 PFOA	97		25 - 150
13C5 PFNA	100		25 - 150
13C2 PFDA	106		25 - 150
13C2 PFUnA	104		25 - 150
13C2 PFDoA	109		25 - 150
13C2 PFTeDA	114		25 - 150
18O2 PFHxS	96		25 - 150
13C4 PFOS	97		25 - 150
13C8 FOSA	85		25 - 150
d3-NMeFOSAA	81		25 - 150
d5-NEtFOSAA	83		25 - 150
M2-6:2 FTS	75		25 - 150
M2-8:2 FTS	84		25 - 150
M2-4:2 FTS	75		25 - 150
13C3 PFBS	100		25 - 150

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-405814/1-A
Matrix: Solid
Analysis Batch: 406495

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 405814

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	0.0884	J	0.20	0.028	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorooctanesulfonic acid (PFOS)	0.824		0.50	0.20	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
4:2 FTS	ND		2.0	0.37	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
6:2 FTS	ND		2.0	0.15	ug/Kg		08/22/20 07:39	08/25/20 16:25	1
8:2 FTS	ND		2.0	0.25	ug/Kg		08/22/20 07:39	08/25/20 16:25	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	93		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C5 PFPeA	92		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C2 PFHxA	92		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C4 PFHpA	93		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C4 PFOA	95		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C5 PFNA	99		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C2 PFDA	95		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C2 PFUnA	102		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C2 PFDoA	100		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C2 PFTeDA	91		25 - 150	08/22/20 07:39	08/25/20 16:25	1
18O2 PFHxS	93		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C4 PFOS	92		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C8 FOSA	79		25 - 150	08/22/20 07:39	08/25/20 16:25	1
d3-NMeFOSAA	77		25 - 150	08/22/20 07:39	08/25/20 16:25	1
d5-NEtFOSAA	84		25 - 150	08/22/20 07:39	08/25/20 16:25	1
M2-6:2 FTS	108		25 - 150	08/22/20 07:39	08/25/20 16:25	1
M2-8:2 FTS	93		25 - 150	08/22/20 07:39	08/25/20 16:25	1
M2-4:2 FTS	94		25 - 150	08/22/20 07:39	08/25/20 16:25	1
13C3 PFBS	89		25 - 150	08/22/20 07:39	08/25/20 16:25	1

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-405814/2-A
Matrix: Solid
Analysis Batch: 406495

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405814
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	2.00	2.26		ug/Kg		113	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	1.98		ug/Kg		99	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	2.25		ug/Kg		112	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	2.06		ug/Kg		103	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	2.11		ug/Kg		105	72 - 132
Perfluorononanoic acid (PFNA)	2.00	2.17		ug/Kg		108	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.35		ug/Kg		118	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	1.95		ug/Kg		97	66 - 126
Perfluorododecanoic acid (PFDoA)	2.01	2.00		ug/Kg		99	71 - 131
Perfluorotridecanoic acid (PFTriA)	2.00	2.01		ug/Kg		101	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	2.25		ug/Kg		113	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.77	2.02		ug/Kg		114	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	2.01		ug/Kg		107	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.82		ug/Kg		100	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	2.28		ug/Kg		120	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	3.01 *		ug/Kg		162	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	2.14		ug/Kg		111	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.97		ug/Kg		102	71 - 131
Perfluorooctanesulfonamide (FOSA)	2.00	2.14		ug/Kg		107	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.00		ug/Kg		100	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.94	J	ug/Kg		97	72 - 132
4:2 FTS	1.87	2.00		ug/Kg		107	68 - 143
6:2 FTS	1.90	1.99	J	ug/Kg		105	73 - 139
8:2 FTS	1.92	2.19		ug/Kg		114	75 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	85		25 - 150
13C5 PFPeA	87		25 - 150
13C2 PFHxA	86		25 - 150
13C4 PFHpA	86		25 - 150
13C4 PFOA	85		25 - 150
13C5 PFNA	94		25 - 150
13C2 PFDA	87		25 - 150
13C2 PFUnA	92		25 - 150
13C2 PFDoA	97		25 - 150
13C2 PFTeDA	82		25 - 150
18O2 PFHxS	89		25 - 150
13C4 PFOS	84		25 - 150

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-405814/2-A
Matrix: Solid
Analysis Batch: 406495

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405814

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C8 FOSA	80		25 - 150
d3-NMeFOSAA	72		25 - 150
d5-NEtFOSAA	76		25 - 150
M2-6:2 FTS	100		25 - 150
M2-8:2 FTS	79		25 - 150
M2-4:2 FTS	87		25 - 150
13C3 PFBS	85		25 - 150

Lab Sample ID: 320-63739-20 MS
Matrix: Solid
Analysis Batch: 406495

Client Sample ID: BET20-TH13-01
Prep Type: Total/NA
Prep Batch: 405814

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	0.095	J B	2.10	2.32		ug/Kg	⊛	106	76 - 136
Perfluoropentanoic acid (PFPeA)	ND		2.10	2.16		ug/Kg	⊛	103	69 - 129
Perfluorohexanoic acid (PFHxA)	ND		2.10	2.19		ug/Kg	⊛	104	71 - 131
Perfluoroheptanoic acid (PFHpA)	ND		2.10	2.21		ug/Kg	⊛	105	71 - 131
Perfluorooctanoic acid (PFOA)	ND		2.10	2.21		ug/Kg	⊛	105	72 - 132
Perfluorononanoic acid (PFNA)	ND		2.11	2.32		ug/Kg	⊛	110	73 - 133
Perfluorodecanoic acid (PFDA)	ND		2.10	2.42		ug/Kg	⊛	115	72 - 132
Perfluoroundecanoic acid (PFUnA)	ND		2.10	2.57		ug/Kg	⊛	122	66 - 126
Perfluorododecanoic acid (PFDoA)	ND		2.11	2.24		ug/Kg	⊛	106	71 - 131
Perfluorotridecanoic acid (PFTriA)	ND		2.10	2.17		ug/Kg	⊛	103	71 - 131
Perfluorotetradecanoic acid (PFTeA)	ND		2.10	2.05		ug/Kg	⊛	97	67 - 127
Perfluorobutanesulfonic acid (PFBS)	ND		1.86	2.11		ug/Kg	⊛	114	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	ND		1.97	2.26		ug/Kg	⊛	115	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	ND		1.91	1.94		ug/Kg	⊛	102	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.00	2.35		ug/Kg	⊛	117	76 - 136
Perfluorooctanesulfonic acid (PFOS)	0.36	J B *	1.95	2.60		ug/Kg	⊛	115	68 - 141
Perfluorononanesulfonic acid (PFNS)	ND		2.02	2.11		ug/Kg	⊛	105	72 - 132
Perfluorodecanesulfonic acid (PFDS)	ND		2.03	2.06		ug/Kg	⊛	102	71 - 131
Perfluorooctanesulfonamide (FOSA)	ND		2.10	2.22		ug/Kg	⊛	105	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.10	2.19		ug/Kg	⊛	104	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.10	2.27		ug/Kg	⊛	108	72 - 132
4:2 FTS	ND		1.96	2.00	J	ug/Kg	⊛	102	68 - 143
6:2 FTS	ND		1.99	2.36		ug/Kg	⊛	119	73 - 139
8:2 FTS	ND		2.01	2.20		ug/Kg	⊛	109	75 - 135

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

<i>Isotope Dilution</i>	<i>MS MS</i>	<i>Limits</i>
<i>%Recovery</i>	<i>Qualifier</i>	
13C4 PFBA	91	25 - 150
13C5 PFPeA	88	25 - 150
13C2 PFHxA	95	25 - 150
13C4 PFHpA	93	25 - 150
13C4 PFOA	89	25 - 150
13C5 PFNA	97	25 - 150
13C2 PFDA	94	25 - 150
13C2 PFUnA	90	25 - 150
13C2 PFDoA	96	25 - 150
13C2 PFTeDA	99	25 - 150
18O2 PFHxS	80	25 - 150
13C4 PFOS	82	25 - 150
13C8 FOSA	85	25 - 150
d3-NMeFOSAA	86	25 - 150
d5-NEtFOSAA	88	25 - 150
M2-6:2 FTS	121	25 - 150
M2-8:2 FTS	117	25 - 150
M2-4:2 FTS	124	25 - 150
13C3 PFBS	81	25 - 150

Lab Sample ID: 320-63739-20 MSD
Matrix: Solid
Analysis Batch: 406495

Client Sample ID: BET20-TH13-01
Prep Type: Total/NA
Prep Batch: 405814

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
Perfluorobutanoic acid (PFBA)	0.095	J B	2.06	2.29		ug/Kg	✱	106	76 - 136	1	30
Perfluoropentanoic acid (PFPeA)	ND		2.06	2.04		ug/Kg	✱	99	69 - 129	6	30
Perfluorohexanoic acid (PFHxA)	ND		2.06	2.14		ug/Kg	✱	103	71 - 131	2	30
Perfluoroheptanoic acid (PFHpA)	ND		2.06	2.16		ug/Kg	✱	104	71 - 131	3	30
Perfluorooctanoic acid (PFOA)	ND		2.07	2.18		ug/Kg	✱	106	72 - 132	1	30
Perfluorononanoic acid (PFNA)	ND		2.07	2.09		ug/Kg	✱	101	73 - 133	10	30
Perfluorodecanoic acid (PFDA)	ND		2.06	2.58		ug/Kg	✱	125	72 - 132	7	30
Perfluoroundecanoic acid (PFUnA)	ND		2.07	2.26		ug/Kg	✱	109	66 - 126	13	30
Perfluorododecanoic acid (PFDoA)	ND		2.08	2.02		ug/Kg	✱	97	71 - 131	10	30
Perfluorotridecanoic acid (PFTriA)	ND		2.06	2.23		ug/Kg	✱	108	71 - 131	3	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.07	2.09		ug/Kg	✱	101	67 - 127	2	30
Perfluorobutanesulfonic acid (PFBS)	ND		1.83	2.04		ug/Kg	✱	112	69 - 129	3	30
Perfluoropentanesulfonic acid (PFPeS)	ND		1.94	2.16		ug/Kg	✱	111	66 - 126	5	30
Perfluorohexanesulfonic acid (PFHxS)	ND		1.88	1.77		ug/Kg	✱	94	62 - 122	9	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.97	2.38		ug/Kg	✱	121	76 - 136	2	30
Perfluorooctanesulfonic acid (PFOS)	0.36	J B *	1.92	2.48		ug/Kg	✱	110	68 - 141	5	30
Perfluorononanesulfonic acid (PFNS)	ND		1.98	2.06		ug/Kg	✱	104	72 - 132	2	30
Perfluorodecanesulfonic acid (PFDS)	ND		1.99	1.93		ug/Kg	✱	97	71 - 131	7	30

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-63739-20 MSD

Matrix: Solid

Analysis Batch: 406495

Client Sample ID: BET20-TH13-01

Prep Type: Total/NA

Prep Batch: 405814

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonamide (FOSA)	ND		2.06	2.24		ug/Kg	☼	109	77 - 137	1	30
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	ND		2.06	2.15		ug/Kg	☼	104	72 - 132	2	30
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	ND		2.06	2.19		ug/Kg	☼	106	72 - 132	4	30
4:2 FTS	ND		1.93	1.90	J	ug/Kg	☼	99	68 - 143	5	30
6:2 FTS	ND		1.96	2.06	J	ug/Kg	☼	105	73 - 139	14	30
8:2 FTS	ND		1.98	2.17		ug/Kg	☼	110	75 - 135	1	30

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C4 PFBA	89		25 - 150
13C5 PFPeA	91		25 - 150
13C2 PFHxA	96		25 - 150
13C4 PFHpA	93		25 - 150
13C4 PFOA	89		25 - 150
13C5 PFNA	101		25 - 150
13C2 PFDA	85		25 - 150
13C2 PFUnA	91		25 - 150
13C2 PFDoA	93		25 - 150
13C2 PFTeDA	94		25 - 150
18O2 PFHxS	86		25 - 150
13C4 PFOS	79		25 - 150
13C8 FOSA	81		25 - 150
d3-NMeFOSAA	83		25 - 150
d5-NEtFOSAA	85		25 - 150
M2-6:2 FTS	109		25 - 150
M2-8:2 FTS	105		25 - 150
M2-4:2 FTS	137		25 - 150
13C3 PFBS	83		25 - 150

Lab Sample ID: MB 320-406422/1-A

Matrix: Solid

Analysis Batch: 407209

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 406422

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	0.0936	J	0.20	0.028	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg		08/25/20 11:50	08/27/20 20:25	1

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-406422/1-A
Matrix: Solid
Analysis Batch: 407209

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 406422

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.50	0.20	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
4:2 FTS	ND		2.0	0.37	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
6:2 FTS	ND		2.0	0.15	ug/Kg		08/25/20 11:50	08/27/20 20:25	1
8:2 FTS	ND		2.0	0.25	ug/Kg		08/25/20 11:50	08/27/20 20:25	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	82		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C5 PFPeA	87		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C2 PFHxA	88		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C4 PFHpA	89		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C4 PFOA	85		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C5 PFNA	95		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C2 PFDA	90		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C2 PFUnA	94		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C2 PFDoA	89		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C2 PFTeDA	80		25 - 150	08/25/20 11:50	08/27/20 20:25	1
18O2 PFHxS	90		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C4 PFOS	90		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C8 FOSA	79		25 - 150	08/25/20 11:50	08/27/20 20:25	1
d3-NMeFOSAA	91		25 - 150	08/25/20 11:50	08/27/20 20:25	1
d5-NEtFOSAA	97		25 - 150	08/25/20 11:50	08/27/20 20:25	1
M2-6:2 FTS	131		25 - 150	08/25/20 11:50	08/27/20 20:25	1
M2-8:2 FTS	105		25 - 150	08/25/20 11:50	08/27/20 20:25	1
M2-4:2 FTS	112		25 - 150	08/25/20 11:50	08/27/20 20:25	1
13C3 PFBS	91		25 - 150	08/25/20 11:50	08/27/20 20:25	1

Lab Sample ID: LCS 320-406422/2-A
Matrix: Solid
Analysis Batch: 407209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406422

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Perfluorobutanoic acid (PFBA)	2.00	2.18		ug/Kg		109	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	1.89		ug/Kg		94	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	2.10		ug/Kg		105	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	2.01		ug/Kg		100	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	1.90		ug/Kg		95	72 - 132
Perfluorononanoic acid (PFNA)	2.00	1.91		ug/Kg		95	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.10		ug/Kg		105	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	1.90		ug/Kg		95	66 - 126

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-406422/2-A
Matrix: Solid
Analysis Batch: 407209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406422

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorododecanoic acid (PFDoA)	2.00	1.81		ug/Kg		91	71 - 131
Perfluorotridecanoic acid (PFTriA)	2.00	1.94		ug/Kg		97	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	1.85		ug/Kg		93	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.77	1.81		ug/Kg		103	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.90		ug/Kg		102	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.66		ug/Kg		91	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	2.07		ug/Kg		109	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	1.85		ug/Kg		99	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	1.94		ug/Kg		101	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.93		ug/Kg		100	71 - 131
Perfluorooctanesulfonamide (FOSA)	2.00	2.17		ug/Kg		109	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.92	J	ug/Kg		96	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.80	J	ug/Kg		90	72 - 132
4:2 FTS	1.87	1.74	J	ug/Kg		93	68 - 143
6:2 FTS	1.90	1.94	J	ug/Kg		102	73 - 139
8:2 FTS	1.92	1.81	J	ug/Kg		94	75 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	86		25 - 150
13C5 PFPeA	88		25 - 150
13C2 PFHxA	90		25 - 150
13C4 PFHpA	96		25 - 150
13C4 PFOA	90		25 - 150
13C5 PFNA	96		25 - 150
13C2 PFDA	91		25 - 150
13C2 PFUnA	98		25 - 150
13C2 PFDoA	94		25 - 150
13C2 PFTeDA	87		25 - 150
18O2 PFHxS	95		25 - 150
13C4 PFOS	90		25 - 150
13C8 FOSA	88		25 - 150
d3-NMeFOSAA	94		25 - 150
d5-NEtFOSAA	104		25 - 150
M2-6:2 FTS	128		25 - 150
M2-8:2 FTS	112		25 - 150
M2-4:2 FTS	109		25 - 150
13C3 PFBS	93		25 - 150

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-407009/1-A
Matrix: Solid
Analysis Batch: 407773

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 407009

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	0.138	J	0.20	0.028	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorooctanesulfonic acid (PFOS)	0.239	J	0.50	0.20	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
4:2 FTS	ND		2.0	0.37	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
6:2 FTS	ND		2.0	0.15	ug/Kg		08/26/20 21:00	08/29/20 03:46	1
8:2 FTS	ND		2.0	0.25	ug/Kg		08/26/20 21:00	08/29/20 03:46	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	83		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C5 PFPeA	84		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C2 PFHxA	89		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C4 PFHpA	91		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C4 PFOA	89		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C5 PFNA	93		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C2 PFDA	84		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C2 PFUnA	89		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C2 PFDoA	86		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C2 PFTeDA	87		25 - 150	08/26/20 21:00	08/29/20 03:46	1
18O2 PFHxS	96		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C4 PFOS	92		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C8 FOSA	82		25 - 150	08/26/20 21:00	08/29/20 03:46	1
d3-NMeFOSAA	78		25 - 150	08/26/20 21:00	08/29/20 03:46	1
d5-NEtFOSAA	84		25 - 150	08/26/20 21:00	08/29/20 03:46	1
M2-6:2 FTS	125		25 - 150	08/26/20 21:00	08/29/20 03:46	1
M2-8:2 FTS	88		25 - 150	08/26/20 21:00	08/29/20 03:46	1
M2-4:2 FTS	92		25 - 150	08/26/20 21:00	08/29/20 03:46	1
13C3 PFBS	89		25 - 150	08/26/20 21:00	08/29/20 03:46	1

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-407009/2-A
Matrix: Solid
Analysis Batch: 407773

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 407009

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	2.00	2.28		ug/Kg		114	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	1.90		ug/Kg		95	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	1.95		ug/Kg		97	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	2.05		ug/Kg		103	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	1.83		ug/Kg		92	72 - 132
Perfluorononanoic acid (PFNA)	2.00	1.92		ug/Kg		96	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.15		ug/Kg		107	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	2.05		ug/Kg		102	66 - 126
Perfluorododecanoic acid (PFDoA)	2.00	1.94		ug/Kg		97	71 - 131
Perfluorotridecanoic acid (PFTriA)	2.00	2.19		ug/Kg		110	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	1.99		ug/Kg		100	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.77	1.88		ug/Kg		106	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	2.04		ug/Kg		109	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.66		ug/Kg		91	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	2.06		ug/Kg		108	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	2.44		ug/Kg		131	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	1.95		ug/Kg		101	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.80		ug/Kg		93	71 - 131
Perfluorooctanesulfonamide (FOSA)	2.00	2.12		ug/Kg		106	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.86	J	ug/Kg		93	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.83	J	ug/Kg		91	72 - 132
4:2 FTS	1.87	1.76	J	ug/Kg		94	68 - 143
6:2 FTS	1.90	1.79	J	ug/Kg		94	73 - 139
8:2 FTS	1.92	1.76	J	ug/Kg		92	75 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	61		25 - 150
13C5 PFPeA	62		25 - 150
13C2 PFHxA	64		25 - 150
13C4 PFHpA	64		25 - 150
13C4 PFOA	67		25 - 150
13C5 PFNA	68		25 - 150
13C2 PFDA	63		25 - 150
13C2 PFUnA	64		25 - 150
13C2 PFDoA	66		25 - 150
13C2 PFTeDA	65		25 - 150
18O2 PFHxS	69		25 - 150
13C4 PFOS	67		25 - 150

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QC Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-407009/2-A
Matrix: Solid
Analysis Batch: 407773

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 407009

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C8 FOSA	60		25 - 150
d3-NMeFOSAA	59		25 - 150
d5-NEtFOSAA	58		25 - 150
M2-6:2 FTS	78		25 - 150
M2-8:2 FTS	66		25 - 150
M2-4:2 FTS	65		25 - 150
13C3 PFBS	65		25 - 150

Lab Sample ID: MB 320-408342/1-A
Matrix: Solid
Analysis Batch: 408892

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 408342

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorooctanesulfonic acid (PFOS)	0.202	J	0.50	0.20	ug/Kg		08/31/20 17:31	09/02/20 10:07	1
Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac			
	%Recovery	Qualifier							
13C4 PFOS	62		25 - 150	08/31/20 17:31	09/02/20 10:07	1			

Lab Sample ID: LCS 320-408342/2-A
Matrix: Solid
Analysis Batch: 408892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 408342

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Perfluorooctanesulfonic acid (PFOS)	1.86	2.03		ug/Kg		109	68 - 141
Isotope Dilution	LCS LCS		Limits				
	%Recovery	Qualifier					
13C4 PFOS	62		25 - 150				

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Lab Sample ID: 320-63739-9 MS
Matrix: Solid
Analysis Batch: 407209

Client Sample ID: BET20-TH10-01
Prep Type: Total/NA
Prep Batch: 406422

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Perfluorooctanesulfonic acid (PFOS) - RE	ND	H	1.74	1.75		ug/Kg	⊛	101	68 - 141
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) - RE	ND	H	1.87	1.85	J	ug/Kg	⊛	99	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) - RE	ND	H	1.87	1.81	J	ug/Kg	⊛	97	72 - 132
4:2 FTS - RE	ND	H	1.75	1.65	J	ug/Kg	⊛	95	68 - 143
6:2 FTS - RE	ND	H	1.77	1.75	J	ug/Kg	⊛	99	73 - 139
8:2 FTS - RE	ND	H	1.79	1.87	J	ug/Kg	⊛	104	75 - 135
Isotope Dilution	MS MS		Limits						
	%Recovery	Qualifier							
13C4 PFOS - RE	99		25 - 150						
d3-NMeFOSAA - RE	125		25 - 150						
d5-NEtFOSAA - RE	137		25 - 150						

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances - RE (Continued)

Lab Sample ID: 320-63739-9 MS
Matrix: Solid
Analysis Batch: 407209

Client Sample ID: BET20-TH10-01
Prep Type: Total/NA
Prep Batch: 406422

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
M2-6:2 FTS - RE	174	*5	25 - 150
M2-8:2 FTS - RE	230	*5	25 - 150
M2-4:2 FTS - RE	142		25 - 150

Lab Sample ID: 320-63739-9 MSD
Matrix: Solid
Analysis Batch: 407209

Client Sample ID: BET20-TH10-01
Prep Type: Total/NA
Prep Batch: 406422

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS) - RE	ND	H	1.92	2.10		ug/Kg	⊛	109	68 - 141	18	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) - RE	ND	H	2.07	2.03	J	ug/Kg	⊛	98	72 - 132	9	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) - RE	ND	H	2.07	1.91	J	ug/Kg	⊛	92	72 - 132	6	30
4:2 FTS - RE	ND	H	1.94	1.82	J	ug/Kg	⊛	94	68 - 143	10	30
6:2 FTS - RE	ND	H	1.97	1.98	J	ug/Kg	⊛	101	73 - 139	12	30
8:2 FTS - RE	ND	H	1.99	1.99	J	ug/Kg	⊛	100	75 - 135	6	30

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
13C4 PFOS - RE	91		25 - 150
d3-NMeFOSAA - RE	125		25 - 150
d5-NEtFOSAA - RE	141		25 - 150
M2-6:2 FTS - RE	159	*5	25 - 150
M2-8:2 FTS - RE	223	*5	25 - 150
M2-4:2 FTS - RE	149		25 - 150

Lab Sample ID: 320-63739-1 MS
Matrix: Solid
Analysis Batch: 407773

Client Sample ID: BET20-TH08-01
Prep Type: Total/NA
Prep Batch: 407009

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS) - RE	0.40	J H B	1.85	1.84		ug/Kg	⊛	78	68 - 141
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) - RE	ND	H	2.00	2.02		ug/Kg	⊛	101	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) - RE	ND	H	2.00	1.91	J	ug/Kg	⊛	96	72 - 132
4:2 FTS - RE	ND	H	1.86	1.80	J	ug/Kg	⊛	97	68 - 143
6:2 FTS - RE	ND	H	1.89	1.75	J	ug/Kg	⊛	93	73 - 139
8:2 FTS - RE	ND	H	1.91	1.81	J	ug/Kg	⊛	95	75 - 135

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C4 PFOS - RE	87		25 - 150
d3-NMeFOSAA - RE	82		25 - 150
d5-NEtFOSAA - RE	86		25 - 150
M2-6:2 FTS - RE	94		25 - 150
M2-8:2 FTS - RE	98		25 - 150
M2-4:2 FTS - RE	94		25 - 150

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: 537 (modified) - Fluorinated Alkyl Substances - RE

Lab Sample ID: 320-63739-1 MSD
Matrix: Solid
Analysis Batch: 407773

Client Sample ID: BET20-TH08-01
Prep Type: Total/NA
Prep Batch: 407009

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Perfluorooctanesulfonic acid (PFOS) - RE	0.40	J H B	1.83	1.80		ug/Kg	☼	76	68 - 141	3	30
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA) - RE	ND	H	1.97	1.85	J	ug/Kg	☼	94	72 - 132	8	30
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA) - RE	ND	H	1.97	1.73	J	ug/Kg	☼	88	72 - 132	10	30
4:2 FTS - RE	ND	H	1.84	1.84	J	ug/Kg	☼	100	68 - 143	2	30
6:2 FTS - RE	ND	H	1.87	1.82	J	ug/Kg	☼	97	73 - 139	4	30
8:2 FTS - RE	ND	H	1.89	1.77	J	ug/Kg	☼	94	75 - 135	3	30
	MSD	MSD									
Isotope Dilution	%Recovery	Qualifier	Limits								
13C4 PFOS - RE	88		25 - 150								
d3-NMeFOSAA - RE	92		25 - 150								
d5-NEtFOSAA - RE	91		25 - 150								
M2-6:2 FTS - RE	94		25 - 150								
M2-8:2 FTS - RE	104		25 - 150								
M2-4:2 FTS - RE	90		25 - 150								

Lab Sample ID: 320-63739-25 MS
Matrix: Solid
Analysis Batch: 408892

Client Sample ID: BET20-TH26-03
Prep Type: Total/NA
Prep Batch: 408342

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Perfluorooctanesulfonic acid (PFOS) - RE	0.22	J H B	1.85	2.08		ug/Kg	☼	100	68 - 141		
	MS	MS									
Isotope Dilution	%Recovery	Qualifier	Limits								
13C4 PFOS - RE	74		25 - 150								

Lab Sample ID: 320-63739-25 MSD
Matrix: Solid
Analysis Batch: 408892

Client Sample ID: BET20-TH26-03
Prep Type: Total/NA
Prep Batch: 408342

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Perfluorooctanesulfonic acid (PFOS) - RE	0.22	J H B	1.92	2.10		ug/Kg	☼	97	68 - 141	1	30
	MSD	MSD									
Isotope Dilution	%Recovery	Qualifier	Limits								
13C4 PFOS - RE	70		25 - 150								

Method: D 2216 - Percent Moisture

Lab Sample ID: 320-63739-2 DU
Matrix: Solid
Analysis Batch: 404786

Client Sample ID: BET20-TH08-02
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Percent Moisture	5.3		5.5		%		4	20
Percent Solids	94.7		94.5		%		0.3	20

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method: D 2216 - Percent Moisture (Continued)

Lab Sample ID: 320-63739-21 DU
Matrix: Solid
Analysis Batch: 404868

Client Sample ID: BET20-TH13-02
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD
	Result	Qualifier	Result	Qualifier				Limit
Percent Moisture	19.0		20.0		%		5	20
Percent Solids	81.0		80.0		%		1	20

Lab Sample ID: 320-63739-25 DU
Matrix: Solid
Analysis Batch: 404925

Client Sample ID: BET20-TH26-03
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD
	Result	Qualifier	Result	Qualifier				Limit
Percent Moisture	5.1		5.3		%		4	20
Percent Solids	94.9		94.7		%		0.2	20



QC Association Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

LCMS

Prep Batch: 405032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-1	BET20-TH08-01	Total/NA	Solid	SHAKE	
320-63739-2	BET20-TH08-02	Total/NA	Solid	SHAKE	
320-63739-3	BET20-TH08-03	Total/NA	Solid	SHAKE	
320-63739-4	BET20-TH11-01	Total/NA	Solid	SHAKE	
320-63739-5	BET20-TH11-02	Total/NA	Solid	SHAKE	
320-63739-6	BET20-TH27-01	Total/NA	Solid	SHAKE	
320-63739-7	BET20-TH27-02	Total/NA	Solid	SHAKE	
320-63739-8	BET20-TH27-03	Total/NA	Solid	SHAKE	
320-63739-9	BET20-TH10-01	Total/NA	Solid	SHAKE	
320-63739-10	BET20-TH10-02	Total/NA	Solid	SHAKE	
320-63739-11	BET20-TH28-01	Total/NA	Solid	SHAKE	
320-63739-12	BET20-TH28-02	Total/NA	Solid	SHAKE	
320-63739-13	BET20-TH28-03	Total/NA	Solid	SHAKE	
320-63739-15	BET20-TH16-01	Total/NA	Solid	SHAKE	
320-63739-16 - DL	BET20-TH16-02	Total/NA	Solid	SHAKE	
320-63739-16	BET20-TH16-02	Total/NA	Solid	SHAKE	
320-63739-17	BET20-TH12-01	Total/NA	Solid	SHAKE	
320-63739-18	BET20-TH12-02	Total/NA	Solid	SHAKE	
320-63739-19	BET20-TH12-03	Total/NA	Solid	SHAKE	
MB 320-405032/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-405032/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-63739-1 MS	BET20-TH08-01	Total/NA	Solid	SHAKE	
320-63739-1 MSD	BET20-TH08-01	Total/NA	Solid	SHAKE	

Prep Batch: 405167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-14	BET20-WA-RB01	Total/NA	Water	3535	
MB 320-405167/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-405167/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 405345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-14	BET20-WA-RB01	Total/NA	Water	537 (modified)	405167
MB 320-405167/1-A	Method Blank	Total/NA	Water	537 (modified)	405167
LCS 320-405167/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	405167

Prep Batch: 405814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-20	BET20-TH13-01	Total/NA	Solid	SHAKE	
320-63739-21	BET20-TH13-02	Total/NA	Solid	SHAKE	
320-63739-22	BET20-TH09-01	Total/NA	Solid	SHAKE	
320-63739-23	BET20-TH26-01	Total/NA	Solid	SHAKE	
320-63739-24	BET20-TH26-02	Total/NA	Solid	SHAKE	
320-63739-25	BET20-TH26-03	Total/NA	Solid	SHAKE	
320-63739-26	BET20-TH07-01	Total/NA	Solid	SHAKE	
320-63739-27	BET20-TH07-02	Total/NA	Solid	SHAKE	
320-63739-28	BET20-TH09-02	Total/NA	Solid	SHAKE	
320-63739-29	BET20-TH09-03	Total/NA	Solid	SHAKE	
320-63739-30	BET20-TH14-01	Total/NA	Solid	SHAKE	
320-63739-31	BET20-TH14-02	Total/NA	Solid	SHAKE	
320-63739-32	BET20-TH15-01	Total/NA	Solid	SHAKE	

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QC Association Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

LCMS (Continued)

Prep Batch: 405814 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-33	BET20-TH15-02	Total/NA	Solid	SHAKE	
MB 320-405814/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-405814/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-63739-20 MS	BET20-TH13-01	Total/NA	Solid	SHAKE	
320-63739-20 MSD	BET20-TH13-01	Total/NA	Solid	SHAKE	

Analysis Batch: 405870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-1	BET20-TH08-01	Total/NA	Solid	537 (modified)	405032
320-63739-2	BET20-TH08-02	Total/NA	Solid	537 (modified)	405032
320-63739-3	BET20-TH08-03	Total/NA	Solid	537 (modified)	405032
320-63739-4	BET20-TH11-01	Total/NA	Solid	537 (modified)	405032
320-63739-5	BET20-TH11-02	Total/NA	Solid	537 (modified)	405032
320-63739-6	BET20-TH27-01	Total/NA	Solid	537 (modified)	405032
320-63739-7	BET20-TH27-02	Total/NA	Solid	537 (modified)	405032
320-63739-8	BET20-TH27-03	Total/NA	Solid	537 (modified)	405032
320-63739-9	BET20-TH10-01	Total/NA	Solid	537 (modified)	405032
320-63739-10	BET20-TH10-02	Total/NA	Solid	537 (modified)	405032
320-63739-11	BET20-TH28-01	Total/NA	Solid	537 (modified)	405032
320-63739-12	BET20-TH28-02	Total/NA	Solid	537 (modified)	405032
320-63739-13	BET20-TH28-03	Total/NA	Solid	537 (modified)	405032
320-63739-15	BET20-TH16-01	Total/NA	Solid	537 (modified)	405032
320-63739-16	BET20-TH16-02	Total/NA	Solid	537 (modified)	405032
320-63739-17	BET20-TH12-01	Total/NA	Solid	537 (modified)	405032
320-63739-18	BET20-TH12-02	Total/NA	Solid	537 (modified)	405032
320-63739-19	BET20-TH12-03	Total/NA	Solid	537 (modified)	405032
MB 320-405032/1-A	Method Blank	Total/NA	Solid	537 (modified)	405032
320-63739-1 MS	BET20-TH08-01	Total/NA	Solid	537 (modified)	405032
320-63739-1 MSD	BET20-TH08-01	Total/NA	Solid	537 (modified)	405032

Analysis Batch: 406202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-16 - DL	BET20-TH16-02	Total/NA	Solid	537 (modified)	405032
LCS 320-405032/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	405032

Prep Batch: 406422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-9 - RE	BET20-TH10-01	Total/NA	Solid	SHAKE	
320-63739-11 - RE	BET20-TH28-01	Total/NA	Solid	SHAKE	
320-63739-13 - RE	BET20-TH28-03	Total/NA	Solid	SHAKE	
320-63739-16 - RE	BET20-TH16-02	Total/NA	Solid	SHAKE	
MB 320-406422/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-406422/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-63739-9 MS - RE	BET20-TH10-01	Total/NA	Solid	SHAKE	
320-63739-9 MSD - RE	BET20-TH10-01	Total/NA	Solid	SHAKE	

Analysis Batch: 406495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-20	BET20-TH13-01	Total/NA	Solid	537 (modified)	405814
320-63739-21	BET20-TH13-02	Total/NA	Solid	537 (modified)	405814
320-63739-22	BET20-TH09-01	Total/NA	Solid	537 (modified)	405814

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QC Association Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

LCMS (Continued)

Analysis Batch: 406495 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-23	BET20-TH26-01	Total/NA	Solid	537 (modified)	405814
320-63739-24	BET20-TH26-02	Total/NA	Solid	537 (modified)	405814
320-63739-25	BET20-TH26-03	Total/NA	Solid	537 (modified)	405814
320-63739-26	BET20-TH07-01	Total/NA	Solid	537 (modified)	405814
320-63739-27	BET20-TH07-02	Total/NA	Solid	537 (modified)	405814
320-63739-28	BET20-TH09-02	Total/NA	Solid	537 (modified)	405814
320-63739-29	BET20-TH09-03	Total/NA	Solid	537 (modified)	405814
320-63739-30	BET20-TH14-01	Total/NA	Solid	537 (modified)	405814
320-63739-31	BET20-TH14-02	Total/NA	Solid	537 (modified)	405814
320-63739-32	BET20-TH15-01	Total/NA	Solid	537 (modified)	405814
320-63739-33	BET20-TH15-02	Total/NA	Solid	537 (modified)	405814
MB 320-405814/1-A	Method Blank	Total/NA	Solid	537 (modified)	405814
LCS 320-405814/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	405814
320-63739-20 MS	BET20-TH13-01	Total/NA	Solid	537 (modified)	405814
320-63739-20 MSD	BET20-TH13-01	Total/NA	Solid	537 (modified)	405814

Prep Batch: 407009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-1 - RE	BET20-TH08-01	Total/NA	Solid	SHAKE	
320-63739-2 - RE	BET20-TH08-02	Total/NA	Solid	SHAKE	
320-63739-3 - RE	BET20-TH08-03	Total/NA	Solid	SHAKE	
320-63739-4 - RE	BET20-TH11-01	Total/NA	Solid	SHAKE	
320-63739-5 - RE	BET20-TH11-02	Total/NA	Solid	SHAKE	
320-63739-6 - RE	BET20-TH27-01	Total/NA	Solid	SHAKE	
320-63739-7 - RE	BET20-TH27-02	Total/NA	Solid	SHAKE	
320-63739-8 - RE	BET20-TH27-03	Total/NA	Solid	SHAKE	
320-63739-10 - RE	BET20-TH10-02	Total/NA	Solid	SHAKE	
320-63739-12 - RE	BET20-TH28-02	Total/NA	Solid	SHAKE	
320-63739-15 - RE	BET20-TH16-01	Total/NA	Solid	SHAKE	
320-63739-17 - RE	BET20-TH12-01	Total/NA	Solid	SHAKE	
320-63739-18 - RE	BET20-TH12-02	Total/NA	Solid	SHAKE	
320-63739-19 - RE	BET20-TH12-03	Total/NA	Solid	SHAKE	
MB 320-407009/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-407009/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-63739-1 MS - RE	BET20-TH08-01	Total/NA	Solid	SHAKE	
320-63739-1 MSD - RE	BET20-TH08-01	Total/NA	Solid	SHAKE	

Analysis Batch: 407209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-9 - RE	BET20-TH10-01	Total/NA	Solid	537 (modified)	406422
320-63739-11 - RE	BET20-TH28-01	Total/NA	Solid	537 (modified)	406422
320-63739-13 - RE	BET20-TH28-03	Total/NA	Solid	537 (modified)	406422
320-63739-16 - RE	BET20-TH16-02	Total/NA	Solid	537 (modified)	406422
MB 320-406422/1-A	Method Blank	Total/NA	Solid	537 (modified)	406422
LCS 320-406422/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	406422
320-63739-9 MS - RE	BET20-TH10-01	Total/NA	Solid	537 (modified)	406422
320-63739-9 MSD - RE	BET20-TH10-01	Total/NA	Solid	537 (modified)	406422

Analysis Batch: 407773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-1 - RE	BET20-TH08-01	Total/NA	Solid	537 (modified)	407009

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QC Association Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

LCMS (Continued)

Analysis Batch: 407773 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-2 - RE	BET20-TH08-02	Total/NA	Solid	537 (modified)	407009
320-63739-3 - RE	BET20-TH08-03	Total/NA	Solid	537 (modified)	407009
320-63739-4 - RE	BET20-TH11-01	Total/NA	Solid	537 (modified)	407009
320-63739-5 - RE	BET20-TH11-02	Total/NA	Solid	537 (modified)	407009
320-63739-6 - RE	BET20-TH27-01	Total/NA	Solid	537 (modified)	407009
320-63739-7 - RE	BET20-TH27-02	Total/NA	Solid	537 (modified)	407009
320-63739-8 - RE	BET20-TH27-03	Total/NA	Solid	537 (modified)	407009
320-63739-10 - RE	BET20-TH10-02	Total/NA	Solid	537 (modified)	407009
320-63739-12 - RE	BET20-TH28-02	Total/NA	Solid	537 (modified)	407009
320-63739-15 - RE	BET20-TH16-01	Total/NA	Solid	537 (modified)	407009
320-63739-17 - RE	BET20-TH12-01	Total/NA	Solid	537 (modified)	407009
320-63739-18 - RE	BET20-TH12-02	Total/NA	Solid	537 (modified)	407009
320-63739-19 - RE	BET20-TH12-03	Total/NA	Solid	537 (modified)	407009
MB 320-407009/1-A	Method Blank	Total/NA	Solid	537 (modified)	407009
LCS 320-407009/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	407009
320-63739-1 MS - RE	BET20-TH08-01	Total/NA	Solid	537 (modified)	407009
320-63739-1 MSD - RE	BET20-TH08-01	Total/NA	Solid	537 (modified)	407009

Prep Batch: 408342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-25 - RE	BET20-TH26-03	Total/NA	Solid	SHAKE	
320-63739-29 - RE	BET20-TH09-03	Total/NA	Solid	SHAKE	
320-63739-30 - RE	BET20-TH14-01	Total/NA	Solid	SHAKE	
320-63739-33 - RE	BET20-TH15-02	Total/NA	Solid	SHAKE	
MB 320-408342/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-408342/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-63739-25 MS - RE	BET20-TH26-03	Total/NA	Solid	SHAKE	
320-63739-25 MSD - RE	BET20-TH26-03	Total/NA	Solid	SHAKE	

Analysis Batch: 408892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-25 - RE	BET20-TH26-03	Total/NA	Solid	537 (modified)	408342
320-63739-29 - RE	BET20-TH09-03	Total/NA	Solid	537 (modified)	408342
320-63739-30 - RE	BET20-TH14-01	Total/NA	Solid	537 (modified)	408342
320-63739-33 - RE	BET20-TH15-02	Total/NA	Solid	537 (modified)	408342
MB 320-408342/1-A	Method Blank	Total/NA	Solid	537 (modified)	408342
LCS 320-408342/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	408342
320-63739-25 MS - RE	BET20-TH26-03	Total/NA	Solid	537 (modified)	408342
320-63739-25 MSD - RE	BET20-TH26-03	Total/NA	Solid	537 (modified)	408342

General Chemistry

Analysis Batch: 404786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-1	BET20-TH08-01	Total/NA	Solid	D 2216	
320-63739-2	BET20-TH08-02	Total/NA	Solid	D 2216	
320-63739-3	BET20-TH08-03	Total/NA	Solid	D 2216	
320-63739-4	BET20-TH11-01	Total/NA	Solid	D 2216	
320-63739-5	BET20-TH11-02	Total/NA	Solid	D 2216	
320-63739-6	BET20-TH27-01	Total/NA	Solid	D 2216	
320-63739-7	BET20-TH27-02	Total/NA	Solid	D 2216	

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QC Association Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

General Chemistry (Continued)

Analysis Batch: 404786 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-8	BET20-TH27-03	Total/NA	Solid	D 2216	
320-63739-9	BET20-TH10-01	Total/NA	Solid	D 2216	
320-63739-10	BET20-TH10-02	Total/NA	Solid	D 2216	
320-63739-11	BET20-TH28-01	Total/NA	Solid	D 2216	
320-63739-12	BET20-TH28-02	Total/NA	Solid	D 2216	
320-63739-13	BET20-TH28-03	Total/NA	Solid	D 2216	
320-63739-15	BET20-TH16-01	Total/NA	Solid	D 2216	
320-63739-16	BET20-TH16-02	Total/NA	Solid	D 2216	
320-63739-17	BET20-TH12-01	Total/NA	Solid	D 2216	
320-63739-18	BET20-TH12-02	Total/NA	Solid	D 2216	
320-63739-19	BET20-TH12-03	Total/NA	Solid	D 2216	
320-63739-20	BET20-TH13-01	Total/NA	Solid	D 2216	
320-63739-2 DU	BET20-TH08-02	Total/NA	Solid	D 2216	

Analysis Batch: 404868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-21	BET20-TH13-02	Total/NA	Solid	D 2216	
320-63739-22	BET20-TH09-01	Total/NA	Solid	D 2216	
320-63739-23	BET20-TH26-01	Total/NA	Solid	D 2216	
320-63739-24	BET20-TH26-02	Total/NA	Solid	D 2216	
320-63739-21 DU	BET20-TH13-02	Total/NA	Solid	D 2216	

Analysis Batch: 404925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63739-25	BET20-TH26-03	Total/NA	Solid	D 2216	
320-63739-26	BET20-TH07-01	Total/NA	Solid	D 2216	
320-63739-27	BET20-TH07-02	Total/NA	Solid	D 2216	
320-63739-28	BET20-TH09-02	Total/NA	Solid	D 2216	
320-63739-29	BET20-TH09-03	Total/NA	Solid	D 2216	
320-63739-30	BET20-TH14-01	Total/NA	Solid	D 2216	
320-63739-31	BET20-TH14-02	Total/NA	Solid	D 2216	
320-63739-32	BET20-TH15-01	Total/NA	Solid	D 2216	
320-63739-33	BET20-TH15-02	Total/NA	Solid	D 2216	
320-63739-25 DU	BET20-TH26-03	Total/NA	Solid	D 2216	

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH08-01

Lab Sample ID: 320-63739-1

Date Collected: 08/06/20 00:25

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH08-01

Lab Sample ID: 320-63739-1

Date Collected: 08/06/20 00:25

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.07 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 19:20	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.35 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 04:14	JC	TAL SAC

Client Sample ID: BET20-TH08-02

Lab Sample ID: 320-63739-2

Date Collected: 08/06/20 01:50

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH08-02

Lab Sample ID: 320-63739-2

Date Collected: 08/06/20 01:50

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.27 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 19:48	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.15 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 04:42	JC	TAL SAC

Client Sample ID: BET20-TH08-03

Lab Sample ID: 320-63739-3

Date Collected: 08/06/20 00:35

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH08-03

Lab Sample ID: 320-63739-3

Date Collected: 08/06/20 00:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.14 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 19:58	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.34 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 04:52	JC	TAL SAC

Eurofins TestAmerica, Sacramento

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH11-01

Lab Sample ID: 320-63739-4

Date Collected: 08/06/20 03:40

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH11-01

Lab Sample ID: 320-63739-4

Date Collected: 08/06/20 03:40

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 91.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.20 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 20:07	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.27 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 05:01	JC	TAL SAC

Client Sample ID: BET20-TH11-02

Lab Sample ID: 320-63739-5

Date Collected: 08/06/20 04:05

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH11-02

Lab Sample ID: 320-63739-5

Date Collected: 08/06/20 04:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 91.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.15 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 20:16	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.14 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 05:29	JC	TAL SAC

Client Sample ID: BET20-TH27-01

Lab Sample ID: 320-63739-6

Date Collected: 08/06/20 22:55

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH27-01

Lab Sample ID: 320-63739-6

Date Collected: 08/06/20 22:55

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.24 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 20:26	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.38 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 05:38	JC	TAL SAC

Eurofins TestAmerica, Sacramento

Lab Chronicle

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH27-02

Lab Sample ID: 320-63739-7

Date Collected: 08/06/20 23:30

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH27-02

Lab Sample ID: 320-63739-7

Date Collected: 08/06/20 23:30

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.30 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 20:54	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.30 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 05:48	JC	TAL SAC

Client Sample ID: BET20-TH27-03

Lab Sample ID: 320-63739-8

Date Collected: 08/06/20 23:15

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH27-03

Lab Sample ID: 320-63739-8

Date Collected: 08/06/20 23:15

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.20 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 21:03	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.09 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 05:57	JC	TAL SAC

Client Sample ID: BET20-TH10-01

Lab Sample ID: 320-63739-9

Date Collected: 08/07/20 01:45

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH10-01

Lab Sample ID: 320-63739-9

Date Collected: 08/07/20 01:45

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 96.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.06 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 21:12	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.73 g	10.0 mL	406422	08/25/20 11:50	MC	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407209	08/27/20 20:43	A1C	TAL SAC

Eurofins TestAmerica, Sacramento

Lab Chronicle

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH10-02

Lab Sample ID: 320-63739-10

Date Collected: 08/07/20 02:50

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH10-02

Lab Sample ID: 320-63739-10

Date Collected: 08/07/20 02:50

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.35 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 21:22	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.07 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 06:06	JC	TAL SAC

Client Sample ID: BET20-TH28-01

Lab Sample ID: 320-63739-11

Date Collected: 08/07/20 23:05

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH28-01

Lab Sample ID: 320-63739-11

Date Collected: 08/07/20 23:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 92.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.36 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 21:31	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.20 g	10.0 mL	406422	08/25/20 11:50	MC	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407209	08/27/20 21:11	A1C	TAL SAC

Client Sample ID: BET20-TH28-02

Lab Sample ID: 320-63739-12

Date Collected: 08/07/20 23:45

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH28-02

Lab Sample ID: 320-63739-12

Date Collected: 08/07/20 23:45

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 76.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.10 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 21:41	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.05 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 06:16	JC	TAL SAC

Eurofins TestAmerica, Sacramento

Lab Chronicle

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH28-03

Lab Sample ID: 320-63739-13

Date Collected: 08/07/20 23:20

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH28-03

Lab Sample ID: 320-63739-13

Date Collected: 08/07/20 23:20

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.13 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 21:50	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.11 g	10.0 mL	406422	08/25/20 11:50	MC	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407209	08/27/20 21:21	A1C	TAL SAC

Client Sample ID: BET20-WA-RB01

Lab Sample ID: 320-63739-14

Date Collected: 08/08/20 02:05

Matrix: Water

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			284.4 mL	10.0 mL	405167	08/20/20 04:34	EG	TAL SAC
Total/NA	Analysis	537 (modified)		1			405345	08/20/20 16:27	A1C	TAL SAC

Client Sample ID: BET20-TH16-01

Lab Sample ID: 320-63739-15

Date Collected: 08/08/20 02:15

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH16-01

Lab Sample ID: 320-63739-15

Date Collected: 08/08/20 02:15

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 96.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.09 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 21:59	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.17 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 06:25	JC	TAL SAC

Client Sample ID: BET20-TH16-02

Lab Sample ID: 320-63739-16

Date Collected: 08/08/20 02:55

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH16-02

Lab Sample ID: 320-63739-16

Date Collected: 08/08/20 02:55

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.32 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 22:09	RS1	TAL SAC
Total/NA	Prep	SHAKE	DL		5.32 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10			406202	08/24/20 18:08	A1C	TAL SAC
Total/NA	Prep	SHAKE	RE		5.31 g	10.0 mL	406422	08/25/20 11:50	MC	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407209	08/27/20 21:30	A1C	TAL SAC

Client Sample ID: BET20-TH12-01

Lab Sample ID: 320-63739-17

Date Collected: 08/09/20 00:20

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH12-01

Lab Sample ID: 320-63739-17

Date Collected: 08/09/20 00:20

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.32 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 22:18	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.07 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 06:34	JC	TAL SAC

Client Sample ID: BET20-TH12-02

Lab Sample ID: 320-63739-18

Date Collected: 08/09/20 01:30

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH12-02

Lab Sample ID: 320-63739-18

Date Collected: 08/09/20 01:30

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 80.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.35 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 22:46	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.16 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 06:44	JC	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH12-03

Lab Sample ID: 320-63739-19

Date Collected: 08/09/20 00:35

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH12-03

Lab Sample ID: 320-63739-19

Date Collected: 08/09/20 00:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.04 g	10 mL	405032	08/19/20 13:47	FX	TAL SAC
Total/NA	Analysis	537 (modified)		1			405870	08/22/20 22:55	RS1	TAL SAC
Total/NA	Prep	SHAKE	RE		5.22 g	10 mL	407009	08/26/20 21:00	FX	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			407773	08/29/20 06:53	JC	TAL SAC

Client Sample ID: BET20-TH13-01

Lab Sample ID: 320-63739-20

Date Collected: 08/09/20 02:35

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404786	08/18/20 17:17	KDB	TAL SAC

Client Sample ID: BET20-TH13-01

Lab Sample ID: 320-63739-20

Date Collected: 08/09/20 02:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.17 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 16:44	K1S	TAL SAC

Client Sample ID: BET20-TH13-02

Lab Sample ID: 320-63739-21

Date Collected: 08/09/20 03:05

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404868	08/19/20 09:37	KDB	TAL SAC

Client Sample ID: BET20-TH13-02

Lab Sample ID: 320-63739-21

Date Collected: 08/09/20 03:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 81.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.34 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 17:12	K1S	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH09-01

Lab Sample ID: 320-63739-22

Date Collected: 08/09/20 04:10

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404868	08/19/20 09:37	KDB	TAL SAC

Client Sample ID: BET20-TH09-01

Lab Sample ID: 320-63739-22

Date Collected: 08/09/20 04:10

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.35 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 17:21	K1S	TAL SAC

Client Sample ID: BET20-TH26-01

Lab Sample ID: 320-63739-23

Date Collected: 08/10/20 00:05

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404868	08/19/20 09:37	KDB	TAL SAC

Client Sample ID: BET20-TH26-01

Lab Sample ID: 320-63739-23

Date Collected: 08/10/20 00:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.31 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 17:31	K1S	TAL SAC

Client Sample ID: BET20-TH26-02

Lab Sample ID: 320-63739-24

Date Collected: 08/10/20 01:00

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404868	08/19/20 09:37	KDB	TAL SAC

Client Sample ID: BET20-TH26-02

Lab Sample ID: 320-63739-24

Date Collected: 08/10/20 01:00

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 79.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.12 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 17:40	K1S	TAL SAC

Client Sample ID: BET20-TH26-03

Lab Sample ID: 320-63739-25

Date Collected: 08/10/20 00:20

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404925	08/19/20 10:57	KDB	TAL SAC

Eurofins TestAmerica, Sacramento

Lab Chronicle

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH26-03

Lab Sample ID: 320-63739-25

Date Collected: 08/10/20 00:20

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.31 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 17:50	K1S	TAL SAC
Total/NA	Prep	SHAKE	RE		5.16 g	10.0 mL	408342	08/31/20 17:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			408892	09/02/20 10:45	AZ	TAL SAC

Client Sample ID: BET20-TH07-01

Lab Sample ID: 320-63739-26

Date Collected: 08/10/20 03:05

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404925	08/19/20 10:57	KDB	TAL SAC

Client Sample ID: BET20-TH07-01

Lab Sample ID: 320-63739-26

Date Collected: 08/10/20 03:05

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.46 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 18:18	K1S	TAL SAC

Client Sample ID: BET20-TH07-02

Lab Sample ID: 320-63739-27

Date Collected: 08/10/20 03:40

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404925	08/19/20 10:57	KDB	TAL SAC

Client Sample ID: BET20-TH07-02

Lab Sample ID: 320-63739-27

Date Collected: 08/10/20 03:40

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 94.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.06 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 18:27	K1S	TAL SAC

Client Sample ID: BET20-TH09-02

Lab Sample ID: 320-63739-28

Date Collected: 08/10/20 22:35

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404925	08/19/20 10:57	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH09-02

Lab Sample ID: 320-63739-28

Date Collected: 08/10/20 22:35

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.27 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 18:37	K1S	TAL SAC

Client Sample ID: BET20-TH09-03

Lab Sample ID: 320-63739-29

Date Collected: 08/10/20 22:45

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404925	08/19/20 10:57	KDB	TAL SAC

Client Sample ID: BET20-TH09-03

Lab Sample ID: 320-63739-29

Date Collected: 08/10/20 22:45

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.12 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 18:46	K1S	TAL SAC
Total/NA	Prep	SHAKE	RE		5.28 g	10.0 mL	408342	08/31/20 17:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			408892	09/02/20 11:13	AZ	TAL SAC

Client Sample ID: BET20-TH14-01

Lab Sample ID: 320-63739-30

Date Collected: 08/11/20 00:30

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404925	08/19/20 10:57	KDB	TAL SAC

Client Sample ID: BET20-TH14-01

Lab Sample ID: 320-63739-30

Date Collected: 08/11/20 00:30

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 95.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.25 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 18:55	K1S	TAL SAC
Total/NA	Prep	SHAKE	RE		5.05 g	10.0 mL	408342	08/31/20 17:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			408892	09/02/20 11:22	AZ	TAL SAC

Client Sample ID: BET20-TH14-02

Lab Sample ID: 320-63739-31

Date Collected: 08/11/20 01:40

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404925	08/19/20 10:57	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Client Sample ID: BET20-TH14-02

Lab Sample ID: 320-63739-31

Date Collected: 08/11/20 01:40

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 77.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.07 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 19:05	K1S	TAL SAC

Client Sample ID: BET20-TH15-01

Lab Sample ID: 320-63739-32

Date Collected: 08/11/20 03:25

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404925	08/19/20 10:57	KDB	TAL SAC

Client Sample ID: BET20-TH15-01

Lab Sample ID: 320-63739-32

Date Collected: 08/11/20 03:25

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 93.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.24 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 19:14	K1S	TAL SAC

Client Sample ID: BET20-TH15-02

Lab Sample ID: 320-63739-33

Date Collected: 08/11/20 03:55

Matrix: Solid

Date Received: 08/15/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			404925	08/19/20 10:57	KDB	TAL SAC

Client Sample ID: BET20-TH15-02

Lab Sample ID: 320-63739-33

Date Collected: 08/11/20 03:55

Matrix: Solid

Date Received: 08/15/20 08:50

Percent Solids: 90.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.35 g	10.00 mL	405814	08/22/20 07:39	MTN	TAL SAC
Total/NA	Analysis	537 (modified)		1			406495	08/25/20 19:24	K1S	TAL SAC
Total/NA	Prep	SHAKE	RE		5.17 g	10.0 mL	408342	08/31/20 17:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)	RE	1			408892	09/02/20 11:31	AZ	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
537 (modified)	3535	Water	4:2 FTS
537 (modified)	3535	Water	6:2 FTS
537 (modified)	3535	Water	8:2 FTS
537 (modified)	3535	Water	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 (modified)	3535	Water	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 (modified)	3535	Water	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	3535	Water	Perfluorobutanoic acid (PFBA)
537 (modified)	3535	Water	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	3535	Water	Perfluorodecanoic acid (PFDA)
537 (modified)	3535	Water	Perfluorododecanoic acid (PFDoA)
537 (modified)	3535	Water	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	3535	Water	Perfluoroheptanoic acid (PFHpA)
537 (modified)	3535	Water	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	3535	Water	Perfluorohexanoic acid (PFHxA)
537 (modified)	3535	Water	Perfluorononanesulfonic acid (PFNS)
537 (modified)	3535	Water	Perfluorononanoic acid (PFNA)
537 (modified)	3535	Water	Perfluorooctanesulfonamide (FOSA)
537 (modified)	3535	Water	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	3535	Water	Perfluorooctanoic acid (PFOA)
537 (modified)	3535	Water	Perfluoropentanesulfonic acid (PFPeS)
537 (modified)	3535	Water	Perfluoropentanoic acid (PFPeA)
537 (modified)	3535	Water	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	3535	Water	Perfluorotridecanoic acid (PFTriA)
537 (modified)	3535	Water	Perfluoroundecanoic acid (PFUnA)
537 (modified)	SHAKE	Solid	4:2 FTS
537 (modified)	SHAKE	Solid	6:2 FTS
537 (modified)	SHAKE	Solid	8:2 FTS
537 (modified)	SHAKE	Solid	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 (modified)	SHAKE	Solid	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 (modified)	SHAKE	Solid	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	SHAKE	Solid	Perfluorobutanoic acid (PFBA)
537 (modified)	SHAKE	Solid	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	SHAKE	Solid	Perfluorodecanoic acid (PFDA)
537 (modified)	SHAKE	Solid	Perfluorododecanoic acid (PFDoA)
537 (modified)	SHAKE	Solid	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	SHAKE	Solid	Perfluoroheptanoic acid (PFHpA)
537 (modified)	SHAKE	Solid	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	SHAKE	Solid	Perfluorohexanoic acid (PFHxA)
537 (modified)	SHAKE	Solid	Perfluorononanesulfonic acid (PFNS)
537 (modified)	SHAKE	Solid	Perfluorononanoic acid (PFNA)
537 (modified)	SHAKE	Solid	Perfluorooctanesulfonamide (FOSA)
537 (modified)	SHAKE	Solid	Perfluorooctanesulfonic acid (PFOS)

Accreditation/Certification Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Laboratory: Eurofins TestAmerica, Sacramento (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
537 (modified)	SHAKE	Solid	Perfluorooctanoic acid (PFOA)
537 (modified)	SHAKE	Solid	Perfluoropentanesulfonic acid (PFPeS)
537 (modified)	SHAKE	Solid	Perfluoropentanoic acid (PFPeA)
537 (modified)	SHAKE	Solid	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	SHAKE	Solid	Perfluorotridecanoic acid (PFTriA)
537 (modified)	SHAKE	Solid	Perfluoroundecanoic acid (PFUnA)
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Method Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
D 2216	Percent Moisture	ASTM	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	TAL SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



Sample Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63739-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-63739-1	BET20-TH08-01	Solid	08/06/20 00:25	08/15/20 08:50	
320-63739-2	BET20-TH08-02	Solid	08/06/20 01:50	08/15/20 08:50	
320-63739-3	BET20-TH08-03	Solid	08/06/20 00:35	08/15/20 08:50	
320-63739-4	BET20-TH11-01	Solid	08/06/20 03:40	08/15/20 08:50	
320-63739-5	BET20-TH11-02	Solid	08/06/20 04:05	08/15/20 08:50	
320-63739-6	BET20-TH27-01	Solid	08/06/20 22:55	08/15/20 08:50	
320-63739-7	BET20-TH27-02	Solid	08/06/20 23:30	08/15/20 08:50	
320-63739-8	BET20-TH27-03	Solid	08/06/20 23:15	08/15/20 08:50	
320-63739-9	BET20-TH10-01	Solid	08/07/20 01:45	08/15/20 08:50	
320-63739-10	BET20-TH10-02	Solid	08/07/20 02:50	08/15/20 08:50	
320-63739-11	BET20-TH28-01	Solid	08/07/20 23:05	08/15/20 08:50	
320-63739-12	BET20-TH28-02	Solid	08/07/20 23:45	08/15/20 08:50	
320-63739-13	BET20-TH28-03	Solid	08/07/20 23:20	08/15/20 08:50	
320-63739-14	BET20-WA-RB01	Water	08/08/20 02:05	08/15/20 08:50	
320-63739-15	BET20-TH16-01	Solid	08/08/20 02:15	08/15/20 08:50	
320-63739-16	BET20-TH16-02	Solid	08/08/20 02:55	08/15/20 08:50	
320-63739-17	BET20-TH12-01	Solid	08/09/20 00:20	08/15/20 08:50	
320-63739-18	BET20-TH12-02	Solid	08/09/20 01:30	08/15/20 08:50	
320-63739-19	BET20-TH12-03	Solid	08/09/20 00:35	08/15/20 08:50	
320-63739-20	BET20-TH13-01	Solid	08/09/20 02:35	08/15/20 08:50	
320-63739-21	BET20-TH13-02	Solid	08/09/20 03:05	08/15/20 08:50	
320-63739-22	BET20-TH09-01	Solid	08/09/20 04:10	08/15/20 08:50	
320-63739-23	BET20-TH26-01	Solid	08/10/20 00:05	08/15/20 08:50	
320-63739-24	BET20-TH26-02	Solid	08/10/20 01:00	08/15/20 08:50	
320-63739-25	BET20-TH26-03	Solid	08/10/20 00:20	08/15/20 08:50	
320-63739-26	BET20-TH07-01	Solid	08/10/20 03:05	08/15/20 08:50	
320-63739-27	BET20-TH07-02	Solid	08/10/20 03:40	08/15/20 08:50	
320-63739-28	BET20-TH09-02	Solid	08/10/20 22:35	08/15/20 08:50	
320-63739-29	BET20-TH09-03	Solid	08/10/20 22:45	08/15/20 08:50	
320-63739-30	BET20-TH14-01	Solid	08/11/20 00:30	08/15/20 08:50	
320-63739-31	BET20-TH14-02	Solid	08/11/20 01:40	08/15/20 08:50	
320-63739-32	BET20-TH15-01	Solid	08/11/20 03:25	08/15/20 08:50	
320-63739-33	BET20-TH15-02	Solid	08/11/20 03:55	08/15/20 08:50	



R&M CONSULTANTS, INC.

CHAIN OF CUSTODY RECORD

Client: R&M Consultants, Inc		Analytical Laboratory	TA-Sacramento	DOD Project?: No	Cooler ID: SOPRANO	Page 1 of 2
Project No.: 2690.02	Project Name: Bethel Airport Main Runway Reconstruction	Phone Number: 907.646.9655	PO #: 2690.02	Sample Type (i.e. Grab(G), Comp(c), etc)	Preservative/Analysis	Remarks
Contact Name: Christopher Fell	Phone Number: 907.646.9655	Email: cfell@rmconsult.com	Quote #: 32015144	Matrix Code		
Reports To: Christopher Fell	Email: cfell@rmconsult.com					
Reports To: Brian Mullen	Email: bmulen@rmconsult.com					
Invoice To:	R&M Consultants, Inc Attn: Accounting Department/Courtney Maillet 9101 Vanguard Drive, Anchorage, AK, 99507 cmaillet@rmconsult.com / 907.522.1707					
RESERVED for lab use	Sample Identification	LocID	Sampler	Date (mm/dd/yy)	Time (hhmm)	Matrix Code
	BET20-TH08-01	BH-H	BMM/MB	08/06/20	0025	SO
	BET20-TH08-02	BH-H		08/06/20	00150	SO
	BET20-TH08-03	BH-H		08/06/20	0035	SO
	BET20-TH11-01	BH-K		08/06/20	0340	SO
	BET20-TH11-02	BH-K		08/06/20	0405	SO
	BET20-TH27-01	BH-AA		08/06/20	2255	SO
	BET20-TH27-02	BH-AA		08/06/20	2330	SO
	BET20-TH27-03	BH-AA		08/06/20	2315	SO
	BET20-TH10-01	BH-J		08/07/20	0145	SO
	BET20-TH10-02	BH-J		08/07/20	0250	SO
	BET20-TH28-01	BH-BB		08/07/20	2305	SO
	BET20-TH28-02	BH-BB		08/07/20	2345	SO
	BET20-TH28-03	BH-BB		08/07/20	2320	SO
	BET20-WA-R01	BET		08/08/20	0205	WA
	BET20-TH16-01	BH-P		08/08/20	0215	SO
	BET20-TH16-02	BH-P		08/08/20	0255	SO
	BET20-TH12-01	BH-L		08/09/20	0020	SO
	BET20-TH12-02	BH-L		08/09/20	0130	SO
Relinquished By (1):	Date: 8/11/20	Time: 1710	Received By: [Signature]	Date: 8/11/20	Time: 0703	8/11/20
Relinquished By (2):	Date: 8/12/20	Time: 1555	Received By: [Signature]	Date: 8/12/20	Time: 0703	8/11/20
Relinquished By (3):	Date: 8/14/20	Time: 0745	Received By: [Signature]	Date: 8/14/20	Time: 0800	8/14/20
Relinquished By (4):	Date:	Time:	Received For By Laboratory:	Date:	Time:	8:50



320-63739 Chain of Custody

Rinse Blank

Turnaround Time, Deliverable Req., and/or Special Instructions

Standard TAT, Level 2 PDF

Laboratory Check in Information

Temp Blank °C: 0.4/0.8

Chain of Custody Seal (Circle): Intact / Broken / Absent





R&M CONSULTANTS, INC.

CHAIN OF CUSTODY RECORD

Client:	R&M Consultants, Inc	Analytical Laboratory	TA-Sacramento	Cooler ID: SOPRANO	Page 2 of 2						
Project No. / NPDL No.:	2690.02	Bethel Airport Main Runway Reconstruction		Preservative/Analysis							
Contact Name:	Christopher Feil	Phone Number: 907.646.9655									
Reports To:	Christopher Feil	Email: cfell@rmconsult.com									
	Brian Mullen	Email: bmulen@rmconsult.com									
Invoice To:	R&M Consultants, Inc Attn: Accounting Department/Courtney Maillet 9101 Vanguard Drive, Anchorage, AK, 99507 cmaillet@rmconsult.com / 907.522.1707	PO #: 2690.02									
		Quote #: 32015144									
RESERVED for lab use	Sample Identification	LocID	Sampler	Date (mm/dd/yy)	Time (hhmm)	Matrix/Matrix Code	No. Containers	Sample Type (i.e. Grab(s), Comp(s), etc)	DOD Project?	No	Project?
	• BET20-TH12-03	BH-L	BMM	08/09/20	0035	SO	1	G	PFAS (EPA 537.1 Mod)	0-6 °C	
	• BET20-TH13-01	BH-M		08/09/20	0235	SO	1				
	• BET20-TH13-02	BH-M		08/09/20	0305	SO	1				
	• BET20-TH09-01	BH-I		08/09/20	0410	SO	1				
	• BET20-TH26-01	BH-Z		08/10/20	0005	SO	1				
	• BET20-TH26-02	BH-Z		08/10/20	0100	SO	1				
	• BET20-TH26-03	BH-Z		08/10/20	0200	SO	1				
	• BET20-TH07-01	BH-G		08/10/20	0305	SO	1				
	• BET20-TH07-02	BH-G		08/10/20	0340	SO	1				
	• BET20-TH09-02	BH-I		08/10/20	2235	SO	1				
	• BET20-TH09-03	BH-I		08/10/20	2245	SO	1				
	• BET20-TH14-01	BH-N		08/11/20	0030	SO	1				
	• BET20-TH14-02	BH-N		08/11/20	0140	SO	1				
	• BET20-TH15-01	BH-O		08/11/20	0325	SO	1				
	• BET20-TH15-02	BH-O		08/11/20	0355	SO	1				
Relinquished By (1):	<i>Brian Mullen</i>	Date: 8/11/20	Time: 1710	Received By:	<i>Brian Mullen</i>	Date: 8/11/20	Time: 0703	Standard TAT, Level 2 PDF	Turnaround Time, Deliverable Req., and/or Special Instructions		
Relinquished By (2):	<i>Brian Mullen</i>	Date: 8/12/20	Time: 1555	Received By:	<i>Brian Mullen</i>	Date: 8/12/20	Time: 0703	Laboratory Check In Information			
Relinquished By (3):	<i>Brian Mullen</i>	Date: 8/14/20	Time: 0715	Received By:	<i>Brian Mullen</i>	Date: 8/14/20	Time: 0850	Temp Blank °C	Chain of Custody Seal (Circle):		
Relinquished By (4):	<i>Brian Mullen</i>	Date: 8/14/20	Time: 0715	Received For By Laboratory:	<i>Brian Mullen</i>	Date: 8/14/20	Time: 0850	0.4/0-8°C	Intact		
									Broken		
									Absent		



Login Sample Receipt Checklist

Client: R&M Consultants, Inc

Job Number: 320-63739-1

Login Number: 63739

List Source: Eurofins TestAmerica, Sacramento

List Number: 2

Creator: Oropeza, Salvador

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

ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

Laboratory Job ID: 320-63958-1

Client Project/Site: Bethel Airport Main Runway Reconstruction

For:

R&M Consultants, Inc
9101 Vanguard Drive
Anchorage, Alaska 99507

Attn: Christopher Fell



Authorized for release by:
9/9/2020 4:45:54 PM

Jill Kellmann, Client Service Manager
(916)374-4402
Jill.Kellmann@Eurofinset.com

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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



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Definitions/Glossary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*5	Isotope dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Case Narrative

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Job ID: 320-63958-1

Laboratory: Eurofins TestAmerica, Sacramento

Narrative

Receipt

The samples were received on 8/25/2020 9:50 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.4° C.

LCMS

Method 537 (modified): The method blank for preparation batch 320-406779 contained Perfluorooctanesulfonic acid (PFOS) above the reporting limit (RL). None of the samples associated with this method blank contained the target compound at a concentration greater than the reporting limit; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS the following sample: BET20-TH24-01 (320-63958-20), BET20-TH23-02 (320-63958-23), BET20-TH02-02 (320-63958-31). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The "1" qualifier means the transition mass ratio for the indicated analyte(s) was outside of the established ratio limits. The qualitative identification of the analyte(s) has/have some degree of uncertainty. However, analyst judgment was used to positively identify the analyte(s). BET20-TH22-03 (320-63958-16)

Method 537 (modified): Several Isotope Dilution Analyte (IDA) recoveries are above the method recommended limit for the following samples: BET20-TH20-01 (320-63958-12) and BET20-TH22-03 (320-63958-16). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-8:2 FTS the following samples: BET20-TH22-01 (320-63958-14) and BET20-TH24-02 (320-63958-21). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The laboratory control sample (LCS) for preparation batch 320-408016 and 320-408016 and analytical batch 320-409145 recovered outside control limits for the following analyte: Perfluorooctanesulfonic acid (PFOS). The analyte was biased high in the LCS and were not detected above the reporting limit in the associated sample; therefore, the data have been reported.

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

General Chemistry

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

Organic Prep

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-406783.

Method SHAKE: The following samples were observed to be yellow in color in the final extract: BET20-TH17-01 (320-63958-8) and BET20-TH17-03 (320-63958-9).

Method SHAKE: The following samples were observed to be cloudy and yellow in color in the final extract: BET20-TH20-01 (320-63958-12), BET20-TH22-01 (320-63958-14) and BET20-TH22-03 (320-63958-16).

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

Detection Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-WA-RB02

Lab Sample ID: 320-63958-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.33	J	1.8	0.32	ng/L	1		537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.34	J B	1.8	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.36	J B	1.8	0.32	ng/L	1		537 (modified)	Total/NA

Client Sample ID: BET20-TH30-01

Lab Sample ID: 320-63958-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J B	0.21	0.029	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH30-02

Lab Sample ID: 320-63958-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J B	0.21	0.029	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.26	J	0.52	0.21	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH30-03

Lab Sample ID: 320-63958-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J B	0.19	0.027	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.48	J	0.49	0.19	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH21-01

Lab Sample ID: 320-63958-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J B	0.21	0.030	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH21-02

Lab Sample ID: 320-63958-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J B	0.22	0.030	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH17-02

Lab Sample ID: 320-63958-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J B	0.21	0.029	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.064	J	0.21	0.032	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.21	J	0.52	0.21	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH17-01

Lab Sample ID: 320-63958-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J B	0.20	0.028	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH17-03

Lab Sample ID: 320-63958-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J B	0.19	0.027	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH19-01

Lab Sample ID: 320-63958-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.14	J B	0.19	0.027	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.26		0.19	0.041	ug/Kg	1	*	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.050	J	0.19	0.028	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.097	J	0.19	0.084	ug/Kg	1	*	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Detection Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH19-01 (Continued)

Lab Sample ID: 320-63958-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	0.11	J	0.19	0.024	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.20		0.19	0.019	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.98		0.19	0.030	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.036	J	0.19	0.034	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.5		0.49	0.19	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH19-02

Lab Sample ID: 320-63958-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.14	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.049	J	0.21	0.026	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH20-01

Lab Sample ID: 320-63958-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J B	0.19	0.027	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH20-02

Lab Sample ID: 320-63958-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J B	0.21	0.030	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.047	J	0.21	0.033	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.21	J	0.53	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH22-01

Lab Sample ID: 320-63958-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH22-02

Lab Sample ID: 320-63958-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.14	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH22-03

Lab Sample ID: 320-63958-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.031	J I	0.20	0.031	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-WA-RB03

Lab Sample ID: 320-63958-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.47	J	1.7	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.25	J B	1.7	0.15	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.56	J B	1.7	0.30	ng/L	1		537 (modified)	Total/NA

Client Sample ID: BET20-TH25-01

Lab Sample ID: 320-63958-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Detection Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH25-02

Lab Sample ID: 320-63958-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J B	0.19	0.026	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH24-01

Lab Sample ID: 320-63958-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J B	0.20	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.063	J	0.20	0.032	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH24-02

Lab Sample ID: 320-63958-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.11	J B	0.21	0.030	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH23-01

Lab Sample ID: 320-63958-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.12	J B	0.18	0.026	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH23-02

Lab Sample ID: 320-63958-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.14	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH23-03

Lab Sample ID: 320-63958-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH18-01

Lab Sample ID: 320-63958-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH18-02

Lab Sample ID: 320-63958-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.11	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.46	J B	0.52	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH01-01

Lab Sample ID: 320-63958-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J B	0.20	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.46	J B	0.51	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH01-02

Lab Sample ID: 320-63958-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.10	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.37	J B	0.52	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH01-03

Lab Sample ID: 320-63958-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.088	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.22	J B	0.52	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Detection Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH02-01

Lab Sample ID: 320-63958-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.075	J B	0.20	0.027	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.26	J B	0.49	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH02-02

Lab Sample ID: 320-63958-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J B	0.29	0.040	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.43	J B	0.72	0.29	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH03-01

Lab Sample ID: 320-63958-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.15	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.33	J B *	0.49	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH03-02

Lab Sample ID: 320-63958-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.090	J B	0.19	0.026	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.40	J B	0.47	0.19	ug/Kg	1	✳	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-WA-RB02

Lab Sample ID: 320-63958-1

Date Collected: 08/11/20 23:15

Matrix: Water

Date Received: 08/25/20 09:50

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.33	J	1.8	0.32	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.53	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.23	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.77	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorotetradecanoic acid (PFTeA)	0.34	J B	1.8	0.26	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.15	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.17	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.15	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		08/26/20 11:42	08/27/20 18:48	1
Perfluorooctanesulfonamide (FOSA)	0.36	J B	1.8	0.32	ng/L		08/26/20 11:42	08/27/20 18:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	2.8	ng/L		08/26/20 11:42	08/27/20 18:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.7	ng/L		08/26/20 11:42	08/27/20 18:48	1
4:2 FTS	ND		18	4.7	ng/L		08/26/20 11:42	08/27/20 18:48	1
6:2 FTS	ND		18	1.8	ng/L		08/26/20 11:42	08/27/20 18:48	1
8:2 FTS	ND		18	1.8	ng/L		08/26/20 11:42	08/27/20 18:48	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	79		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C5 PFPeA	86		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C2 PFHxA	80		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C4 PFHpA	82		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C4 PFOA	82		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C5 PFNA	89		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C2 PFDA	96		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C2 PFUnA	91		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C2 PFDoA	85		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C2 PFTeDA	78		25 - 150				08/26/20 11:42	08/27/20 18:48	1
18O2 PFHxS	90		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C4 PFOS	90		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C8 FOSA	79		25 - 150				08/26/20 11:42	08/27/20 18:48	1
d3-NMeFOSAA	79		25 - 150				08/26/20 11:42	08/27/20 18:48	1
d5-NEtFOSAA	83		25 - 150				08/26/20 11:42	08/27/20 18:48	1
M2-6:2 FTS	99		25 - 150				08/26/20 11:42	08/27/20 18:48	1
M2-8:2 FTS	112		25 - 150				08/26/20 11:42	08/27/20 18:48	1
M2-4:2 FTS	77		25 - 150				08/26/20 11:42	08/27/20 18:48	1
13C3 PFBS	84		25 - 150				08/26/20 11:42	08/27/20 18:48	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH30-01

Lab Sample ID: 320-63958-2

Date Collected: 08/11/20 23:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.0

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J B	0.21	0.029	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.090	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.52	0.21	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.086	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
4:2 FTS	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/26/20 11:31	08/28/20 18:44	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	80		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C5 PFPeA	83		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C2 PFHxA	86		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C4 PFHpA	89		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C4 PFOA	83		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C5 PFNA	100		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C2 PFDA	89		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C2 PFUnA	96		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C2 PFDoA	92		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C2 PFTeDA	92		25 - 150	08/26/20 11:31	08/28/20 18:44	1
18O2 PFHxS	62		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C4 PFOS	64		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C8 FOSA	78		25 - 150	08/26/20 11:31	08/28/20 18:44	1
d3-NMeFOSAA	86		25 - 150	08/26/20 11:31	08/28/20 18:44	1
d5-NEtFOSAA	94		25 - 150	08/26/20 11:31	08/28/20 18:44	1
M2-6:2 FTS	92		25 - 150	08/26/20 11:31	08/28/20 18:44	1
M2-8:2 FTS	94		25 - 150	08/26/20 11:31	08/28/20 18:44	1
M2-4:2 FTS	104		25 - 150	08/26/20 11:31	08/28/20 18:44	1
13C3 PFBS	62		25 - 150	08/26/20 11:31	08/28/20 18:44	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH30-01

Lab Sample ID: 320-63958-2

Date Collected: 08/11/20 23:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.0

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.0		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	94.0		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH30-02

Lab Sample ID: 320-63958-3

Date Collected: 08/12/20 00:35

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 84.3

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.17	J B	0.21	0.029	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.090	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorooctanesulfonic acid (PFOS)	0.26	J	0.52	0.21	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.086	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
4:2 FTS	ND		2.1	0.39	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
6:2 FTS	ND		2.1	0.16	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1
8:2 FTS	ND		2.1	0.26	ug/Kg	✱	08/26/20 11:31	08/28/20 18:53	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	88		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C5 PFPeA	91		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C2 PFHxA	93		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C4 PFHpA	96		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C4 PFOA	92		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C5 PFNA	99		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C2 PFDA	94		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C2 PFUnA	97		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C2 PFDoA	92		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C2 PFTeDA	98		25 - 150	08/26/20 11:31	08/28/20 18:53	1
18O2 PFHxS	90		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C4 PFOS	92		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C8 FOSA	84		25 - 150	08/26/20 11:31	08/28/20 18:53	1
d3-NMeFOSAA	87		25 - 150	08/26/20 11:31	08/28/20 18:53	1
d5-NEtFOSAA	89		25 - 150	08/26/20 11:31	08/28/20 18:53	1
M2-6:2 FTS	105		25 - 150	08/26/20 11:31	08/28/20 18:53	1
M2-8:2 FTS	97		25 - 150	08/26/20 11:31	08/28/20 18:53	1
M2-4:2 FTS	105		25 - 150	08/26/20 11:31	08/28/20 18:53	1
13C3 PFBS	89		25 - 150	08/26/20 11:31	08/28/20 18:53	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH30-02

Lab Sample ID: 320-63958-3

Date Collected: 08/12/20 00:35

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 84.3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.7		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	84.3		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH30-03

Lab Sample ID: 320-63958-4

Date Collected: 08/11/20 23:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.17	J B	0.19	0.027	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.075	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.041	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.028	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.084	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.035	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.021	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.035	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.065	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorotridecanoic acid (PFTriA)	ND		0.19	0.050	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.19	0.053	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.024	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.019	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.030	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.19	0.034	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorooctanesulfonic acid (PFOS)	0.48	J	0.49	0.19	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.019	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.038	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Perfluorooctanesulfonamide (FOSA)	ND		0.19	0.080	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.38	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.36	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
4:2 FTS	ND		1.9	0.36	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
6:2 FTS	ND		1.9	0.15	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
8:2 FTS	ND		1.9	0.24	ug/Kg	✳	08/26/20 11:31	08/28/20 19:03	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	66		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C5 PFPeA	69		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C2 PFHxA	70		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C4 PFHpA	72		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C4 PFOA	65		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C5 PFNA	75		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C2 PFDA	73		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C2 PFUnA	75		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C2 PFDoA	73		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C2 PFTeDA	74		25 - 150				08/26/20 11:31	08/28/20 19:03	1
18O2 PFHxS	51		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C4 PFOS	54		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C8 FOSA	62		25 - 150				08/26/20 11:31	08/28/20 19:03	1
d3-NMeFOSAA	51		25 - 150				08/26/20 11:31	08/28/20 19:03	1
d5-NEtFOSAA	56		25 - 150				08/26/20 11:31	08/28/20 19:03	1
M2-6:2 FTS	62		25 - 150				08/26/20 11:31	08/28/20 19:03	1
M2-8:2 FTS	64		25 - 150				08/26/20 11:31	08/28/20 19:03	1
M2-4:2 FTS	61		25 - 150				08/26/20 11:31	08/28/20 19:03	1
13C3 PFBS	51		25 - 150				08/26/20 11:31	08/28/20 19:03	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH30-03

Lab Sample ID: 320-63958-4

Date Collected: 08/11/20 23:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.9		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	94.1		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH21-01

Lab Sample ID: 320-63958-5

Date Collected: 08/12/20 03:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 90.8

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.17	J B	0.21	0.030	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.031	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.091	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.071	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.054	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.033	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.53	0.21	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.087	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
4:2 FTS	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/26/20 11:34	08/28/20 21:14	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	87		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C5 PFPeA	91		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C2 PFHxA	90		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C4 PFHpA	94		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C4 PFOA	91		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C5 PFNA	99		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C2 PFDA	92		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C2 PFUnA	97		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C2 PFDoA	92		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C2 PFTeDA	93		25 - 150	08/26/20 11:34	08/28/20 21:14	1
18O2 PFHxS	88		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C4 PFOS	87		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C8 FOSA	83		25 - 150	08/26/20 11:34	08/28/20 21:14	1
d3-NMeFOSAA	85		25 - 150	08/26/20 11:34	08/28/20 21:14	1
d5-NEtFOSAA	93		25 - 150	08/26/20 11:34	08/28/20 21:14	1
M2-6:2 FTS	126		25 - 150	08/26/20 11:34	08/28/20 21:14	1
M2-8:2 FTS	105		25 - 150	08/26/20 11:34	08/28/20 21:14	1
M2-4:2 FTS	95		25 - 150	08/26/20 11:34	08/28/20 21:14	1
13C3 PFBS	84		25 - 150	08/26/20 11:34	08/28/20 21:14	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH21-01

Lab Sample ID: 320-63958-5

Date Collected: 08/12/20 03:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 90.8

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.2		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	90.8		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH21-02

Lab Sample ID: 320-63958-6

Date Collected: 08/12/20 04:15

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 89.3

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.15	J B	0.22	0.030	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluoropentanoic acid (PFPeA)	ND		0.22	0.084	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorohexanoic acid (PFHxA)	ND		0.22	0.046	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.031	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorooctanoic acid (PFOA)	ND		0.22	0.093	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.039	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.024	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.039	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.073	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.055	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.059	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.027	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.22	0.022	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.22	0.034	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.22	0.038	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.54	0.22	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorononanesulfonic acid (PFNS)	ND		0.22	0.022	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.22	0.042	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
Perfluorooctanesulfonamide (FOSA)	ND		0.22	0.089	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.2	0.42	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.2	0.40	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
4:2 FTS	ND		2.2	0.40	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
6:2 FTS	ND		2.2	0.16	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1
8:2 FTS	ND		2.2	0.27	ug/Kg	☼	08/26/20 11:34	08/28/20 21:42	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	66		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C5 PFPeA	69		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C2 PFHxA	67		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C4 PFHpA	71		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C4 PFOA	65		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C5 PFNA	70		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C2 PFDA	68		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C2 PFUnA	71		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C2 PFDoA	66		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C2 PFTeDA	72		25 - 150	08/26/20 11:34	08/28/20 21:42	1
18O2 PFHxS	67		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C4 PFOS	61		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C8 FOSA	54		25 - 150	08/26/20 11:34	08/28/20 21:42	1
d3-NMeFOSAA	62		25 - 150	08/26/20 11:34	08/28/20 21:42	1
d5-NEtFOSAA	64		25 - 150	08/26/20 11:34	08/28/20 21:42	1
M2-6:2 FTS	70		25 - 150	08/26/20 11:34	08/28/20 21:42	1
M2-8:2 FTS	65		25 - 150	08/26/20 11:34	08/28/20 21:42	1
M2-4:2 FTS	69		25 - 150	08/26/20 11:34	08/28/20 21:42	1
13C3 PFBS	66		25 - 150	08/26/20 11:34	08/28/20 21:42	1

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH21-02

Lab Sample ID: 320-63958-6

Date Collected: 08/12/20 04:15

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 89.3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	10.7		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	89.3		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH17-02

Lab Sample ID: 320-63958-7

Date Collected: 08/12/20 23:00

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.9

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.13	J B	0.21	0.029	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.043	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.089	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorohexanesulfonic acid (PFHxS)	0.064	J	0.21	0.032	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorooctanesulfonic acid (PFOS)	0.21	J	0.52	0.21	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
4:2 FTS	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/26/20 11:34	08/28/20 21:51	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	67		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C5 PFPeA	67		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C2 PFHxA	69		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C4 PFHpA	70		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C4 PFOA	66		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C5 PFNA	72		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C2 PFDA	69		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C2 PFUnA	70		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C2 PFDoA	71		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C2 PFTeDA	71		25 - 150				08/26/20 11:34	08/28/20 21:51	1
18O2 PFHxS	65		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C4 PFOS	63		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C8 FOSA	64		25 - 150				08/26/20 11:34	08/28/20 21:51	1
d3-NMeFOSAA	66		25 - 150				08/26/20 11:34	08/28/20 21:51	1
d5-NEtFOSAA	67		25 - 150				08/26/20 11:34	08/28/20 21:51	1
M2-6:2 FTS	84		25 - 150				08/26/20 11:34	08/28/20 21:51	1
M2-8:2 FTS	75		25 - 150				08/26/20 11:34	08/28/20 21:51	1
M2-4:2 FTS	81		25 - 150				08/26/20 11:34	08/28/20 21:51	1
13C3 PFBS	64		25 - 150				08/26/20 11:34	08/28/20 21:51	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH17-02

Lab Sample ID: 320-63958-7

Date Collected: 08/12/20 23:00

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.1		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	94.9		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH17-01

Lab Sample ID: 320-63958-8

Date Collected: 08/12/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.4

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J B	0.20	0.028	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.076	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.085	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.066	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.050	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.053	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.50	0.20	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.081	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/26/20 11:34	08/28/20 22:00	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	51		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C5 PFPeA	54		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C2 PFHxA	58		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C4 PFHpA	59		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C4 PFOA	55		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C5 PFNA	63		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C2 PFDA	57		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C2 PFUnA	62		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C2 PFDoA	60		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C2 PFTeDA	61		25 - 150	08/26/20 11:34	08/28/20 22:00	1
18O2 PFHxS	57		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C4 PFOS	58		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C8 FOSA	54		25 - 150	08/26/20 11:34	08/28/20 22:00	1
d3-NMeFOSAA	63		25 - 150	08/26/20 11:34	08/28/20 22:00	1
d5-NEtFOSAA	63		25 - 150	08/26/20 11:34	08/28/20 22:00	1
M2-6:2 FTS	102		25 - 150	08/26/20 11:34	08/28/20 22:00	1
M2-8:2 FTS	126		25 - 150	08/26/20 11:34	08/28/20 22:00	1
M2-4:2 FTS	104		25 - 150	08/26/20 11:34	08/28/20 22:00	1
13C3 PFBS	59		25 - 150	08/26/20 11:34	08/28/20 22:00	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH17-01

Lab Sample ID: 320-63958-8

Date Collected: 08/12/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.6		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	94.4		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH17-03

Lab Sample ID: 320-63958-9

Date Collected: 08/12/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.0

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.17	J B	0.19	0.027	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.074	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.040	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.028	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.082	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.021	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.064	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorotridecanoic acid (PFTriA)	ND		0.19	0.049	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.19	0.052	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.024	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.030	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.19	0.034	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.48	0.19	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.037	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
Perfluorooctanesulfonamide (FOSA)	ND		0.19	0.079	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.37	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.35	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
4:2 FTS	ND		1.9	0.35	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
6:2 FTS	ND		1.9	0.14	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1
8:2 FTS	ND		1.9	0.24	ug/Kg	☼	08/26/20 11:34	08/28/20 22:10	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	44		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C5 PFPeA	45		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C2 PFHxA	48		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C4 PFHpA	49		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C4 PFOA	47		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C5 PFNA	53		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C2 PFDA	51		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C2 PFUnA	53		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C2 PFDoA	54		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C2 PFTeDA	55		25 - 150	08/26/20 11:34	08/28/20 22:10	1
18O2 PFHxS	49		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C4 PFOS	51		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C8 FOSA	47		25 - 150	08/26/20 11:34	08/28/20 22:10	1
d3-NMeFOSAA	55		25 - 150	08/26/20 11:34	08/28/20 22:10	1
d5-NEtFOSAA	58		25 - 150	08/26/20 11:34	08/28/20 22:10	1
M2-6:2 FTS	81		25 - 150	08/26/20 11:34	08/28/20 22:10	1
M2-8:2 FTS	106		25 - 150	08/26/20 11:34	08/28/20 22:10	1
M2-4:2 FTS	83		25 - 150	08/26/20 11:34	08/28/20 22:10	1
13C3 PFBS	49		25 - 150	08/26/20 11:34	08/28/20 22:10	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH17-03

Lab Sample ID: 320-63958-9

Date Collected: 08/12/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.0

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.0		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	95.0		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH19-01

Lab Sample ID: 320-63958-10

Date Collected: 08/13/20 01:40

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.6

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.14	J B	0.19	0.027	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.075	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorohexanoic acid (PFHxA)	0.26		0.19	0.041	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluoroheptanoic acid (PFHpA)	0.050	J	0.19	0.028	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorooctanoic acid (PFOA)	0.097	J	0.19	0.084	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.021	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.065	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorotridecanoic acid (PFTriA)	ND		0.19	0.050	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.19	0.052	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorobutanesulfonic acid (PFBS)	0.11	J	0.19	0.024	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluoropentanesulfonic acid (PFPeS)	0.20		0.19	0.019	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorohexanesulfonic acid (PFHxS)	0.98		0.19	0.030	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.036	J	0.19	0.034	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorooctanesulfonic acid (PFOS)	1.5		0.49	0.19	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.038	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
Perfluorooctanesulfonamide (FOSA)	ND		0.19	0.080	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.38	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.36	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
4:2 FTS	ND		1.9	0.36	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
6:2 FTS	ND		1.9	0.15	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1
8:2 FTS	ND		1.9	0.24	ug/Kg	☼	08/26/20 11:34	08/28/20 22:19	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	71		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C5 PFPeA	72		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C2 PFHxA	74		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C4 PFHpA	73		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C4 PFOA	71		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C5 PFNA	79		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C2 PFDA	75		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C2 PFUnA	75		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C2 PFDoA	74		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C2 PFTeDA	74		25 - 150	08/26/20 11:34	08/28/20 22:19	1
18O2 PFHxS	71		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C4 PFOS	70		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C8 FOSA	65		25 - 150	08/26/20 11:34	08/28/20 22:19	1
d3-NMeFOSAA	76		25 - 150	08/26/20 11:34	08/28/20 22:19	1
d5-NEtFOSAA	80		25 - 150	08/26/20 11:34	08/28/20 22:19	1
M2-6:2 FTS	90		25 - 150	08/26/20 11:34	08/28/20 22:19	1
M2-8:2 FTS	96		25 - 150	08/26/20 11:34	08/28/20 22:19	1
M2-4:2 FTS	86		25 - 150	08/26/20 11:34	08/28/20 22:19	1
13C3 PFBS	66		25 - 150	08/26/20 11:34	08/28/20 22:19	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH19-01

Lab Sample ID: 320-63958-10

Date Collected: 08/13/20 01:40

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.6

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.4		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	94.6		0.1	0.1	%			08/26/20 10:23	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH19-02

Lab Sample ID: 320-63958-11

Date Collected: 08/13/20 02:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.14	J B	0.21	0.029	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.043	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.089	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorobutanesulfonic acid (PFBS)	0.049	J	0.21	0.026	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.52	0.21	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
4:2 FTS	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
6:2 FTS	ND		2.1	0.15	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/26/20 11:34	08/28/20 22:47	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	72		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C5 PFPeA	73		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C2 PFHxA	72		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C4 PFHpA	77		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C4 PFOA	72		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C5 PFNA	83		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C2 PFDA	77		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C2 PFUnA	80		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C2 PFDoA	78		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C2 PFTeDA	77		25 - 150	08/26/20 11:34	08/28/20 22:47	1
18O2 PFHxS	76		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C4 PFOS	74		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C8 FOSA	68		25 - 150	08/26/20 11:34	08/28/20 22:47	1
d3-NMeFOSAA	71		25 - 150	08/26/20 11:34	08/28/20 22:47	1
d5-NEtFOSAA	75		25 - 150	08/26/20 11:34	08/28/20 22:47	1
M2-6:2 FTS	81		25 - 150	08/26/20 11:34	08/28/20 22:47	1
M2-8:2 FTS	78		25 - 150	08/26/20 11:34	08/28/20 22:47	1
M2-4:2 FTS	74		25 - 150	08/26/20 11:34	08/28/20 22:47	1
13C3 PFBS	69		25 - 150	08/26/20 11:34	08/28/20 22:47	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH19-02

Lab Sample ID: 320-63958-11

Date Collected: 08/13/20 02:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.8		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	96.2		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH20-01

Lab Sample ID: 320-63958-12

Date Collected: 08/13/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.12	J B	0.19	0.027	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.074	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.041	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.028	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.083	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.021	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.065	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorotridecanoic acid (PFTriA)	ND		0.19	0.049	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.19	0.052	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.024	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.030	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.19	0.034	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.48	0.19	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.038	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
Perfluorooctanesulfonamide (FOSA)	ND		0.19	0.079	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.38	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.36	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
4:2 FTS	ND		1.9	0.36	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
6:2 FTS	ND		1.9	0.15	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1
8:2 FTS	ND		1.9	0.24	ug/Kg	☼	08/26/20 11:34	08/29/20 15:49	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	77		25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C5 PFPeA	83		25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C2 PFHxA	86		25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C4 PFHpA	89		25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C4 PFOA	89		25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C5 PFNA	94		25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C2 PFDA	85		25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C2 PFUnA	88		25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C2 PFDoA	87		25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C2 PFTeDA	81		25 - 150	08/26/20 11:34	08/29/20 15:49	1
18O2 PFHxS	87		25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C4 PFOS	88		25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C8 FOSA	62		25 - 150	08/26/20 11:34	08/29/20 15:49	1
d3-NMeFOSAA	82		25 - 150	08/26/20 11:34	08/29/20 15:49	1
d5-NEtFOSAA	87		25 - 150	08/26/20 11:34	08/29/20 15:49	1
M2-6:2 FTS	219	*5	25 - 150	08/26/20 11:34	08/29/20 15:49	1
M2-8:2 FTS	246	*5	25 - 150	08/26/20 11:34	08/29/20 15:49	1
M2-4:2 FTS	176	*5	25 - 150	08/26/20 11:34	08/29/20 15:49	1
13C3 PFBS	85		25 - 150	08/26/20 11:34	08/29/20 15:49	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH20-01

Lab Sample ID: 320-63958-12

Date Collected: 08/13/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.8		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	92.2		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH20-02

Lab Sample ID: 320-63958-13

Date Collected: 08/13/20 03:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 93.1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.13	J B	0.21	0.030	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.031	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.091	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.071	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.054	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorohexanesulfonic acid (PFHxS)	0.047	J	0.21	0.033	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorooctanesulfonic acid (PFOS)	0.21	J	0.53	0.21	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.087	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
4:2 FTS	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/26/20 11:34	08/31/20 13:59	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	94		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C5 PFPeA	97		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C2 PFHxA	96		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C4 PFHpA	104		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C4 PFOA	99		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C5 PFNA	107		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C2 PFDA	103		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C2 PFUnA	103		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C2 PFDoA	96		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C2 PFTeDA	103		25 - 150				08/26/20 11:34	08/31/20 13:59	1
18O2 PFHxS	92		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C4 PFOS	89		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C8 FOSA	92		25 - 150				08/26/20 11:34	08/31/20 13:59	1
d3-NMeFOSAA	96		25 - 150				08/26/20 11:34	08/31/20 13:59	1
d5-NEtFOSAA	97		25 - 150				08/26/20 11:34	08/31/20 13:59	1
M2-6:2 FTS	92		25 - 150				08/26/20 11:34	08/31/20 13:59	1
M2-8:2 FTS	97		25 - 150				08/26/20 11:34	08/31/20 13:59	1
M2-4:2 FTS	97		25 - 150				08/26/20 11:34	08/31/20 13:59	1
13C3 PFBS	84		25 - 150				08/26/20 11:34	08/31/20 13:59	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH20-02

Lab Sample ID: 320-63958-13

Date Collected: 08/13/20 03:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 93.1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.9		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	93.1		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH22-01

Lab Sample ID: 320-63958-14

Date Collected: 08/13/20 22:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.6

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.13	J B	0.20	0.028	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.078	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.087	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.037	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.037	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.068	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.032	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.51	0.20	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.040	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.083	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.40	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
4:2 FTS	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/26/20 11:34	08/29/20 15:58	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	57		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C5 PFPeA	59		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C2 PFHxA	62		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C4 PFHpA	63		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C4 PFOA	63		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C5 PFNA	71		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C2 PFDA	64		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C2 PFUnA	64		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C2 PFDoA	58		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C2 PFTeDA	57		25 - 150	08/26/20 11:34	08/29/20 15:58	1
18O2 PFHxS	68		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C4 PFOS	66		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C8 FOSA	51		25 - 150	08/26/20 11:34	08/29/20 15:58	1
d3-NMeFOSAA	59		25 - 150	08/26/20 11:34	08/29/20 15:58	1
d5-NEtFOSAA	59		25 - 150	08/26/20 11:34	08/29/20 15:58	1
M2-6:2 FTS	144		25 - 150	08/26/20 11:34	08/29/20 15:58	1
M2-8:2 FTS	158	*5	25 - 150	08/26/20 11:34	08/29/20 15:58	1
M2-4:2 FTS	128		25 - 150	08/26/20 11:34	08/29/20 15:58	1
13C3 PFBS	65		25 - 150	08/26/20 11:34	08/29/20 15:58	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH22-01

Lab Sample ID: 320-63958-14

Date Collected: 08/13/20 22:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.6

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.4		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	96.6		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH22-02

Lab Sample ID: 320-63958-15

Date Collected: 08/13/20 23:53

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 86.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.14	J B	0.20	0.028	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.076	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.085	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.066	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.050	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.053	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.49	0.20	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.081	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/26/20 11:34	08/28/20 23:06	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	53		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C5 PFPeA	55		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C2 PFHxA	53		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C4 PFHpA	56		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C4 PFOA	56		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C5 PFNA	59		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C2 PFDA	56		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C2 PFUnA	58		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C2 PFDoA	57		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C2 PFTeDA	59		25 - 150	08/26/20 11:34	08/28/20 23:06	1
18O2 PFHxS	55		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C4 PFOS	54		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C8 FOSA	50		25 - 150	08/26/20 11:34	08/28/20 23:06	1
d3-NMeFOSAA	60		25 - 150	08/26/20 11:34	08/28/20 23:06	1
d5-NEtFOSAA	63		25 - 150	08/26/20 11:34	08/28/20 23:06	1
M2-6:2 FTS	64		25 - 150	08/26/20 11:34	08/28/20 23:06	1
M2-8:2 FTS	67		25 - 150	08/26/20 11:34	08/28/20 23:06	1
M2-4:2 FTS	71		25 - 150	08/26/20 11:34	08/28/20 23:06	1
13C3 PFBS	54		25 - 150	08/26/20 11:34	08/28/20 23:06	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH22-02

Lab Sample ID: 320-63958-15

Date Collected: 08/13/20 23:53

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 86.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.8		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	86.2		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH22-03

Lab Sample ID: 320-63958-16

Date Collected: 08/13/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.3

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.13	J B	0.20	0.028	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.078	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.087	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.068	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorohexanesulfonic acid (PFHxS)	0.031	J I	0.20	0.031	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.51	0.20	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.083	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/26/20 11:34	08/29/20 16:08	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	74		25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C5 PFPeA	76		25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C2 PFHxA	86		25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C4 PFHpA	83		25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C4 PFOA	83		25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C5 PFNA	93		25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C2 PFDA	82		25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C2 PFUnA	89		25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C2 PFDoA	81		25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C2 PFTeDA	77		25 - 150				08/26/20 11:34	08/29/20 16:08	1
18O2 PFHxS	84		25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C4 PFOS	93		25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C8 FOSA	69		25 - 150				08/26/20 11:34	08/29/20 16:08	1
d3-NMeFOSAA	78		25 - 150				08/26/20 11:34	08/29/20 16:08	1
d5-NEtFOSAA	79		25 - 150				08/26/20 11:34	08/29/20 16:08	1
M2-6:2 FTS	203	*5	25 - 150				08/26/20 11:34	08/29/20 16:08	1
M2-8:2 FTS	231	*5	25 - 150				08/26/20 11:34	08/29/20 16:08	1
M2-4:2 FTS	179	*5	25 - 150				08/26/20 11:34	08/29/20 16:08	1
13C3 PFBS	81		25 - 150				08/26/20 11:34	08/29/20 16:08	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH22-03

Lab Sample ID: 320-63958-16

Date Collected: 08/13/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.7		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	96.3		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-WA-RB03

Lab Sample ID: 320-63958-17

Date Collected: 08/14/20 01:20

Matrix: Water

Date Received: 08/25/20 09:50

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.47	J	1.7	0.30	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluoropentanoic acid (PFPeA)	ND		1.7	0.43	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.50	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.22	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.74	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.96	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorotridecanoic acid (PFTriA)	ND		1.7	1.1	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.25	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.26	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorohexanesulfonic acid (PFHxS)	0.25	J B	1.7	0.15	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.17	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.47	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.14	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.28	ng/L		08/26/20 11:42	09/02/20 17:19	1
Perfluorooctanesulfonamide (FOSA)	0.56	J B	1.7	0.30	ng/L		08/26/20 11:42	09/02/20 17:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		17	2.7	ng/L		08/26/20 11:42	09/02/20 17:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		17	1.7	ng/L		08/26/20 11:42	09/02/20 17:19	1
4:2 FTS	ND		17	4.5	ng/L		08/26/20 11:42	09/02/20 17:19	1
6:2 FTS	ND		17	1.7	ng/L		08/26/20 11:42	09/02/20 17:19	1
8:2 FTS	ND		17	1.7	ng/L		08/26/20 11:42	09/02/20 17:19	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	83		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C5 PFPeA	91		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C2 PFHxA	97		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C4 PFHpA	102		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C4 PFOA	99		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C5 PFNA	112		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C2 PFDA	101		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C2 PFUnA	103		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C2 PFDoA	88		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C2 PFTeDA	95		25 - 150				08/26/20 11:42	09/02/20 17:19	1
18O2 PFHxS	99		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C4 PFOS	97		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C8 FOSA	88		25 - 150				08/26/20 11:42	09/02/20 17:19	1
d3-NMeFOSAA	87		25 - 150				08/26/20 11:42	09/02/20 17:19	1
d5-NEtFOSAA	93		25 - 150				08/26/20 11:42	09/02/20 17:19	1
M2-6:2 FTS	111		25 - 150				08/26/20 11:42	09/02/20 17:19	1
M2-8:2 FTS	128		25 - 150				08/26/20 11:42	09/02/20 17:19	1
M2-4:2 FTS	103		25 - 150				08/26/20 11:42	09/02/20 17:19	1
13C3 PFBS	94		25 - 150				08/26/20 11:42	09/02/20 17:19	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH25-01

Lab Sample ID: 320-63958-18

Date Collected: 08/14/20 01:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.4

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.15	J B	0.21	0.029	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.090	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.52	0.21	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.086	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
4:2 FTS	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/26/20 11:34	08/28/20 23:15	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	81		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C5 PFPeA	82		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C2 PFHxA	82		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C4 PFHpA	84		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C4 PFOA	83		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C5 PFNA	86		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C2 PFDA	86		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C2 PFUnA	94		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C2 PFDoA	85		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C2 PFTeDA	92		25 - 150	08/26/20 11:34	08/28/20 23:15	1
18O2 PFHxS	82		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C4 PFOS	82		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C8 FOSA	74		25 - 150	08/26/20 11:34	08/28/20 23:15	1
d3-NMeFOSAA	85		25 - 150	08/26/20 11:34	08/28/20 23:15	1
d5-NEtFOSAA	98		25 - 150	08/26/20 11:34	08/28/20 23:15	1
M2-6:2 FTS	94		25 - 150	08/26/20 11:34	08/28/20 23:15	1
M2-8:2 FTS	91		25 - 150	08/26/20 11:34	08/28/20 23:15	1
M2-4:2 FTS	87		25 - 150	08/26/20 11:34	08/28/20 23:15	1
13C3 PFBS	77		25 - 150	08/26/20 11:34	08/28/20 23:15	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH25-01

Lab Sample ID: 320-63958-18

Date Collected: 08/14/20 01:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.6		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	92.4		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH25-02

Lab Sample ID: 320-63958-19

Date Collected: 08/14/20 01:57

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.5

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.12	J B	0.19	0.026	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.073	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.040	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.027	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.081	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.034	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.021	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.034	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.063	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorotridecanoic acid (PFTriA)	ND		0.19	0.048	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.19	0.051	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.024	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.019	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.029	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.19	0.033	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.47	0.19	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.019	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.037	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
Perfluorooctanesulfonamide (FOSA)	ND		0.19	0.077	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.37	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.35	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
4:2 FTS	ND		1.9	0.35	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
6:2 FTS	ND		1.9	0.14	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1
8:2 FTS	ND		1.9	0.24	ug/Kg	✱	08/26/20 11:34	08/28/20 23:24	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	59		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C5 PFPeA	62		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C2 PFHxA	60		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C4 PFHpA	60		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C4 PFOA	61		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C5 PFNA	66		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C2 PFDA	59		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C2 PFUnA	64		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C2 PFDoA	62		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C2 PFTeDA	66		25 - 150	08/26/20 11:34	08/28/20 23:24	1
18O2 PFHxS	58		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C4 PFOS	57		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C8 FOSA	59		25 - 150	08/26/20 11:34	08/28/20 23:24	1
d3-NMeFOSAA	60		25 - 150	08/26/20 11:34	08/28/20 23:24	1
d5-NEtFOSAA	66		25 - 150	08/26/20 11:34	08/28/20 23:24	1
M2-6:2 FTS	63		25 - 150	08/26/20 11:34	08/28/20 23:24	1
M2-8:2 FTS	66		25 - 150	08/26/20 11:34	08/28/20 23:24	1
M2-4:2 FTS	62		25 - 150	08/26/20 11:34	08/28/20 23:24	1
13C3 PFBS	55		25 - 150	08/26/20 11:34	08/28/20 23:24	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH25-02

Lab Sample ID: 320-63958-19

Date Collected: 08/14/20 01:57

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.5		0.1	0.1	%			08/26/20 10:23	1
Percent Solids	96.5		0.1	0.1	%			08/26/20 10:23	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH24-01

Lab Sample ID: 320-63958-20

Date Collected: 08/14/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 93.0

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.12	J B	0.20	0.029	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.078	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.030	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.088	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.037	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.037	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.068	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorohexanesulfonic acid (PFHxS)	0.063	J	0.20	0.032	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.51	0.20	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.040	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.084	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.40	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
4:2 FTS	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/26/20 11:34	08/28/20 23:34	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	53		25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C5 PFPeA	55		25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C2 PFHxA	59		25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C4 PFHpA	61		25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C4 PFOA	56		25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C5 PFNA	65		25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C2 PFDA	61		25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C2 PFUnA	68		25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C2 PFDoA	68		25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C2 PFTeDA	69		25 - 150				08/26/20 11:34	08/28/20 23:34	1
18O2 PFHxS	63		25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C4 PFOS	62		25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C8 FOSA	62		25 - 150				08/26/20 11:34	08/28/20 23:34	1
d3-NMeFOSAA	65		25 - 150				08/26/20 11:34	08/28/20 23:34	1
d5-NEtFOSAA	76		25 - 150				08/26/20 11:34	08/28/20 23:34	1
M2-6:2 FTS	136		25 - 150				08/26/20 11:34	08/28/20 23:34	1
M2-8:2 FTS	148		25 - 150				08/26/20 11:34	08/28/20 23:34	1
M2-4:2 FTS	183	*5	25 - 150				08/26/20 11:34	08/28/20 23:34	1
13C3 PFBS	60		25 - 150				08/26/20 11:34	08/28/20 23:34	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH24-01

Lab Sample ID: 320-63958-20

Date Collected: 08/14/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 93.0

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.0		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	93.0		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH24-02

Lab Sample ID: 320-63958-21

Date Collected: 08/14/20 03:40

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.4

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.11	J B	0.21	0.030	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.082	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.045	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.031	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.091	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.071	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.054	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.027	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.033	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.53	0.21	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.087	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
4:2 FTS	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1
8:2 FTS	ND		2.1	0.27	ug/Kg	☼	08/26/20 11:34	08/29/20 16:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	88		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C5 PFPeA	90		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C2 PFHxA	91		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C4 PFHpA	97		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C4 PFOA	97		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C5 PFNA	106		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C2 PFDA	96		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C2 PFUnA	96		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C2 PFDoA	92		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C2 PFTeDA	89		25 - 150	08/26/20 11:34	08/29/20 16:17	1
18O2 PFHxS	97		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C4 PFOS	96		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C8 FOSA	85		25 - 150	08/26/20 11:34	08/29/20 16:17	1
d3-NMeFOSAA	96		25 - 150	08/26/20 11:34	08/29/20 16:17	1
d5-NEtFOSAA	110		25 - 150	08/26/20 11:34	08/29/20 16:17	1
M2-6:2 FTS	135		25 - 150	08/26/20 11:34	08/29/20 16:17	1
M2-8:2 FTS	177	*5	25 - 150	08/26/20 11:34	08/29/20 16:17	1
M2-4:2 FTS	121		25 - 150	08/26/20 11:34	08/29/20 16:17	1
13C3 PFBS	90		25 - 150	08/26/20 11:34	08/29/20 16:17	1

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH24-02

Lab Sample ID: 320-63958-21

Date Collected: 08/14/20 03:40

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.6		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	94.4		0.1	0.1	%			08/27/20 11:26	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH23-01

Lab Sample ID: 320-63958-22

Date Collected: 08/14/20 23:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 97.1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.12	J B	0.18	0.026	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluoropentanoic acid (PFPeA)	ND		0.18	0.071	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorohexanoic acid (PFHxA)	ND		0.18	0.039	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluoroheptanoic acid (PFHpA)	ND		0.18	0.027	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorooctanoic acid (PFOA)	ND		0.18	0.079	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorononanoic acid (PFNA)	ND		0.18	0.033	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorodecanoic acid (PFDA)	ND		0.18	0.020	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluoroundecanoic acid (PFUnA)	ND		0.18	0.033	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorododecanoic acid (PFDoA)	ND		0.18	0.062	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorotridecanoic acid (PFTriA)	ND		0.18	0.047	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.18	0.050	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.18	0.023	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.18	0.018	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.18	0.029	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.18	0.032	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.46	0.18	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorononanesulfonic acid (PFNS)	ND		0.18	0.018	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.18	0.036	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
Perfluorooctanesulfonamide (FOSA)	ND		0.18	0.076	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.8	0.36	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.8	0.34	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
4:2 FTS	ND		1.8	0.34	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
6:2 FTS	ND		1.8	0.14	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1
8:2 FTS	ND		1.8	0.23	ug/Kg	☼	08/26/20 11:34	08/29/20 16:27	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	85		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C5 PFPeA	90		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C2 PFHxA	95		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C4 PFHpA	94		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C4 PFOA	98		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C5 PFNA	100		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C2 PFDA	100		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C2 PFUnA	102		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C2 PFDoA	97		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C2 PFTeDA	95		25 - 150	08/26/20 11:34	08/29/20 16:27	1
18O2 PFHxS	88		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C4 PFOS	88		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C8 FOSA	89		25 - 150	08/26/20 11:34	08/29/20 16:27	1
d3-NMeFOSAA	94		25 - 150	08/26/20 11:34	08/29/20 16:27	1
d5-NEtFOSAA	100		25 - 150	08/26/20 11:34	08/29/20 16:27	1
M2-6:2 FTS	112		25 - 150	08/26/20 11:34	08/29/20 16:27	1
M2-8:2 FTS	118		25 - 150	08/26/20 11:34	08/29/20 16:27	1
M2-4:2 FTS	91		25 - 150	08/26/20 11:34	08/29/20 16:27	1
13C3 PFBS	82		25 - 150	08/26/20 11:34	08/29/20 16:27	1

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH23-01

Lab Sample ID: 320-63958-22

Date Collected: 08/14/20 23:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 97.1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.9		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	97.1		0.1	0.1	%			08/27/20 11:26	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH23-02

Lab Sample ID: 320-63958-23

Date Collected: 08/15/20 00:10

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.7

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.14	J B	0.20	0.028	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.50	0.20	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/26/20 11:34	08/29/20 16:36	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	91		25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C5 PFPeA	95		25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C2 PFHxA	95		25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C4 PFHpA	101		25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C4 PFOA	96		25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C5 PFNA	104		25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C2 PFDA	99		25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C2 PFUnA	99		25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C2 PFDoA	96		25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C2 PFTeDA	99		25 - 150	08/26/20 11:34	08/29/20 16:36	1
18O2 PFHxS	92		25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C4 PFOS	89		25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C8 FOSA	87		25 - 150	08/26/20 11:34	08/29/20 16:36	1
d3-NMeFOSAA	90		25 - 150	08/26/20 11:34	08/29/20 16:36	1
d5-NEtFOSAA	99		25 - 150	08/26/20 11:34	08/29/20 16:36	1
M2-6:2 FTS	143		25 - 150	08/26/20 11:34	08/29/20 16:36	1
M2-8:2 FTS	147		25 - 150	08/26/20 11:34	08/29/20 16:36	1
M2-4:2 FTS	157	*5	25 - 150	08/26/20 11:34	08/29/20 16:36	1
13C3 PFBS	89		25 - 150	08/26/20 11:34	08/29/20 16:36	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH23-02

Lab Sample ID: 320-63958-23

Date Collected: 08/15/20 00:10

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.7

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.3		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	95.7		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH23-03

Lab Sample ID: 320-63958-24

Date Collected: 08/15/20 00:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.9

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J B	0.20	0.028	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.078	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.030	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.088	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.037	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.037	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.068	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.032	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.51	0.20	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.040	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.083	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.40	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
4:2 FTS	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/26/20 11:34	08/29/20 16:45	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	93		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C5 PFPeA	96		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C2 PFHxA	98		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C4 PFHpA	100		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C4 PFOA	100		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C5 PFNA	106		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C2 PFDA	98		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C2 PFUnA	100		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C2 PFDoA	101		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C2 PFTeDA	99		25 - 150	08/26/20 11:34	08/29/20 16:45	1
18O2 PFHxS	92		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C4 PFOS	94		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C8 FOSA	89		25 - 150	08/26/20 11:34	08/29/20 16:45	1
d3-NMeFOSAA	94		25 - 150	08/26/20 11:34	08/29/20 16:45	1
d5-NEtFOSAA	102		25 - 150	08/26/20 11:34	08/29/20 16:45	1
M2-6:2 FTS	112		25 - 150	08/26/20 11:34	08/29/20 16:45	1
M2-8:2 FTS	117		25 - 150	08/26/20 11:34	08/29/20 16:45	1
M2-4:2 FTS	105		25 - 150	08/26/20 11:34	08/29/20 16:45	1
13C3 PFBS	88		25 - 150	08/26/20 11:34	08/29/20 16:45	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH23-03

Lab Sample ID: 320-63958-24

Date Collected: 08/15/20 00:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.1		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	96.9		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH18-01

Lab Sample ID: 320-63958-25

Date Collected: 08/15/20 01:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.9

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.15	J B	0.21	0.029	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.089	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.52	0.21	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
4:2 FTS	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/26/20 11:34	08/29/20 00:39	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	58		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C5 PFPeA	59		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C2 PFHxA	57		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C4 PFHpA	60		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C4 PFOA	56		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C5 PFNA	60		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C2 PFDA	59		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C2 PFUnA	61		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C2 PFDoA	58		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C2 PFTeDA	64		25 - 150	08/26/20 11:34	08/29/20 00:39	1
18O2 PFHxS	56		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C4 PFOS	55		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C8 FOSA	50		25 - 150	08/26/20 11:34	08/29/20 00:39	1
d3-NMeFOSAA	54		25 - 150	08/26/20 11:34	08/29/20 00:39	1
d5-NEtFOSAA	58		25 - 150	08/26/20 11:34	08/29/20 00:39	1
M2-6:2 FTS	59		25 - 150	08/26/20 11:34	08/29/20 00:39	1
M2-8:2 FTS	57		25 - 150	08/26/20 11:34	08/29/20 00:39	1
M2-4:2 FTS	56		25 - 150	08/26/20 11:34	08/29/20 00:39	1
13C3 PFBS	55		25 - 150	08/26/20 11:34	08/29/20 00:39	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH18-01

Lab Sample ID: 320-63958-25

Date Collected: 08/15/20 01:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.1		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	92.9		0.1	0.1	%			08/27/20 11:26	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH18-02

Lab Sample ID: 320-63958-26

Date Collected: 08/15/20 02:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.9

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.11	J B	0.21	0.029	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.043	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.089	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorooctanesulfonic acid (PFOS)	0.46	J B	0.52	0.21	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
4:2 FTS	ND		2.1	0.38	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
6:2 FTS	ND		2.1	0.16	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1
8:2 FTS	ND		2.1	0.26	ug/Kg	✳	08/26/20 11:36	08/28/20 12:42	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C5 PFPeA	94		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C2 PFHxA	99		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C4 PFHpA	101		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C4 PFOA	93		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C5 PFNA	104		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C2 PFDA	95		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C2 PFUnA	99		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C2 PFDoA	96		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C2 PFTeDA	91		25 - 150	08/26/20 11:36	08/28/20 12:42	1
18O2 PFHxS	85		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C4 PFOS	86		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C8 FOSA	84		25 - 150	08/26/20 11:36	08/28/20 12:42	1
d3-NMeFOSAA	82		25 - 150	08/26/20 11:36	08/28/20 12:42	1
d5-NEtFOSAA	85		25 - 150	08/26/20 11:36	08/28/20 12:42	1
M2-6:2 FTS	98		25 - 150	08/26/20 11:36	08/28/20 12:42	1
M2-8:2 FTS	86		25 - 150	08/26/20 11:36	08/28/20 12:42	1
M2-4:2 FTS	92		25 - 150	08/26/20 11:36	08/28/20 12:42	1
13C3 PFBS	86		25 - 150	08/26/20 11:36	08/28/20 12:42	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH18-02

Lab Sample ID: 320-63958-26

Date Collected: 08/15/20 02:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.1		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	95.9		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH01-01

Lab Sample ID: 320-63958-27

Date Collected: 08/15/20 23:00

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.3

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.13	J B	0.20	0.029	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.079	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.030	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.088	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.037	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.037	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.068	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.026	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.032	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorooctanesulfonic acid (PFOS)	0.46	J B	0.51	0.20	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.040	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.084	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.40	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
4:2 FTS	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
8:2 FTS	ND		2.0	0.26	ug/Kg	☼	08/26/20 11:36	08/28/20 13:11	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	90		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C5 PFPeA	102		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C2 PFHxA	101		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C4 PFHpA	101		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C4 PFOA	99		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C5 PFNA	106		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C2 PFDA	101		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C2 PFUnA	107		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C2 PFDoA	100		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C2 PFTeDA	93		25 - 150				08/26/20 11:36	08/28/20 13:11	1
18O2 PFHxS	90		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C4 PFOS	84		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C8 FOSA	94		25 - 150				08/26/20 11:36	08/28/20 13:11	1
d3-NMeFOSAA	86		25 - 150				08/26/20 11:36	08/28/20 13:11	1
d5-NEtFOSAA	83		25 - 150				08/26/20 11:36	08/28/20 13:11	1
M2-6:2 FTS	117		25 - 150				08/26/20 11:36	08/28/20 13:11	1
M2-8:2 FTS	106		25 - 150				08/26/20 11:36	08/28/20 13:11	1
M2-4:2 FTS	135		25 - 150				08/26/20 11:36	08/28/20 13:11	1
13C3 PFBS	89		25 - 150				08/26/20 11:36	08/28/20 13:11	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH01-01

Lab Sample ID: 320-63958-27

Date Collected: 08/15/20 23:00

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.7		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	94.3		0.1	0.1	%			08/27/20 11:26	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH01-02

Lab Sample ID: 320-63958-28

Date Collected: 08/15/20 23:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.0

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.10	J B	0.21	0.029	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.079	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.043	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.089	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorooctanesulfonic acid (PFOS)	0.37	J B	0.52	0.21	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
4:2 FTS	ND		2.1	0.38	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
6:2 FTS	ND		2.1	0.15	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
8:2 FTS	ND		2.1	0.26	ug/Kg	✳	08/26/20 11:36	08/28/20 13:20	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	96		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C5 PFPeA	102		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C2 PFHxA	101		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C4 PFHpA	103		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C4 PFOA	100		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C5 PFNA	108		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C2 PFDA	96		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C2 PFUnA	97		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C2 PFDoA	91		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C2 PFTeDA	95		25 - 150				08/26/20 11:36	08/28/20 13:20	1
18O2 PFHxS	93		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C4 PFOS	93		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C8 FOSA	86		25 - 150				08/26/20 11:36	08/28/20 13:20	1
d3-NMeFOSAA	74		25 - 150				08/26/20 11:36	08/28/20 13:20	1
d5-NEtFOSAA	73		25 - 150				08/26/20 11:36	08/28/20 13:20	1
M2-6:2 FTS	108		25 - 150				08/26/20 11:36	08/28/20 13:20	1
M2-8:2 FTS	99		25 - 150				08/26/20 11:36	08/28/20 13:20	1
M2-4:2 FTS	120		25 - 150				08/26/20 11:36	08/28/20 13:20	1
13C3 PFBS	88		25 - 150				08/26/20 11:36	08/28/20 13:20	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH01-02

Lab Sample ID: 320-63958-28

Date Collected: 08/15/20 23:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.0

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.0		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	95.0		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH01-03

Lab Sample ID: 320-63958-29

Date Collected: 08/15/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.088	J B	0.21	0.029	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.090	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorooctanesulfonic acid (PFOS)	0.22	J B	0.52	0.21	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
4:2 FTS	ND		2.1	0.39	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
6:2 FTS	ND		2.1	0.16	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
8:2 FTS	ND		2.1	0.26	ug/Kg	✳	08/26/20 11:36	08/28/20 13:29	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	86		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C5 PFPeA	89		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C2 PFHxA	89		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C4 PFHpA	94		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C4 PFOA	91		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C5 PFNA	96		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C2 PFDA	88		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C2 PFUnA	92		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C2 PFDoA	87		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C2 PFTeDA	90		25 - 150				08/26/20 11:36	08/28/20 13:29	1
18O2 PFHxS	83		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C4 PFOS	82		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C8 FOSA	77		25 - 150				08/26/20 11:36	08/28/20 13:29	1
d3-NMeFOSAA	80		25 - 150				08/26/20 11:36	08/28/20 13:29	1
d5-NEtFOSAA	78		25 - 150				08/26/20 11:36	08/28/20 13:29	1
M2-6:2 FTS	84		25 - 150				08/26/20 11:36	08/28/20 13:29	1
M2-8:2 FTS	81		25 - 150				08/26/20 11:36	08/28/20 13:29	1
M2-4:2 FTS	86		25 - 150				08/26/20 11:36	08/28/20 13:29	1
13C3 PFBS	81		25 - 150				08/26/20 11:36	08/28/20 13:29	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH01-03

Lab Sample ID: 320-63958-29

Date Collected: 08/15/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.8		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	95.2		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH02-01

Lab Sample ID: 320-63958-30

Date Collected: 08/16/20 00:25

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.5

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.075	J B	0.20	0.027	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.075	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.041	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.028	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.084	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.035	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.021	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.035	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.065	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.050	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.053	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.024	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.030	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.034	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorooctanesulfonic acid (PFOS)	0.26	J B	0.49	0.20	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluoronanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.038	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.080	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.36	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
4:2 FTS	ND		2.0	0.36	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
8:2 FTS	ND		2.0	0.24	ug/Kg	☼	08/26/20 11:36	08/28/20 13:39	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	93		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C5 PFPeA	98		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C2 PFHxA	102		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C4 PFHpA	104		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C4 PFOA	99		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C5 PFNA	106		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C2 PFDA	101		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C2 PFUnA	101		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C2 PFDoA	88		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C2 PFTeDA	90		25 - 150				08/26/20 11:36	08/28/20 13:39	1
18O2 PFHxS	88		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C4 PFOS	85		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C8 FOSA	81		25 - 150				08/26/20 11:36	08/28/20 13:39	1
d3-NMeFOSAA	87		25 - 150				08/26/20 11:36	08/28/20 13:39	1
d5-NEtFOSAA	79		25 - 150				08/26/20 11:36	08/28/20 13:39	1
M2-6:2 FTS	110		25 - 150				08/26/20 11:36	08/28/20 13:39	1
M2-8:2 FTS	95		25 - 150				08/26/20 11:36	08/28/20 13:39	1
M2-4:2 FTS	101		25 - 150				08/26/20 11:36	08/28/20 13:39	1
13C3 PFBS	84		25 - 150				08/26/20 11:36	08/28/20 13:39	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH02-01

Lab Sample ID: 320-63958-30

Date Collected: 08/16/20 00:25

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.5		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	95.5		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH02-02

Lab Sample ID: 320-63958-31

Date Collected: 08/16/20 01:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 68.6

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.13	J B	0.29	0.040	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluoropentanoic acid (PFPeA)	ND		0.29	0.11	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorohexanoic acid (PFHxA)	ND		0.29	0.060	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluoroheptanoic acid (PFHpA)	ND		0.29	0.042	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorooctanoic acid (PFOA)	ND		0.29	0.12	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorononanoic acid (PFNA)	ND		0.29	0.052	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorodecanoic acid (PFDA)	ND		0.29	0.032	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluoroundecanoic acid (PFUnA)	ND		0.29	0.052	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorododecanoic acid (PFDoA)	ND		0.29	0.096	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorotridecanoic acid (PFTriA)	ND		0.29	0.073	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.29	0.078	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.29	0.036	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.29	0.029	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.29	0.045	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.29	0.050	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorooctanesulfonic acid (PFOS)	0.43	J B	0.72	0.29	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorononanesulfonic acid (PFNS)	ND		0.29	0.029	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.29	0.056	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Perfluorooctanesulfonamide (FOSA)	ND		0.29	0.12	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.9	0.56	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.9	0.53	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
4:2 FTS	ND		2.9	0.53	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
6:2 FTS	ND		2.9	0.22	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
8:2 FTS	ND		2.9	0.36	ug/Kg	✳	08/26/20 11:36	08/28/20 13:48	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	89		25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C5 PFPeA	92		25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C2 PFHxA	99		25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C4 PFHpA	100		25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C4 PFOA	95		25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C5 PFNA	107		25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C2 PFDA	100		25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C2 PFUnA	97		25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C2 PFDoA	90		25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C2 PFTeDA	87		25 - 150				08/26/20 11:36	08/28/20 13:48	1
18O2 PFHxS	97		25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C4 PFOS	91		25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C8 FOSA	82		25 - 150				08/26/20 11:36	08/28/20 13:48	1
d3-NMeFOSAA	81		25 - 150				08/26/20 11:36	08/28/20 13:48	1
d5-NEtFOSAA	71		25 - 150				08/26/20 11:36	08/28/20 13:48	1
M2-6:2 FTS	144		25 - 150				08/26/20 11:36	08/28/20 13:48	1
M2-8:2 FTS	135		25 - 150				08/26/20 11:36	08/28/20 13:48	1
M2-4:2 FTS	171	*5	25 - 150				08/26/20 11:36	08/28/20 13:48	1
13C3 PFBS	94		25 - 150				08/26/20 11:36	08/28/20 13:48	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH02-02

Lab Sample ID: 320-63958-31

Date Collected: 08/16/20 01:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 68.6

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	31.4		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	68.6		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH03-01

Lab Sample ID: 320-63958-32

Date Collected: 08/16/20 03:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.15	J B	0.20	0.028	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.076	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.041	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.085	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.035	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.035	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.066	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.050	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.053	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.030	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.034	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorooctanesulfonic acid (PFOS)	0.33	J B *	0.49	0.20	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.038	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.081	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.38	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.36	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
4:2 FTS	ND		2.0	0.36	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
6:2 FTS	ND		2.0	0.15	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
8:2 FTS	ND		2.0	0.25	ug/Kg	✳	08/30/20 23:11	09/03/20 03:00	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	64		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C5 PFPeA	66		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C2 PFHxA	71		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C4 PFHpA	70		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C4 PFOA	65		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C5 PFNA	71		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C2 PFDA	69		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C2 PFUnA	68		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C2 PFDoA	68		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C2 PFTeDA	65		25 - 150				08/30/20 23:11	09/03/20 03:00	1
18O2 PFHxS	66		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C4 PFOS	61		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C8 FOSA	62		25 - 150				08/30/20 23:11	09/03/20 03:00	1
d3-NMeFOSAA	65		25 - 150				08/30/20 23:11	09/03/20 03:00	1
d5-NEtFOSAA	58		25 - 150				08/30/20 23:11	09/03/20 03:00	1
M2-6:2 FTS	71		25 - 150				08/30/20 23:11	09/03/20 03:00	1
M2-8:2 FTS	63		25 - 150				08/30/20 23:11	09/03/20 03:00	1
M2-4:2 FTS	97		25 - 150				08/30/20 23:11	09/03/20 03:00	1
13C3 PFBS	64		25 - 150				08/30/20 23:11	09/03/20 03:00	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH03-01

Lab Sample ID: 320-63958-32

Date Collected: 08/16/20 03:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.9		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	96.1		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH03-02

Lab Sample ID: 320-63958-33

Date Collected: 08/16/20 04:15

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.8

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.090	J B	0.19	0.026	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.072	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.039	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.027	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.080	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.033	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.020	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.033	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.062	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorotridecanoic acid (PFTriA)	ND		0.19	0.047	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.19	0.050	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.023	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.029	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.19	0.033	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorooctanesulfonic acid (PFOS)	0.40	J B	0.47	0.19	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.036	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Perfluorooctanesulfonamide (FOSA)	ND		0.19	0.076	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.36	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.34	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
4:2 FTS	ND		1.9	0.34	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
6:2 FTS	ND		1.9	0.14	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
8:2 FTS	ND		1.9	0.23	ug/Kg	☼	08/26/20 11:36	08/28/20 15:46	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	81		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C5 PFPeA	84		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C2 PFHxA	89		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C4 PFHpA	89		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C4 PFOA	89		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C5 PFNA	97		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C2 PFDA	93		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C2 PFUnA	92		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C2 PFDoA	93		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C2 PFTeDA	89		25 - 150				08/26/20 11:36	08/28/20 15:46	1
18O2 PFHxS	83		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C4 PFOS	79		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C8 FOSA	77		25 - 150				08/26/20 11:36	08/28/20 15:46	1
d3-NMeFOSAA	76		25 - 150				08/26/20 11:36	08/28/20 15:46	1
d5-NEtFOSAA	74		25 - 150				08/26/20 11:36	08/28/20 15:46	1
M2-6:2 FTS	95		25 - 150				08/26/20 11:36	08/28/20 15:46	1
M2-8:2 FTS	98		25 - 150				08/26/20 11:36	08/28/20 15:46	1
M2-4:2 FTS	117		25 - 150				08/26/20 11:36	08/28/20 15:46	1
13C3 PFBS	81		25 - 150				08/26/20 11:36	08/28/20 15:46	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH03-02

Lab Sample ID: 320-63958-33

Date Collected: 08/16/20 04:15

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.8

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.2		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	94.8		0.1	0.1	%			08/27/20 11:26	1

Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-63958-2	BET20-TH30-01	80	83	86	89	83	100	89	96
320-63958-3	BET20-TH30-02	88	91	93	96	92	99	94	97
320-63958-4	BET20-TH30-03	66	69	70	72	65	75	73	75
320-63958-5	BET20-TH21-01	87	91	90	94	91	99	92	97
320-63958-5 MS	BET20-TH21-01	60	60	63	64	61	67	63	67
320-63958-5 MSD	BET20-TH21-01	77	80	79	82	77	86	79	87
320-63958-6	BET20-TH21-02	66	69	67	71	65	70	68	71
320-63958-7	BET20-TH17-02	67	67	69	70	66	72	69	70
320-63958-8	BET20-TH17-01	51	54	58	59	55	63	57	62
320-63958-9	BET20-TH17-03	44	45	48	49	47	53	51	53
320-63958-10	BET20-TH19-01	71	72	74	73	71	79	75	75
320-63958-11	BET20-TH19-02	72	73	72	77	72	83	77	80
320-63958-12	BET20-TH20-01	77	83	86	89	89	94	85	88
320-63958-13	BET20-TH20-02	94	97	96	104	99	107	103	103
320-63958-14	BET20-TH22-01	57	59	62	63	63	71	64	64
320-63958-15	BET20-TH22-02	53	55	53	56	56	59	56	58
320-63958-16	BET20-TH22-03	74	76	86	83	83	93	82	89
320-63958-18	BET20-TH25-01	81	82	82	84	83	86	86	94
320-63958-19	BET20-TH25-02	59	62	60	60	61	66	59	64
320-63958-20	BET20-TH24-01	53	55	59	61	56	65	61	68
320-63958-21	BET20-TH24-02	88	90	91	97	97	106	96	96
320-63958-22	BET20-TH23-01	85	90	95	94	98	100	100	102
320-63958-23	BET20-TH23-02	91	95	95	101	96	104	99	99
320-63958-24	BET20-TH23-03	93	96	98	100	100	106	98	100
320-63958-25	BET20-TH18-01	58	59	57	60	56	60	59	61
320-63958-26	BET20-TH18-02	92	94	99	101	93	104	95	99
320-63958-26 MS	BET20-TH18-02	89	98	97	98	98	103	100	106
320-63958-26 MSD	BET20-TH18-02	92	100	93	100	94	103	99	102
320-63958-27	BET20-TH01-01	90	102	101	101	99	106	101	107
320-63958-28	BET20-TH01-02	96	102	101	103	100	108	96	97
320-63958-29	BET20-TH01-03	86	89	89	94	91	96	88	92
320-63958-30	BET20-TH02-01	93	98	102	104	99	106	101	101
320-63958-31	BET20-TH02-02	89	92	99	100	95	107	100	97
320-63958-32	BET20-TH03-01	64	66	71	70	65	71	69	68
320-63958-33	BET20-TH03-02	81	84	89	89	89	97	93	92
LCS 320-406777/2-A	Lab Control Sample	53	56	53	56	56	59	56	57
LCS 320-406778/2-A	Lab Control Sample	89	92	88	97	94	98	92	92
LCS 320-406779/2-A	Lab Control Sample	94	97	97	101	101	100	99	111
LCS 320-408016/2-A	Lab Control Sample	75	80	83	82	82	84	77	78
MB 320-406777/1-A	Method Blank	76	80	77	81	85	81	78	81
MB 320-406778/1-A	Method Blank	70	73	74	79	73	76	73	73
MB 320-406779/1-A	Method Blank	86	92	93	96	94	95	90	100
MB 320-408016/1-A	Method Blank	74	82	84	83	81	86	86	81

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA (25-150)	PFTDA (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)	M262FOS (25-150)
320-63958-2	BET20-TH30-01	92	92	62	64	78	86	94	92
320-63958-3	BET20-TH30-02	92	98	90	92	84	87	89	105
320-63958-4	BET20-TH30-03	73	74	51	54	62	51	56	62

Eurofins TestAmerica, Sacramento

Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFD _o A (25-150)	PFTDA (25-150)	PFH _x S (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)	M262FTS (25-150)
320-63958-5	BET20-TH21-01	92	93	88	87	83	85	93	126
320-63958-5 MS	BET20-TH21-01	67	70	60	60	57	61	62	74
320-63958-5 MSD	BET20-TH21-01	78	83	75	74	71	66	76	83
320-63958-6	BET20-TH21-02	66	72	67	61	54	62	64	70
320-63958-7	BET20-TH17-02	71	71	65	63	64	66	67	84
320-63958-8	BET20-TH17-01	60	61	57	58	54	63	63	102
320-63958-9	BET20-TH17-03	54	55	49	51	47	55	58	81
320-63958-10	BET20-TH19-01	74	74	71	70	65	76	80	90
320-63958-11	BET20-TH19-02	78	77	76	74	68	71	75	81
320-63958-12	BET20-TH20-01	87	81	87	88	62	82	87	219 *5
320-63958-13	BET20-TH20-02	96	103	92	89	92	96	97	92
320-63958-14	BET20-TH22-01	58	57	68	66	51	59	59	144
320-63958-15	BET20-TH22-02	57	59	55	54	50	60	63	64
320-63958-16	BET20-TH22-03	81	77	84	93	69	78	79	203 *5
320-63958-18	BET20-TH25-01	85	92	82	82	74	85	98	94
320-63958-19	BET20-TH25-02	62	66	58	57	59	60	66	63
320-63958-20	BET20-TH24-01	68	69	63	62	62	65	76	136
320-63958-21	BET20-TH24-02	92	89	97	96	85	96	110	135
320-63958-22	BET20-TH23-01	97	95	88	88	89	94	100	112
320-63958-23	BET20-TH23-02	96	99	92	89	87	90	99	143
320-63958-24	BET20-TH23-03	101	99	92	94	89	94	102	112
320-63958-25	BET20-TH18-01	58	64	56	55	50	54	58	59
320-63958-26	BET20-TH18-02	96	91	85	86	84	82	85	98
320-63958-26 MS	BET20-TH18-02	95	101	91	87	84	81	79	91
320-63958-26 MSD	BET20-TH18-02	89	91	91	86	84	82	82	91
320-63958-27	BET20-TH01-01	100	93	90	84	94	86	83	117
320-63958-28	BET20-TH01-02	91	95	93	93	86	74	73	108
320-63958-29	BET20-TH01-03	87	90	83	82	77	80	78	84
320-63958-30	BET20-TH02-01	88	90	88	85	81	87	79	110
320-63958-31	BET20-TH02-02	90	87	97	91	82	81	71	144
320-63958-32	BET20-TH03-01	68	65	66	61	62	65	58	71
320-63958-33	BET20-TH03-02	93	89	83	79	77	76	74	95
LCS 320-406777/2-A	Lab Control Sample	55	56	60	55	48	54	53	72
LCS 320-406778/2-A	Lab Control Sample	89	89	94	89	80	90	95	122
LCS 320-406779/2-A	Lab Control Sample	108	91	107	102	87	87	97	119
LCS 320-408016/2-A	Lab Control Sample	79	77	84	77	70	46	47	99
MB 320-406777/1-A	Method Blank	76	80	85	81	71	71	71	119
MB 320-406778/1-A	Method Blank	68	68	75	72	61	66	69	100
MB 320-406779/1-A	Method Blank	91	98	96	91	80	82	84	110
MB 320-408016/1-A	Method Blank	79	75	86	79	74	57	60	110

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)		
		M282FTS (25-150)	M242FTS (25-150)	C3PFBS (25-150)
320-63958-2	BET20-TH30-01	94	104	62
320-63958-3	BET20-TH30-02	97	105	89
320-63958-4	BET20-TH30-03	64	61	51
320-63958-5	BET20-TH21-01	105	95	84
320-63958-5 MS	BET20-TH21-01	70	63	56
320-63958-5 MSD	BET20-TH21-01	79	80	73
320-63958-6	BET20-TH21-02	65	69	66

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Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Solid

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)		
		M282FTS (25-150)	M242FTS (25-150)	C3PFBS (25-150)
320-63958-7	BET20-TH17-02	75	81	64
320-63958-8	BET20-TH17-01	126	104	59
320-63958-9	BET20-TH17-03	106	83	49
320-63958-10	BET20-TH19-01	96	86	66
320-63958-11	BET20-TH19-02	78	74	69
320-63958-12	BET20-TH20-01	246 *5	176 *5	85
320-63958-13	BET20-TH20-02	97	97	84
320-63958-14	BET20-TH22-01	158 *5	128	65
320-63958-15	BET20-TH22-02	67	71	54
320-63958-16	BET20-TH22-03	231 *5	179 *5	81
320-63958-18	BET20-TH25-01	91	87	77
320-63958-19	BET20-TH25-02	66	62	55
320-63958-20	BET20-TH24-01	148	183 *5	60
320-63958-21	BET20-TH24-02	177 *5	121	90
320-63958-22	BET20-TH23-01	118	91	82
320-63958-23	BET20-TH23-02	147	157 *5	89
320-63958-24	BET20-TH23-03	117	105	88
320-63958-25	BET20-TH18-01	57	56	55
320-63958-26	BET20-TH18-02	86	92	86
320-63958-26 MS	BET20-TH18-02	79	86	88
320-63958-26 MSD	BET20-TH18-02	82	86	83
320-63958-27	BET20-TH01-01	106	135	89
320-63958-28	BET20-TH01-02	99	120	88
320-63958-29	BET20-TH01-03	81	86	81
320-63958-30	BET20-TH02-01	95	101	84
320-63958-31	BET20-TH02-02	135	171 *5	94
320-63958-32	BET20-TH03-01	63	97	64
320-63958-33	BET20-TH03-02	98	117	81
LCS 320-406777/2-A	Lab Control Sample	61	56	58
LCS 320-406778/2-A	Lab Control Sample	98	101	91
LCS 320-406779/2-A	Lab Control Sample	99	94	99
LCS 320-408016/2-A	Lab Control Sample	65	74	83
MB 320-406777/1-A	Method Blank	86	83	79
MB 320-406778/1-A	Method Blank	79	79	74
MB 320-406779/1-A	Method Blank	85	79	94
MB 320-408016/1-A	Method Blank	71	73	80

Surrogate Legend

- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- PFHxA = 13C2 PFHxA
- C4PFHA = 13C4 PFHpA
- PFOA = 13C4 PFOA
- PFNA = 13C5 PFNA
- PFDA = 13C2 PFDA
- PFUnA = 13C2 PFUnA
- PFDaA = 13C2 PFDaA
- PFTDA = 13C2 PFTeDA
- PFHxS = 18O2 PFHxS
- PFOS = 13C4 PFOS

Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

PFOSA = 13C8 FOSA
 d3NMFOS = d3-NMeFOSAA
 d5NEFOS = d5-NEtFOSAA
 M262FTS = M2-6:2 FTS
 M282FTS = M2-8:2 FTS
 M242FTS = M2-4:2 FTS
 C3PFBS = 13C3 PFBS

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-63958-1	BET20-WA-RB02	79	86	80	82	82	89	96	91
320-63958-17	BET20-WA-RB03	83	91	97	102	99	112	101	103
LCS 320-406783/2-A	Lab Control Sample	85	84	87	82	80	90	90	93
LCSD 320-406783/3-A	Lab Control Sample Dup	81	86	87	88	79	91	90	88
MB 320-406783/1-A	Method Blank	86	94	87	96	91	96	105	96

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (25-150)	PFTDA (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)	M262FTS (25-150)
320-63958-1	BET20-WA-RB02	85	78	90	90	79	79	83	99
320-63958-17	BET20-WA-RB03	88	95	99	97	88	87	93	111
LCS 320-406783/2-A	Lab Control Sample	86	76	92	90	79	85	86	88
LCSD 320-406783/3-A	Lab Control Sample Dup	88	76	86	90	78	84	85	87
MB 320-406783/1-A	Method Blank	81	82	95	94	85	90	96	94

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M282FTS (25-150)	M242FTS (25-150)	C3PFBS (25-150)
320-63958-1	BET20-WA-RB02	112	77	84
320-63958-17	BET20-WA-RB03	128	103	94
LCS 320-406783/2-A	Lab Control Sample	98	72	88
LCSD 320-406783/3-A	Lab Control Sample Dup	94	71	86
MB 320-406783/1-A	Method Blank	108	74	90

Surrogate Legend

PFBA = 13C4 PFBA
 PFPeA = 13C5 PFPeA
 PFHxA = 13C2 PFHxA
 C4PFHA = 13C4 PFHpA
 PFOA = 13C4 PFOA
 PFNA = 13C5 PFNA
 PFDA = 13C2 PFDA
 PFUnA = 13C2 PFUnA
 PFDaA = 13C2 PFDaA
 PFTDA = 13C2 PFTeDA
 PFHxS = 18O2 PFHxS
 PFOS = 13C4 PFOS
 PFOSA = 13C8 FOSA
 d3NMFOS = d3-NMeFOSAA
 d5NEFOS = d5-NEtFOSAA
 M262FTS = M2-6:2 FTS
 M282FTS = M2-8:2 FTS
 M242FTS = M2-4:2 FTS
 C3PFBS = 13C3 PFBS

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-406777/1-A
Matrix: Solid
Analysis Batch: 407565

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 406777

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	0.178	J	0.20	0.028	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.50	0.20	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
4:2 FTS	ND		2.0	0.37	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
6:2 FTS	ND		2.0	0.15	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
8:2 FTS	ND		2.0	0.25	ug/Kg		08/26/20 11:31	08/28/20 14:50	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	76		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C5 PFPeA	80		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C2 PFHxA	77		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C4 PFHpA	81		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C4 PFOA	85		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C5 PFNA	81		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C2 PFDA	78		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C2 PFUnA	81		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C2 PFDoA	76		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C2 PFTeDA	80		25 - 150	08/26/20 11:31	08/28/20 14:50	1
18O2 PFHxS	85		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C4 PFOS	81		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C8 FOSA	71		25 - 150	08/26/20 11:31	08/28/20 14:50	1
d3-NMeFOSAA	71		25 - 150	08/26/20 11:31	08/28/20 14:50	1
d5-NEtFOSAA	71		25 - 150	08/26/20 11:31	08/28/20 14:50	1
M2-6:2 FTS	119		25 - 150	08/26/20 11:31	08/28/20 14:50	1
M2-8:2 FTS	86		25 - 150	08/26/20 11:31	08/28/20 14:50	1
M2-4:2 FTS	83		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C3 PFBS	79		25 - 150	08/26/20 11:31	08/28/20 14:50	1

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-406777/2-A
Matrix: Solid
Analysis Batch: 407565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406777

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	2.00	2.41		ug/Kg		121	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	1.85		ug/Kg		93	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	1.97		ug/Kg		99	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	2.09		ug/Kg		105	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	1.91		ug/Kg		96	72 - 132
Perfluorononanoic acid (PFNA)	2.00	1.80		ug/Kg		90	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.17		ug/Kg		108	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	2.05		ug/Kg		102	66 - 126
Perfluorododecanoic acid (PFDoA)	2.00	2.05		ug/Kg		102	71 - 131
Perfluorotridecanoic acid (PFTriA)	2.00	2.11		ug/Kg		106	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	2.00		ug/Kg		100	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.77	1.81		ug/Kg		103	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.82		ug/Kg		97	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.58		ug/Kg		87	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	2.08		ug/Kg		109	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	2.07		ug/Kg		112	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	2.03		ug/Kg		106	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.93		ug/Kg		100	71 - 131
Perfluorooctanesulfonamide (FOSA)	2.00	2.33		ug/Kg		117	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.96	J	ug/Kg		98	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.89	J	ug/Kg		95	72 - 132
4:2 FTS	1.87	1.81	J	ug/Kg		97	68 - 143
6:2 FTS	1.90	1.90	J	ug/Kg		100	73 - 139
8:2 FTS	1.92	1.89	J	ug/Kg		99	75 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	53		25 - 150
13C5 PFPeA	56		25 - 150
13C2 PFHxA	53		25 - 150
13C4 PFHpA	56		25 - 150
13C4 PFOA	56		25 - 150
13C5 PFNA	59		25 - 150
13C2 PFDA	56		25 - 150
13C2 PFUnA	57		25 - 150
13C2 PFDoA	55		25 - 150
13C2 PFTeDA	56		25 - 150
18O2 PFHxS	60		25 - 150
13C4 PFOS	55		25 - 150

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-406777/2-A
Matrix: Solid
Analysis Batch: 407565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406777

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C8 FOSA	48		25 - 150
d3-NMeFOSAA	54		25 - 150
d5-NEtFOSAA	53		25 - 150
M2-6:2 FTS	72		25 - 150
M2-8:2 FTS	61		25 - 150
M2-4:2 FTS	56		25 - 150
13C3 PFBS	58		25 - 150

Lab Sample ID: MB 320-406778/1-A
Matrix: Solid
Analysis Batch: 407688

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 406778

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	0.174	J	0.20	0.028	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.50	0.20	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
4:2 FTS	ND		2.0	0.37	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
6:2 FTS	ND		2.0	0.15	ug/Kg		08/26/20 11:34	08/28/20 20:55	1
8:2 FTS	ND		2.0	0.25	ug/Kg		08/26/20 11:34	08/28/20 20:55	1

Isotope Dilution	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	70		25 - 150	08/26/20 11:34	08/28/20 20:55	1
13C5 PFPeA	73		25 - 150	08/26/20 11:34	08/28/20 20:55	1
13C2 PFHxA	74		25 - 150	08/26/20 11:34	08/28/20 20:55	1
13C4 PFHpA	79		25 - 150	08/26/20 11:34	08/28/20 20:55	1
13C4 PFOA	73		25 - 150	08/26/20 11:34	08/28/20 20:55	1
13C5 PFNA	76		25 - 150	08/26/20 11:34	08/28/20 20:55	1
13C2 PFDA	73		25 - 150	08/26/20 11:34	08/28/20 20:55	1

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-406778/1-A
Matrix: Solid
Analysis Batch: 407688

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 406778

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C2 PFluA	73		25 - 150	08/26/20 11:34	08/28/20 20:55	1
13C2 PFDaA	68		25 - 150	08/26/20 11:34	08/28/20 20:55	1
13C2 PFTeDA	68		25 - 150	08/26/20 11:34	08/28/20 20:55	1
18O2 PFHxS	75		25 - 150	08/26/20 11:34	08/28/20 20:55	1
13C4 PFOS	72		25 - 150	08/26/20 11:34	08/28/20 20:55	1
13C8 FOSA	61		25 - 150	08/26/20 11:34	08/28/20 20:55	1
d3-NMeFOSAA	66		25 - 150	08/26/20 11:34	08/28/20 20:55	1
d5-NEtFOSAA	69		25 - 150	08/26/20 11:34	08/28/20 20:55	1
M2-6:2 FTS	100		25 - 150	08/26/20 11:34	08/28/20 20:55	1
M2-8:2 FTS	79		25 - 150	08/26/20 11:34	08/28/20 20:55	1
M2-4:2 FTS	79		25 - 150	08/26/20 11:34	08/28/20 20:55	1
13C3 PFBS	74		25 - 150	08/26/20 11:34	08/28/20 20:55	1

Lab Sample ID: LCS 320-406778/2-A
Matrix: Solid
Analysis Batch: 407688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406778

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoropentanoic acid (PFPeA)	2.00	1.91		ug/Kg		95	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	2.09		ug/Kg		104	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	2.01		ug/Kg		101	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	1.92		ug/Kg		96	72 - 132
Perfluorononanoic acid (PFNA)	2.00	1.96		ug/Kg		98	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.10		ug/Kg		105	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	2.02		ug/Kg		101	66 - 126
Perfluorododecanoic acid (PFDoA)	2.00	2.03		ug/Kg		102	71 - 131
Perfluorotridecanoic acid (PFTriA)	2.00	2.15		ug/Kg		108	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	1.92		ug/Kg		96	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.77	1.88		ug/Kg		106	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	2.02		ug/Kg		108	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.73		ug/Kg		95	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	2.10		ug/Kg		110	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	1.91		ug/Kg		103	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	1.90		ug/Kg		99	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.92		ug/Kg		100	71 - 131
Perfluorooctanesulfonamide (FOSA)	2.00	2.37		ug/Kg		119	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.85	J	ug/Kg		93	72 - 132

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-406778/2-A
Matrix: Solid
Analysis Batch: 407688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406778

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-ethylperfluorooctanesulfonamide doacetic acid (NETFOSAA)	2.00	1.88	J	ug/Kg		94	72 - 132
4:2 FTS	1.87	1.82	J	ug/Kg		97	68 - 143
6:2 FTS	1.90	1.84	J	ug/Kg		97	73 - 139
8:2 FTS	1.92	1.90	J	ug/Kg		99	75 - 135

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	89		25 - 150
13C5 PFPeA	92		25 - 150
13C2 PFHxA	88		25 - 150
13C4 PFHpA	97		25 - 150
13C4 PFOA	94		25 - 150
13C5 PFNA	98		25 - 150
13C2 PFDA	92		25 - 150
13C2 PFUnA	92		25 - 150
13C2 PFDoA	89		25 - 150
13C2 PFTeDA	89		25 - 150
18O2 PFHxS	94		25 - 150
13C4 PFOS	89		25 - 150
13C8 FOSA	80		25 - 150
d3-NMeFOSAA	90		25 - 150
d5-NETFOSAA	95		25 - 150
M2-6:2 FTS	122		25 - 150
M2-8:2 FTS	98		25 - 150
M2-4:2 FTS	101		25 - 150
13C3 PFBS	91		25 - 150

Lab Sample ID: 320-63958-5 MS
Matrix: Solid
Analysis Batch: 407688

Client Sample ID: BET20-TH21-01
Prep Type: Total/NA
Prep Batch: 406778

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	0.17	J B	1.97	2.16		ug/Kg	⊛	101	76 - 136
Perfluoropentanoic acid (PFPeA)	ND		1.97	1.83		ug/Kg	⊛	93	69 - 129
Perfluorohexanoic acid (PFHxA)	ND		1.97	1.91		ug/Kg	⊛	97	71 - 131
Perfluoroheptanoic acid (PFHpA)	ND		1.97	1.95		ug/Kg	⊛	99	71 - 131
Perfluorooctanoic acid (PFOA)	ND		1.97	1.89		ug/Kg	⊛	96	72 - 132
Perfluorononanoic acid (PFNA)	ND		1.97	1.82		ug/Kg	⊛	93	73 - 133
Perfluorodecanoic acid (PFDA)	ND		1.97	2.09		ug/Kg	⊛	106	72 - 132
Perfluoroundecanoic acid (PFUnA)	ND		1.97	2.03		ug/Kg	⊛	103	66 - 126
Perfluorododecanoic acid (PFDoA)	ND		1.97	2.01		ug/Kg	⊛	102	71 - 131
Perfluorotridecanoic acid (PFTriA)	ND		1.97	2.12		ug/Kg	⊛	108	71 - 131
Perfluorotetradecanoic acid (PFTeA)	ND		1.97	1.94		ug/Kg	⊛	99	67 - 127
Perfluorobutanesulfonic acid (PFBS)	ND		1.74	1.82		ug/Kg	⊛	105	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	ND		1.84	1.93		ug/Kg	⊛	105	66 - 126

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-63958-5 MS
Matrix: Solid
Analysis Batch: 407688

Client Sample ID: BET20-TH21-01
Prep Type: Total/NA
Prep Batch: 406778

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanesulfonic acid (PFHxS)	ND		1.79	1.60		ug/Kg	☼	90	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.87	1.91		ug/Kg	☼	102	76 - 136
Perfluorooctanesulfonic acid (PFOS)	ND		1.83	1.84		ug/Kg	☼	101	68 - 141
Perfluorononanesulfonic acid (PFNS)	ND		1.89	1.83		ug/Kg	☼	97	72 - 132
Perfluorodecanesulfonic acid (PFDS)	ND		1.90	1.82		ug/Kg	☼	96	71 - 131
Perfluorooctanesulfonamide (FOSA)	ND		1.97	2.32		ug/Kg	☼	118	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.97	1.98	J	ug/Kg	☼	101	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.97	1.95	J	ug/Kg	☼	99	72 - 132
4:2 FTS	ND		1.84	1.78	J	ug/Kg	☼	97	68 - 143
6:2 FTS	ND		1.86	1.61	J	ug/Kg	☼	86	73 - 139
8:2 FTS	ND		1.88	2.01		ug/Kg	☼	107	75 - 135
MS MS									
Isotope Dilution	%Recovery	Qualifier	Limits						
13C4 PFBA	60		25 - 150						
13C5 PFPeA	60		25 - 150						
13C2 PFHxA	63		25 - 150						
13C4 PFHpA	64		25 - 150						
13C4 PFOA	61		25 - 150						
13C5 PFNA	67		25 - 150						
13C2 PFDA	63		25 - 150						
13C2 PFUnA	67		25 - 150						
13C2 PFDoA	67		25 - 150						
13C2 PFTeDA	70		25 - 150						
18O2 PFHxS	60		25 - 150						
13C4 PFOS	60		25 - 150						
13C8 FOSA	57		25 - 150						
d3-NMeFOSAA	61		25 - 150						
d5-NEtFOSAA	62		25 - 150						
M2-6:2 FTS	74		25 - 150						
M2-8:2 FTS	70		25 - 150						
M2-4:2 FTS	63		25 - 150						
13C3 PFBS	56		25 - 150						

Lab Sample ID: 320-63958-5 MSD
Matrix: Solid
Analysis Batch: 407688

Client Sample ID: BET20-TH21-01
Prep Type: Total/NA
Prep Batch: 406778

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Perfluorobutanoic acid (PFBA)	0.17	J B	2.12	2.33		ug/Kg	☼	102	76 - 136	8	30
Perfluoropentanoic acid (PFPeA)	ND		2.12	1.94		ug/Kg	☼	92	69 - 129	6	30
Perfluorohexanoic acid (PFHxA)	ND		2.12	2.18		ug/Kg	☼	103	71 - 131	14	30
Perfluoroheptanoic acid (PFHpA)	ND		2.12	2.11		ug/Kg	☼	99	71 - 131	8	30
Perfluorooctanoic acid (PFOA)	ND		2.12	1.99		ug/Kg	☼	94	72 - 132	6	30

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-63958-5 MSD

Matrix: Solid

Analysis Batch: 407688

Client Sample ID: BET20-TH21-01

Prep Type: Total/NA

Prep Batch: 406778

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Perfluorononanoic acid (PFNA)	ND		2.12	1.96		ug/Kg	⊛	92	73 - 133	7	30
Perfluorodecanoic acid (PFDA)	ND		2.12	2.26		ug/Kg	⊛	106	72 - 132	8	30
Perfluoroundecanoic acid (PFUnA)	ND		2.12	2.15		ug/Kg	⊛	101	66 - 126	6	30
Perfluorododecanoic acid (PFDoA)	ND		2.12	2.08		ug/Kg	⊛	98	71 - 131	4	30
Perfluorotridecanoic acid (PFTriA)	ND		2.12	2.35		ug/Kg	⊛	111	71 - 131	10	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.12	2.08		ug/Kg	⊛	98	67 - 127	7	30
Perfluorobutanesulfonic acid (PFBS)	ND		1.88	1.87		ug/Kg	⊛	100	69 - 129	3	30
Perfluoropentanesulfonic acid (PFPeS)	ND		1.99	2.07		ug/Kg	⊛	104	66 - 126	7	30
Perfluorohexanesulfonic acid (PFHxS)	ND		1.93	1.71		ug/Kg	⊛	88	62 - 122	6	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.02	2.07		ug/Kg	⊛	103	76 - 136	8	30
Perfluorooctanesulfonic acid (PFOS)	ND		1.97	1.95		ug/Kg	⊛	99	68 - 141	6	30
Perfluorononanesulfonic acid (PFNS)	ND		2.04	2.00		ug/Kg	⊛	98	72 - 132	9	30
Perfluorodecanesulfonic acid (PFDS)	ND		2.05	2.00		ug/Kg	⊛	98	71 - 131	9	30
Perfluorooctanesulfonamide (FOSA)	ND		2.12	2.49		ug/Kg	⊛	118	77 - 137	7	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.12	2.19		ug/Kg	⊛	103	72 - 132	10	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.12	2.07	J	ug/Kg	⊛	98	72 - 132	6	30
4:2 FTS	ND		1.98	1.91	J	ug/Kg	⊛	96	68 - 143	7	30
6:2 FTS	ND		2.01	2.00	J	ug/Kg	⊛	100	73 - 139	22	30
8:2 FTS	ND		2.03	2.12		ug/Kg	⊛	104	75 - 135	5	30

Isotope Dilution	MSD	MSD	Limits
	%Recovery	Qualifier	
13C4 PFBA	77		25 - 150
13C5 PFPeA	80		25 - 150
13C2 PFHxA	79		25 - 150
13C4 PFHpA	82		25 - 150
13C4 PFOA	77		25 - 150
13C5 PFNA	86		25 - 150
13C2 PFDA	79		25 - 150
13C2 PFUnA	87		25 - 150
13C2 PFDoA	78		25 - 150
13C2 PFTeDA	83		25 - 150
18O2 PFHxS	75		25 - 150
13C4 PFOS	74		25 - 150
13C8 FOSA	71		25 - 150
d3-NMeFOSAA	66		25 - 150
d5-NEtFOSAA	76		25 - 150
M2-6:2 FTS	83		25 - 150
M2-8:2 FTS	79		25 - 150

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-63958-5 MSD
Matrix: Solid
Analysis Batch: 407688

Client Sample ID: BET20-TH21-01
Prep Type: Total/NA
Prep Batch: 406778

Isotope Dilution	MSD		Limits
	%Recovery	Qualifier	
M2-4:2 FTS	80		25 - 150
13C3 PFBS	73		25 - 150

Lab Sample ID: MB 320-406779/1-A
Matrix: Solid
Analysis Batch: 407543

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 406779

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	0.0896	J	0.20	0.028	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorooctanesulfonic acid (PFOS)	0.636		0.50	0.20	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
4:2 FTS	ND		2.0	0.37	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
6:2 FTS	ND		2.0	0.15	ug/Kg		08/26/20 11:36	08/28/20 12:24	1
8:2 FTS	ND		2.0	0.25	ug/Kg		08/26/20 11:36	08/28/20 12:24	1

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	86		25 - 150	08/26/20 11:36	08/28/20 12:24	1
13C5 PFPeA	92		25 - 150	08/26/20 11:36	08/28/20 12:24	1
13C2 PFHxA	93		25 - 150	08/26/20 11:36	08/28/20 12:24	1
13C4 PFHpA	96		25 - 150	08/26/20 11:36	08/28/20 12:24	1
13C4 PFOA	94		25 - 150	08/26/20 11:36	08/28/20 12:24	1
13C5 PFNA	95		25 - 150	08/26/20 11:36	08/28/20 12:24	1
13C2 PFDA	90		25 - 150	08/26/20 11:36	08/28/20 12:24	1
13C2 PFUnA	100		25 - 150	08/26/20 11:36	08/28/20 12:24	1
13C2 PFDoA	91		25 - 150	08/26/20 11:36	08/28/20 12:24	1
13C2 PFTeDA	98		25 - 150	08/26/20 11:36	08/28/20 12:24	1
18O2 PFHxS	96		25 - 150	08/26/20 11:36	08/28/20 12:24	1
13C4 PFOS	91		25 - 150	08/26/20 11:36	08/28/20 12:24	1

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-406779/1-A
Matrix: Solid
Analysis Batch: 407543

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 406779

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C8 FOSA	80		25 - 150	08/26/20 11:36	08/28/20 12:24	1
d3-NMeFOSAA	82		25 - 150	08/26/20 11:36	08/28/20 12:24	1
d5-NEtFOSAA	84		25 - 150	08/26/20 11:36	08/28/20 12:24	1
M2-6:2 FTS	110		25 - 150	08/26/20 11:36	08/28/20 12:24	1
M2-8:2 FTS	85		25 - 150	08/26/20 11:36	08/28/20 12:24	1
M2-4:2 FTS	79		25 - 150	08/26/20 11:36	08/28/20 12:24	1
13C3 PFBS	94		25 - 150	08/26/20 11:36	08/28/20 12:24	1

Lab Sample ID: LCS 320-406779/2-A
Matrix: Solid
Analysis Batch: 407817

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406779

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Perfluorobutanoic acid (PFBA)	2.00	2.07		ug/Kg		103	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	2.01		ug/Kg		100	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	2.11		ug/Kg		105	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	2.20		ug/Kg		110	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	2.04		ug/Kg		102	72 - 132
Perfluorononanoic acid (PFNA)	2.00	2.28		ug/Kg		114	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.26		ug/Kg		113	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	1.90		ug/Kg		95	66 - 126
Perfluorododecanoic acid (PFDoA)	2.00	1.91		ug/Kg		96	71 - 131
Perfluorotridecanoic acid (PFTriA)	2.00	1.73		ug/Kg		86	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	2.18		ug/Kg		109	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.77	1.89		ug/Kg		107	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	2.12		ug/Kg		113	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.73		ug/Kg		95	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	2.13		ug/Kg		112	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	2.51		ug/Kg		135	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	1.93		ug/Kg		101	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.91		ug/Kg		99	71 - 131
Perfluorooctanesulfonamide (FOSA)	2.00	2.27		ug/Kg		113	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.01		ug/Kg		100	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.96	J	ug/Kg		98	72 - 132
4:2 FTS	1.87	1.85	J	ug/Kg		99	68 - 143
6:2 FTS	1.90	1.75	J	ug/Kg		92	73 - 139
8:2 FTS	1.92	1.96	J	ug/Kg		102	75 - 135

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	94		25 - 150
13C5 PFPeA	97		25 - 150
13C2 PFHxA	97		25 - 150
13C4 PFHpA	101		25 - 150
13C4 PFOA	101		25 - 150
13C5 PFNA	100		25 - 150
13C2 PFDA	99		25 - 150
13C2 PFUnA	111		25 - 150
13C2 PFDoA	108		25 - 150
13C2 PFTeDA	91		25 - 150
18O2 PFHxS	107		25 - 150
13C4 PFOS	102		25 - 150
13C8 FOSA	87		25 - 150
d3-NMeFOSAA	87		25 - 150
d5-NEtFOSAA	97		25 - 150
M2-6:2 FTS	119		25 - 150
M2-8:2 FTS	99		25 - 150
M2-4:2 FTS	94		25 - 150
13C3 PFBS	99		25 - 150

Lab Sample ID: 320-63958-26 MS
Matrix: Solid
Analysis Batch: 407543

Client Sample ID: BET20-TH18-02
Prep Type: Total/NA
Prep Batch: 406779

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	Limits
				Result	Qualifier				
Perfluorobutanoic acid (PFBA)	0.11	J B	2.01	2.39		ug/Kg	✱	113	76 - 136
Perfluoropentanoic acid (PFPeA)	ND		2.01	1.98		ug/Kg	✱	99	69 - 129
Perfluorohexanoic acid (PFHxA)	ND		2.01	2.16		ug/Kg	✱	108	71 - 131
Perfluoroheptanoic acid (PFHpA)	ND		2.01	2.08		ug/Kg	✱	103	71 - 131
Perfluorooctanoic acid (PFOA)	ND		2.01	1.94		ug/Kg	✱	97	72 - 132
Perfluorononanoic acid (PFNA)	ND		2.01	1.84		ug/Kg	✱	92	73 - 133
Perfluorodecanoic acid (PFDA)	ND		2.01	2.28		ug/Kg	✱	114	72 - 132
Perfluoroundecanoic acid (PFUnA)	ND		2.01	1.88		ug/Kg	✱	94	66 - 126
Perfluorododecanoic acid (PFDoA)	ND		2.01	1.90		ug/Kg	✱	95	71 - 131
Perfluorotridecanoic acid (PFTriA)	ND		2.01	2.19		ug/Kg	✱	109	71 - 131
Perfluorotetradecanoic acid (PFTeA)	ND		2.01	1.97		ug/Kg	✱	98	67 - 127
Perfluorobutanesulfonic acid (PFBS)	ND		1.78	1.94		ug/Kg	✱	109	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	ND		1.88	1.98		ug/Kg	✱	105	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	ND		1.83	1.78		ug/Kg	✱	98	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.91	2.10		ug/Kg	✱	110	76 - 136
Perfluorooctanesulfonic acid (PFOS)	0.46	J B	1.86	2.35		ug/Kg	✱	101	68 - 141
Perfluorononanesulfonic acid (PFNS)	ND		1.93	2.04		ug/Kg	✱	106	72 - 132
Perfluorodecanesulfonic acid (PFDS)	ND		1.94	1.92		ug/Kg	✱	99	71 - 131

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-63958-26 MS
Matrix: Solid
Analysis Batch: 407543

Client Sample ID: BET20-TH18-02
Prep Type: Total/NA
Prep Batch: 406779

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonamide (FOSA)	ND		2.01	2.26		ug/Kg	⊛	112	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.01	1.96	J	ug/Kg	⊛	97	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.01	2.03		ug/Kg	⊛	101	72 - 132
4:2 FTS	ND		1.88	1.94	J	ug/Kg	⊛	104	68 - 143
6:2 FTS	ND		1.90	1.78	J	ug/Kg	⊛	93	73 - 139
8:2 FTS	ND		1.92	2.06		ug/Kg	⊛	107	75 - 135
MS MS									
Isotope Dilution	%Recovery	Qualifier	Limits						
13C4 PFBA	89		25 - 150						
13C5 PFPeA	98		25 - 150						
13C2 PFHxA	97		25 - 150						
13C4 PFHpA	98		25 - 150						
13C4 PFOA	98		25 - 150						
13C5 PFNA	103		25 - 150						
13C2 PFDA	100		25 - 150						
13C2 PFUnA	106		25 - 150						
13C2 PFDoA	95		25 - 150						
13C2 PFTeDA	101		25 - 150						
18O2 PFHxS	91		25 - 150						
13C4 PFOS	87		25 - 150						
13C8 FOSA	84		25 - 150						
d3-NMeFOSAA	81		25 - 150						
d5-NEtFOSAA	79		25 - 150						
M2-6:2 FTS	91		25 - 150						
M2-8:2 FTS	79		25 - 150						
M2-4:2 FTS	86		25 - 150						
13C3 PFBS	88		25 - 150						

Lab Sample ID: 320-63958-26 MSD
Matrix: Solid
Analysis Batch: 407543

Client Sample ID: BET20-TH18-02
Prep Type: Total/NA
Prep Batch: 406779

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	0.11	J B	1.97	2.07		ug/Kg	⊛	99	76 - 136	14	30
Perfluoropentanoic acid (PFPeA)	ND		1.97	1.94		ug/Kg	⊛	99	69 - 129	2	30
Perfluorohexanoic acid (PFHxA)	ND		1.97	2.16		ug/Kg	⊛	110	71 - 131	0	30
Perfluoroheptanoic acid (PFHpA)	ND		1.97	2.01		ug/Kg	⊛	102	71 - 131	3	30
Perfluorooctanoic acid (PFOA)	ND		1.97	1.87		ug/Kg	⊛	95	72 - 132	4	30
Perfluorononanoic acid (PFNA)	ND		1.97	1.73		ug/Kg	⊛	88	73 - 133	6	30
Perfluorodecanoic acid (PFDA)	ND		1.97	2.29		ug/Kg	⊛	116	72 - 132	0	30
Perfluoroundecanoic acid (PFUnA)	ND		1.97	1.96		ug/Kg	⊛	99	66 - 126	4	30
Perfluorododecanoic acid (PFDoA)	ND		1.97	2.05		ug/Kg	⊛	104	71 - 131	7	30
Perfluorotridecanoic acid (PFTriA)	ND		1.97	2.00		ug/Kg	⊛	101	71 - 131	9	30
Perfluorotetradecanoic acid (PFTeA)	ND		1.97	2.14		ug/Kg	⊛	109	67 - 127	9	30

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-63958-26 MSD

Matrix: Solid

Analysis Batch: 407543

Client Sample ID: BET20-TH18-02

Prep Type: Total/NA

Prep Batch: 406779

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanesulfonic acid (PFBS)	ND		1.74	1.88		ug/Kg	☼	108	69 - 129	3	30
Perfluoropentanesulfonic acid (PFPeS)	ND		1.85	2.16		ug/Kg	☼	117	66 - 126	9	30
Perfluorohexanesulfonic acid (PFHxS)	ND		1.79	1.73		ug/Kg	☼	97	62 - 122	3	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.88	2.04		ug/Kg	☼	109	76 - 136	3	30
Perfluorooctanesulfonic acid (PFOS)	0.46	J B	1.83	2.22		ug/Kg	☼	96	68 - 141	5	30
Perfluorononanesulfonic acid (PFNS)	ND		1.89	1.99		ug/Kg	☼	105	72 - 132	3	30
Perfluorodecanesulfonic acid (PFDS)	ND		1.90	1.87		ug/Kg	☼	98	71 - 131	3	30
Perfluorooctanesulfonamide (FOSA)	ND		1.97	2.16		ug/Kg	☼	110	77 - 137	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.97	1.97	J	ug/Kg	☼	100	72 - 132	0	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.97	1.87	J	ug/Kg	☼	95	72 - 132	8	30
4:2 FTS	ND		1.84	1.93	J	ug/Kg	☼	105	68 - 143	0	30
6:2 FTS	ND		1.87	1.86	J	ug/Kg	☼	100	73 - 139	5	30
8:2 FTS	ND		1.89	1.90	J	ug/Kg	☼	101	75 - 135	8	30

MSD MSD

Isotope Dilution	%Recovery	Qualifier	Limits
13C4 PFBA	92		25 - 150
13C5 PFPeA	100		25 - 150
13C2 PFHxA	93		25 - 150
13C4 PFHpA	100		25 - 150
13C4 PFOA	94		25 - 150
13C5 PFNA	103		25 - 150
13C2 PFDA	99		25 - 150
13C2 PFUnA	102		25 - 150
13C2 PFDoA	89		25 - 150
13C2 PFTeDA	91		25 - 150
18O2 PFHxS	91		25 - 150
13C4 PFOS	86		25 - 150
13C8 FOSA	84		25 - 150
d3-NMeFOSAA	82		25 - 150
d5-NEtFOSAA	82		25 - 150
M2-6:2 FTS	91		25 - 150
M2-8:2 FTS	82		25 - 150
M2-4:2 FTS	86		25 - 150
13C3 PFBS	83		25 - 150

Lab Sample ID: MB 320-406783/1-A

Matrix: Water

Analysis Batch: 407300

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 406783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.0	0.35	ng/L		08/26/20 11:42	08/27/20 17:45	1

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-406783/1-A
Matrix: Water
Analysis Batch: 407300

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 406783

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorotetradecanoic acid (PFTeA)	0.366	J	2.0	0.29	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorohexanesulfonic acid (PFHxS)	0.311	J	2.0	0.17	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.16	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorooctanesulfonamide (FOSA)	1.12	J	2.0	0.35	ng/L		08/26/20 11:42	08/27/20 17:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		08/26/20 11:42	08/27/20 17:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		08/26/20 11:42	08/27/20 17:45	1
4:2 FTS	ND		20	5.2	ng/L		08/26/20 11:42	08/27/20 17:45	1
6:2 FTS	ND		20	2.0	ng/L		08/26/20 11:42	08/27/20 17:45	1
8:2 FTS	ND		20	2.0	ng/L		08/26/20 11:42	08/27/20 17:45	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	86		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C5 PFPeA	94		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C2 PFHxA	87		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C4 PFHpA	96		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C4 PFOA	91		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C5 PFNA	96		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C2 PFDA	105		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C2 PFUnA	96		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C2 PFDoA	81		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C2 PFTeDA	82		25 - 150	08/26/20 11:42	08/27/20 17:45	1
18O2 PFHxS	95		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C4 PFOS	94		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C8 FOSA	85		25 - 150	08/26/20 11:42	08/27/20 17:45	1
d3-NMeFOSAA	90		25 - 150	08/26/20 11:42	08/27/20 17:45	1
d5-NEtFOSAA	96		25 - 150	08/26/20 11:42	08/27/20 17:45	1
M2-6:2 FTS	94		25 - 150	08/26/20 11:42	08/27/20 17:45	1
M2-8:2 FTS	108		25 - 150	08/26/20 11:42	08/27/20 17:45	1
M2-4:2 FTS	74		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C3 PFBS	90		25 - 150	08/26/20 11:42	08/27/20 17:45	1

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-406783/2-A
Matrix: Water
Analysis Batch: 407300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406783

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	40.0	39.3		ng/L		98	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	39.3		ng/L		98	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	40.9		ng/L		102	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	41.1		ng/L		103	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	45.7		ng/L		114	70 - 130
Perfluorononanoic acid (PFNA)	40.0	42.4		ng/L		106	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	37.9		ng/L		95	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	42.2		ng/L		106	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	32.9		ng/L		82	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	34.4		ng/L		86	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	39.6		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	35.3		ng/L		100	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	36.8		ng/L		98	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.7		ng/L		90	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	38.4		ng/L		101	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	38.4		ng/L		103	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	37.5		ng/L		98	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	37.0		ng/L		96	71 - 131
Perfluorooctanesulfonamide (FOSA)	40.0	44.2		ng/L		111	73 - 133
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	37.0		ng/L		92	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	39.1		ng/L		98	76 - 136
4:2 FTS	37.4	36.1		ng/L		97	79 - 139
6:2 FTS	37.9	35.5		ng/L		94	59 - 175
8:2 FTS	38.3	40.2		ng/L		105	75 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	85		25 - 150
13C5 PFPeA	84		25 - 150
13C2 PFHxA	87		25 - 150
13C4 PFHpA	82		25 - 150
13C4 PFOA	80		25 - 150
13C5 PFNA	90		25 - 150
13C2 PFDA	90		25 - 150
13C2 PFUnA	93		25 - 150
13C2 PFDoA	86		25 - 150
13C2 PFTeDA	76		25 - 150
18O2 PFHxS	92		25 - 150
13C4 PFOS	90		25 - 150

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-406783/2-A
Matrix: Water
Analysis Batch: 407300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406783

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C8 FOSA	79		25 - 150
d3-NMeFOSAA	85		25 - 150
d5-NEtFOSAA	86		25 - 150
M2-6:2 FTS	88		25 - 150
M2-8:2 FTS	98		25 - 150
M2-4:2 FTS	72		25 - 150
13C3 PFBS	88		25 - 150

Lab Sample ID: LCSD 320-406783/3-A
Matrix: Water
Analysis Batch: 407300

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 406783

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	RPD Limit
							Limits	RPD		
Perfluorobutanoic acid (PFBA)	40.0	40.3		ng/L		101	76 - 136	2	30	
Perfluoropentanoic acid (PFPeA)	40.0	39.0		ng/L		98	71 - 131	1	30	
Perfluorohexanoic acid (PFHxA)	40.0	39.4		ng/L		99	73 - 133	4	30	
Perfluoroheptanoic acid (PFHpA)	40.0	38.3		ng/L		96	72 - 132	7	30	
Perfluorooctanoic acid (PFOA)	40.0	42.6		ng/L		107	70 - 130	7	30	
Perfluorononanoic acid (PFNA)	40.0	38.7		ng/L		97	75 - 135	9	30	
Perfluorodecanoic acid (PFDA)	40.0	36.5		ng/L		91	76 - 136	4	30	
Perfluoroundecanoic acid (PFUnA)	40.0	42.4		ng/L		106	68 - 128	1	30	
Perfluorododecanoic acid (PFDoA)	40.0	38.7		ng/L		97	71 - 131	16	30	
Perfluorotridecanoic acid (PFTriA)	40.0	36.7		ng/L		92	71 - 131	7	30	
Perfluorotetradecanoic acid (PFTeA)	40.0	40.0		ng/L		100	70 - 130	1	30	
Perfluorobutanesulfonic acid (PFBS)	35.4	34.3		ng/L		97	67 - 127	3	30	
Perfluoropentanesulfonic acid (PFPeS)	37.5	37.2		ng/L		99	66 - 126	1	30	
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.6		ng/L		95	59 - 119	6	30	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	37.7		ng/L		99	76 - 136	2	30	
Perfluorooctanesulfonic acid (PFOS)	37.1	37.8		ng/L		102	70 - 130	1	30	
Perfluorononanesulfonic acid (PFNS)	38.4	36.9		ng/L		96	75 - 135	2	30	
Perfluorodecanesulfonic acid (PFDS)	38.6	35.7		ng/L		93	71 - 131	4	30	
Perfluorooctanesulfonamide (FOSA)	40.0	44.0		ng/L		110	73 - 133	1	30	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	37.9		ng/L		95	76 - 136	3	30	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	37.9		ng/L		95	76 - 136	3	30	
4:2 FTS	37.4	36.6		ng/L		98	79 - 139	1	30	
6:2 FTS	37.9	35.1		ng/L		93	59 - 175	1	30	
8:2 FTS	38.3	37.5		ng/L		98	75 - 135	7	30	

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	LCSD		Limits
	%Recovery	Qualifier	
13C4 PFBA	81		25 - 150
13C5 PFPeA	86		25 - 150
13C2 PFHxA	87		25 - 150
13C4 PFHpA	88		25 - 150
13C4 PFOA	79		25 - 150
13C5 PFNA	91		25 - 150
13C2 PFDA	90		25 - 150
13C2 PFUnA	88		25 - 150
13C2 PFDoA	88		25 - 150
13C2 PFTeDA	76		25 - 150
18O2 PFHxS	86		25 - 150
13C4 PFOS	90		25 - 150
13C8 FOSA	78		25 - 150
d3-NMeFOSAA	84		25 - 150
d5-NEtFOSAA	85		25 - 150
M2-6:2 FTS	87		25 - 150
M2-8:2 FTS	94		25 - 150
M2-4:2 FTS	71		25 - 150
13C3 PFBS	86		25 - 150

Lab Sample ID: MB 320-408016/1-A
Matrix: Solid
Analysis Batch: 409145

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 408016

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	0.168	J	0.20	0.028	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorooctanesulfonic acid (PFOS)	0.321	J	0.50	0.20	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
4:2 FTS	ND		2.0	0.37	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
6:2 FTS	ND		2.0	0.15	ug/Kg		08/30/20 22:33	09/03/20 02:41	1
8:2 FTS	ND		2.0	0.25	ug/Kg		08/30/20 22:33	09/03/20 02:41	1

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

<i>Isotope Dilution</i>	<i>MB</i>	<i>MB</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Recovery</i>	<i>Qualifier</i>				
13C4 PFBA	74		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C5 PFPeA	82		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C2 PFHxA	84		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C4 PFHpA	83		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C4 PFOA	81		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C5 PFNA	86		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C2 PFDA	86		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C2 PFUnA	81		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C2 PFDoA	79		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C2 PFTeDA	75		25 - 150	08/30/20 22:33	09/03/20 02:41	1
18O2 PFHxS	86		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C4 PFOS	79		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C8 FOSA	74		25 - 150	08/30/20 22:33	09/03/20 02:41	1
d3-NMeFOSAA	57		25 - 150	08/30/20 22:33	09/03/20 02:41	1
d5-NEtFOSAA	60		25 - 150	08/30/20 22:33	09/03/20 02:41	1
M2-6:2 FTS	110		25 - 150	08/30/20 22:33	09/03/20 02:41	1
M2-8:2 FTS	71		25 - 150	08/30/20 22:33	09/03/20 02:41	1
M2-4:2 FTS	73		25 - 150	08/30/20 22:33	09/03/20 02:41	1
13C3 PFBS	80		25 - 150	08/30/20 22:33	09/03/20 02:41	1

Lab Sample ID: LCS 320-408016/2-A
Matrix: Solid
Analysis Batch: 409145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 408016

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
Perfluorobutanoic acid (PFBA)	2.00	2.33		ug/Kg		116	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	1.93		ug/Kg		97	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	2.07		ug/Kg		104	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	2.13		ug/Kg		107	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	2.01		ug/Kg		101	72 - 132
Perfluorononanoic acid (PFNA)	2.00	2.06		ug/Kg		103	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.38		ug/Kg		119	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	2.19		ug/Kg		109	66 - 126
Perfluorododecanoic acid (PFDoA)	2.00	2.00		ug/Kg		100	71 - 131
Perfluorotridecanoic acid (PFTriA)	2.00	1.93		ug/Kg		96	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	2.14		ug/Kg		107	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.77	1.88		ug/Kg		107	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.96		ug/Kg		104	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.81		ug/Kg		99	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	2.17		ug/Kg		114	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	3.14 *		ug/Kg		169	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	2.06		ug/Kg		107	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.88		ug/Kg		98	71 - 131

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-408016/2-A
Matrix: Solid
Analysis Batch: 409145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 408016

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonamide (FOSA)	2.00	2.21		ug/Kg		110	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.01		ug/Kg		101	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.91	J	ug/Kg		96	72 - 132
4:2 FTS	1.87	1.71	J	ug/Kg		91	68 - 143
6:2 FTS	1.90	1.80	J	ug/Kg		95	73 - 139
8:2 FTS	1.92	1.96	J	ug/Kg		102	75 - 135

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	75		25 - 150
13C5 PFPeA	80		25 - 150
13C2 PFHxA	83		25 - 150
13C4 PFHpA	82		25 - 150
13C4 PFOA	82		25 - 150
13C5 PFNA	84		25 - 150
13C2 PFDA	77		25 - 150
13C2 PFUnA	78		25 - 150
13C2 PFDoA	79		25 - 150
13C2 PFTeDA	77		25 - 150
18O2 PFHxS	84		25 - 150
13C4 PFOS	77		25 - 150
13C8 FOSA	70		25 - 150
d3-NMeFOSAA	46		25 - 150
d5-NEtFOSAA	47		25 - 150
M2-6:2 FTS	99		25 - 150
M2-8:2 FTS	65		25 - 150
M2-4:2 FTS	74		25 - 150
13C3 PFBS	83		25 - 150

Method: D 2216 - Percent Moisture

Lab Sample ID: 320-63958-16 DU
Matrix: Solid
Analysis Batch: 406673

Client Sample ID: BET20-TH22-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	3.7		3.1		%		19	20
Percent Solids	96.3		96.9		%		0.7	20

Lab Sample ID: 320-63958-20 DU
Matrix: Solid
Analysis Batch: 407126

Client Sample ID: BET20-TH24-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	7.0		7.0		%		0.5	20
Percent Solids	93.0		93.0		%		0	20

Eurofins TestAmerica, Sacramento

QC Association Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

LCMS

Prep Batch: 406777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-2	BET20-TH30-01	Total/NA	Solid	SHAKE	
320-63958-3	BET20-TH30-02	Total/NA	Solid	SHAKE	
320-63958-4	BET20-TH30-03	Total/NA	Solid	SHAKE	
MB 320-406777/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-406777/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Prep Batch: 406778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-5	BET20-TH21-01	Total/NA	Solid	SHAKE	
320-63958-6	BET20-TH21-02	Total/NA	Solid	SHAKE	
320-63958-7	BET20-TH17-02	Total/NA	Solid	SHAKE	
320-63958-8	BET20-TH17-01	Total/NA	Solid	SHAKE	
320-63958-9	BET20-TH17-03	Total/NA	Solid	SHAKE	
320-63958-10	BET20-TH19-01	Total/NA	Solid	SHAKE	
320-63958-11	BET20-TH19-02	Total/NA	Solid	SHAKE	
320-63958-12	BET20-TH20-01	Total/NA	Solid	SHAKE	
320-63958-13	BET20-TH20-02	Total/NA	Solid	SHAKE	
320-63958-14	BET20-TH22-01	Total/NA	Solid	SHAKE	
320-63958-15	BET20-TH22-02	Total/NA	Solid	SHAKE	
320-63958-16	BET20-TH22-03	Total/NA	Solid	SHAKE	
320-63958-18	BET20-TH25-01	Total/NA	Solid	SHAKE	
320-63958-19	BET20-TH25-02	Total/NA	Solid	SHAKE	
320-63958-20	BET20-TH24-01	Total/NA	Solid	SHAKE	
320-63958-21	BET20-TH24-02	Total/NA	Solid	SHAKE	
320-63958-22	BET20-TH23-01	Total/NA	Solid	SHAKE	
320-63958-23	BET20-TH23-02	Total/NA	Solid	SHAKE	
320-63958-24	BET20-TH23-03	Total/NA	Solid	SHAKE	
320-63958-25	BET20-TH18-01	Total/NA	Solid	SHAKE	
MB 320-406778/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-406778/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-63958-5 MS	BET20-TH21-01	Total/NA	Solid	SHAKE	
320-63958-5 MSD	BET20-TH21-01	Total/NA	Solid	SHAKE	

Prep Batch: 406779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-26	BET20-TH18-02	Total/NA	Solid	SHAKE	
320-63958-27	BET20-TH01-01	Total/NA	Solid	SHAKE	
320-63958-28	BET20-TH01-02	Total/NA	Solid	SHAKE	
320-63958-29	BET20-TH01-03	Total/NA	Solid	SHAKE	
320-63958-30	BET20-TH02-01	Total/NA	Solid	SHAKE	
320-63958-31	BET20-TH02-02	Total/NA	Solid	SHAKE	
320-63958-33	BET20-TH03-02	Total/NA	Solid	SHAKE	
MB 320-406779/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-406779/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-63958-26 MS	BET20-TH18-02	Total/NA	Solid	SHAKE	
320-63958-26 MSD	BET20-TH18-02	Total/NA	Solid	SHAKE	

Prep Batch: 406783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-1	BET20-WA-RB02	Total/NA	Water	3535	
320-63958-17	BET20-WA-RB03	Total/NA	Water	3535	

Eurofins TestAmerica, Sacramento

QC Association Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

LCMS (Continued)

Prep Batch: 406783 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-406783/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-406783/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-406783/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 407300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-1	BET20-WA-RB02	Total/NA	Water	537 (modified)	406783
MB 320-406783/1-A	Method Blank	Total/NA	Water	537 (modified)	406783
LCS 320-406783/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	406783
LCSD 320-406783/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	406783

Analysis Batch: 407543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-26	BET20-TH18-02	Total/NA	Solid	537 (modified)	406779
320-63958-27	BET20-TH01-01	Total/NA	Solid	537 (modified)	406779
320-63958-28	BET20-TH01-02	Total/NA	Solid	537 (modified)	406779
320-63958-29	BET20-TH01-03	Total/NA	Solid	537 (modified)	406779
320-63958-30	BET20-TH02-01	Total/NA	Solid	537 (modified)	406779
320-63958-31	BET20-TH02-02	Total/NA	Solid	537 (modified)	406779
320-63958-33	BET20-TH03-02	Total/NA	Solid	537 (modified)	406779
MB 320-406779/1-A	Method Blank	Total/NA	Solid	537 (modified)	406779
320-63958-26 MS	BET20-TH18-02	Total/NA	Solid	537 (modified)	406779
320-63958-26 MSD	BET20-TH18-02	Total/NA	Solid	537 (modified)	406779

Analysis Batch: 407565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-2	BET20-TH30-01	Total/NA	Solid	537 (modified)	406777
320-63958-3	BET20-TH30-02	Total/NA	Solid	537 (modified)	406777
320-63958-4	BET20-TH30-03	Total/NA	Solid	537 (modified)	406777
MB 320-406777/1-A	Method Blank	Total/NA	Solid	537 (modified)	406777
LCS 320-406777/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	406777

Analysis Batch: 407688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-5	BET20-TH21-01	Total/NA	Solid	537 (modified)	406778
320-63958-6	BET20-TH21-02	Total/NA	Solid	537 (modified)	406778
320-63958-7	BET20-TH17-02	Total/NA	Solid	537 (modified)	406778
320-63958-8	BET20-TH17-01	Total/NA	Solid	537 (modified)	406778
320-63958-9	BET20-TH17-03	Total/NA	Solid	537 (modified)	406778
320-63958-10	BET20-TH19-01	Total/NA	Solid	537 (modified)	406778
320-63958-11	BET20-TH19-02	Total/NA	Solid	537 (modified)	406778
320-63958-15	BET20-TH22-02	Total/NA	Solid	537 (modified)	406778
320-63958-18	BET20-TH25-01	Total/NA	Solid	537 (modified)	406778
320-63958-19	BET20-TH25-02	Total/NA	Solid	537 (modified)	406778
320-63958-20	BET20-TH24-01	Total/NA	Solid	537 (modified)	406778
320-63958-25	BET20-TH18-01	Total/NA	Solid	537 (modified)	406778
MB 320-406778/1-A	Method Blank	Total/NA	Solid	537 (modified)	406778
LCS 320-406778/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	406778
320-63958-5 MS	BET20-TH21-01	Total/NA	Solid	537 (modified)	406778
320-63958-5 MSD	BET20-TH21-01	Total/NA	Solid	537 (modified)	406778

QC Association Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

LCMS

Analysis Batch: 407817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-406779/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	406779

Analysis Batch: 407836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-12	BET20-TH20-01	Total/NA	Solid	537 (modified)	406778
320-63958-14	BET20-TH22-01	Total/NA	Solid	537 (modified)	406778
320-63958-16	BET20-TH22-03	Total/NA	Solid	537 (modified)	406778
320-63958-21	BET20-TH24-02	Total/NA	Solid	537 (modified)	406778
320-63958-22	BET20-TH23-01	Total/NA	Solid	537 (modified)	406778
320-63958-23	BET20-TH23-02	Total/NA	Solid	537 (modified)	406778
320-63958-24	BET20-TH23-03	Total/NA	Solid	537 (modified)	406778

Prep Batch: 408016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-32	BET20-TH03-01	Total/NA	Solid	SHAKE	
MB 320-408016/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-408016/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 408235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-13	BET20-TH20-02	Total/NA	Solid	537 (modified)	406778

Analysis Batch: 409090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-17	BET20-WA-RB03	Total/NA	Water	537 (modified)	406783

Analysis Batch: 409145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-32	BET20-TH03-01	Total/NA	Solid	537 (modified)	408016
MB 320-408016/1-A	Method Blank	Total/NA	Solid	537 (modified)	408016
LCS 320-408016/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	408016

General Chemistry

Analysis Batch: 406673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-2	BET20-TH30-01	Total/NA	Solid	D 2216	
320-63958-3	BET20-TH30-02	Total/NA	Solid	D 2216	
320-63958-4	BET20-TH30-03	Total/NA	Solid	D 2216	
320-63958-5	BET20-TH21-01	Total/NA	Solid	D 2216	
320-63958-6	BET20-TH21-02	Total/NA	Solid	D 2216	
320-63958-7	BET20-TH17-02	Total/NA	Solid	D 2216	
320-63958-8	BET20-TH17-01	Total/NA	Solid	D 2216	
320-63958-9	BET20-TH17-03	Total/NA	Solid	D 2216	
320-63958-10	BET20-TH19-01	Total/NA	Solid	D 2216	
320-63958-11	BET20-TH19-02	Total/NA	Solid	D 2216	
320-63958-12	BET20-TH20-01	Total/NA	Solid	D 2216	
320-63958-13	BET20-TH20-02	Total/NA	Solid	D 2216	
320-63958-14	BET20-TH22-01	Total/NA	Solid	D 2216	
320-63958-15	BET20-TH22-02	Total/NA	Solid	D 2216	
320-63958-16	BET20-TH22-03	Total/NA	Solid	D 2216	

Eurofins TestAmerica, Sacramento

QC Association Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

General Chemistry (Continued)

Analysis Batch: 406673 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-18	BET20-TH25-01	Total/NA	Solid	D 2216	
320-63958-19	BET20-TH25-02	Total/NA	Solid	D 2216	
320-63958-16 DU	BET20-TH22-03	Total/NA	Solid	D 2216	

Analysis Batch: 407126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63958-20	BET20-TH24-01	Total/NA	Solid	D 2216	
320-63958-21	BET20-TH24-02	Total/NA	Solid	D 2216	
320-63958-22	BET20-TH23-01	Total/NA	Solid	D 2216	
320-63958-23	BET20-TH23-02	Total/NA	Solid	D 2216	
320-63958-24	BET20-TH23-03	Total/NA	Solid	D 2216	
320-63958-25	BET20-TH18-01	Total/NA	Solid	D 2216	
320-63958-26	BET20-TH18-02	Total/NA	Solid	D 2216	
320-63958-27	BET20-TH01-01	Total/NA	Solid	D 2216	
320-63958-28	BET20-TH01-02	Total/NA	Solid	D 2216	
320-63958-29	BET20-TH01-03	Total/NA	Solid	D 2216	
320-63958-30	BET20-TH02-01	Total/NA	Solid	D 2216	
320-63958-31	BET20-TH02-02	Total/NA	Solid	D 2216	
320-63958-32	BET20-TH03-01	Total/NA	Solid	D 2216	
320-63958-33	BET20-TH03-02	Total/NA	Solid	D 2216	
320-63958-20 DU	BET20-TH24-01	Total/NA	Solid	D 2216	

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-WA-RB02

Lab Sample ID: 320-63958-1

Date Collected: 08/11/20 23:15

Matrix: Water

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			275.1 mL	10.00 mL	406783	08/26/20 11:42	LA	TAL SAC
Total/NA	Analysis	537 (modified)		1			407300	08/27/20 18:48	D1R	TAL SAC

Client Sample ID: BET20-TH30-01

Lab Sample ID: 320-63958-2

Date Collected: 08/11/20 23:50

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH30-01

Lab Sample ID: 320-63958-2

Date Collected: 08/11/20 23:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.08 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 18:44	RS1	TAL SAC

Client Sample ID: BET20-TH30-02

Lab Sample ID: 320-63958-3

Date Collected: 08/12/20 00:35

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH30-02

Lab Sample ID: 320-63958-3

Date Collected: 08/12/20 00:35

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 84.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.66 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 18:53	RS1	TAL SAC

Client Sample ID: BET20-TH30-03

Lab Sample ID: 320-63958-4

Date Collected: 08/11/20 23:55

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH30-03

Lab Sample ID: 320-63958-4

Date Collected: 08/11/20 23:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.46 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 19:03	RS1	TAL SAC

Client Sample ID: BET20-TH21-01

Lab Sample ID: 320-63958-5

Date Collected: 08/12/20 03:30

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH21-01

Lab Sample ID: 320-63958-5

Date Collected: 08/12/20 03:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 90.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.21 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/28/20 21:14	S1M	TAL SAC

Client Sample ID: BET20-TH21-02

Lab Sample ID: 320-63958-6

Date Collected: 08/12/20 04:15

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH21-02

Lab Sample ID: 320-63958-6

Date Collected: 08/12/20 04:15

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 89.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.16 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/28/20 21:42	S1M	TAL SAC

Client Sample ID: BET20-TH17-02

Lab Sample ID: 320-63958-7

Date Collected: 08/12/20 23:00

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH17-02

Lab Sample ID: 320-63958-7

Date Collected: 08/12/20 23:00

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.10 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/28/20 21:51	S1M	TAL SAC

Client Sample ID: BET20-TH17-01

Lab Sample ID: 320-63958-8

Date Collected: 08/12/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH17-01

Lab Sample ID: 320-63958-8

Date Collected: 08/12/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.35 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/28/20 22:00	S1M	TAL SAC

Client Sample ID: BET20-TH17-03

Lab Sample ID: 320-63958-9

Date Collected: 08/12/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH17-03

Lab Sample ID: 320-63958-9

Date Collected: 08/12/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.49 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/28/20 22:10	S1M	TAL SAC

Client Sample ID: BET20-TH19-01

Lab Sample ID: 320-63958-10

Date Collected: 08/13/20 01:40

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH19-01

Lab Sample ID: 320-63958-10

Date Collected: 08/13/20 01:40

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.44 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/28/20 22:19	S1M	TAL SAC

Client Sample ID: BET20-TH19-02

Lab Sample ID: 320-63958-11

Date Collected: 08/13/20 02:20

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH19-02

Lab Sample ID: 320-63958-11

Date Collected: 08/13/20 02:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.03 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/28/20 22:47	S1M	TAL SAC

Client Sample ID: BET20-TH20-01

Lab Sample ID: 320-63958-12

Date Collected: 08/13/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH20-01

Lab Sample ID: 320-63958-12

Date Collected: 08/13/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.61 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407836	08/29/20 15:49	S1M	TAL SAC

Client Sample ID: BET20-TH20-02

Lab Sample ID: 320-63958-13

Date Collected: 08/13/20 03:50

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH20-02

Lab Sample ID: 320-63958-13

Date Collected: 08/13/20 03:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 93.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.08 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			408235	08/31/20 13:59	JC	TAL SAC

Client Sample ID: BET20-TH22-01

Lab Sample ID: 320-63958-14

Date Collected: 08/13/20 22:50

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH22-01

Lab Sample ID: 320-63958-14

Date Collected: 08/13/20 22:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.09 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407836	08/29/20 15:58	S1M	TAL SAC

Client Sample ID: BET20-TH22-02

Lab Sample ID: 320-63958-15

Date Collected: 08/13/20 23:53

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH22-02

Lab Sample ID: 320-63958-15

Date Collected: 08/13/20 23:53

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.86 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/28/20 23:06	S1M	TAL SAC

Client Sample ID: BET20-TH22-03

Lab Sample ID: 320-63958-16

Date Collected: 08/13/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH22-03

Lab Sample ID: 320-63958-16

Date Collected: 08/13/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.13 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407836	08/29/20 16:08	S1M	TAL SAC

Client Sample ID: BET20-WA-RB03

Lab Sample ID: 320-63958-17

Date Collected: 08/14/20 01:20

Matrix: Water

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287.5 mL	10.00 mL	406783	08/26/20 11:42	LA	TAL SAC
Total/NA	Analysis	537 (modified)		1			409090	09/02/20 17:19	S1M	TAL SAC

Client Sample ID: BET20-TH25-01

Lab Sample ID: 320-63958-18

Date Collected: 08/14/20 01:30

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH25-01

Lab Sample ID: 320-63958-18

Date Collected: 08/14/20 01:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.17 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/28/20 23:15	S1M	TAL SAC

Client Sample ID: BET20-TH25-02

Lab Sample ID: 320-63958-19

Date Collected: 08/14/20 01:57

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			406673	08/26/20 10:23	KDB	TAL SAC

Client Sample ID: BET20-TH25-02

Lab Sample ID: 320-63958-19

Date Collected: 08/14/20 01:57

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.49 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/28/20 23:24	S1M	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH24-01

Lab Sample ID: 320-63958-20

Date Collected: 08/14/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH24-01

Lab Sample ID: 320-63958-20

Date Collected: 08/14/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 93.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.28 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/28/20 23:34	S1M	TAL SAC

Client Sample ID: BET20-TH24-02

Lab Sample ID: 320-63958-21

Date Collected: 08/14/20 03:40

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH24-02

Lab Sample ID: 320-63958-21

Date Collected: 08/14/20 03:40

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			4.99 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407836	08/29/20 16:17	S1M	TAL SAC

Client Sample ID: BET20-TH23-01

Lab Sample ID: 320-63958-22

Date Collected: 08/14/20 23:55

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH23-01

Lab Sample ID: 320-63958-22

Date Collected: 08/14/20 23:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 97.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.57 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407836	08/29/20 16:27	S1M	TAL SAC

Client Sample ID: BET20-TH23-02

Lab Sample ID: 320-63958-23

Date Collected: 08/15/20 00:10

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Eurofins TestAmerica, Sacramento

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH23-02

Lab Sample ID: 320-63958-23

Date Collected: 08/15/20 00:10

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.21 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407836	08/29/20 16:36	S1M	TAL SAC

Client Sample ID: BET20-TH23-03

Lab Sample ID: 320-63958-24

Date Collected: 08/15/20 00:05

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH23-03

Lab Sample ID: 320-63958-24

Date Collected: 08/15/20 00:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 96.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.07 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407836	08/29/20 16:45	S1M	TAL SAC

Client Sample ID: BET20-TH18-01

Lab Sample ID: 320-63958-25

Date Collected: 08/15/20 01:50

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH18-01

Lab Sample ID: 320-63958-25

Date Collected: 08/15/20 01:50

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.19 g	10.0 mL	406778	08/26/20 11:34	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407688	08/29/20 00:39	S1M	TAL SAC

Client Sample ID: BET20-TH18-02

Lab Sample ID: 320-63958-26

Date Collected: 08/15/20 02:05

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH18-02

Lab Sample ID: 320-63958-26

Date Collected: 08/15/20 02:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.04 g	10.0 mL	406779	08/26/20 11:36	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407543	08/28/20 12:42	S1M	TAL SAC

Client Sample ID: BET20-TH01-01

Lab Sample ID: 320-63958-27

Date Collected: 08/15/20 23:00

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH01-01

Lab Sample ID: 320-63958-27

Date Collected: 08/15/20 23:00

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.19 g	10.0 mL	406779	08/26/20 11:36	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407543	08/28/20 13:11	S1M	TAL SAC

Client Sample ID: BET20-TH01-02

Lab Sample ID: 320-63958-28

Date Collected: 08/15/20 23:20

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH01-02

Lab Sample ID: 320-63958-28

Date Collected: 08/15/20 23:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.10 g	10.0 mL	406779	08/26/20 11:36	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407543	08/28/20 13:20	S1M	TAL SAC

Client Sample ID: BET20-TH01-03

Lab Sample ID: 320-63958-29

Date Collected: 08/15/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH01-03

Lab Sample ID: 320-63958-29

Date Collected: 08/15/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.04 g	10.0 mL	406779	08/26/20 11:36	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407543	08/28/20 13:29	S1M	TAL SAC

Client Sample ID: BET20-TH02-01

Lab Sample ID: 320-63958-30

Date Collected: 08/16/20 00:25

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH02-01

Lab Sample ID: 320-63958-30

Date Collected: 08/16/20 00:25

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.37 g	10.0 mL	406779	08/26/20 11:36	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407543	08/28/20 13:39	S1M	TAL SAC

Client Sample ID: BET20-TH02-02

Lab Sample ID: 320-63958-31

Date Collected: 08/16/20 01:30

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH02-02

Lab Sample ID: 320-63958-31

Date Collected: 08/16/20 01:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 68.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.07 g	10.0 mL	406779	08/26/20 11:36	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407543	08/28/20 13:48	S1M	TAL SAC

Client Sample ID: BET20-TH03-01

Lab Sample ID: 320-63958-32

Date Collected: 08/16/20 03:50

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Client Sample ID: BET20-TH03-01

Date Collected: 08/16/20 03:50

Date Received: 08/25/20 09:50

Lab Sample ID: 320-63958-32

Matrix: Solid

Percent Solids: 96.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.29 g	10.00 mL	408016	08/30/20 23:11	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1			409145	09/03/20 03:00	MYV	TAL SAC

Client Sample ID: BET20-TH03-02

Date Collected: 08/16/20 04:15

Date Received: 08/25/20 09:50

Lab Sample ID: 320-63958-33

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH03-02

Date Collected: 08/16/20 04:15

Date Received: 08/25/20 09:50

Lab Sample ID: 320-63958-33

Matrix: Solid

Percent Solids: 94.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.67 g	10.0 mL	406779	08/26/20 11:36	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407543	08/28/20 15:46	S1M	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
537 (modified)	3535	Water	4:2 FTS
537 (modified)	3535	Water	6:2 FTS
537 (modified)	3535	Water	8:2 FTS
537 (modified)	3535	Water	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 (modified)	3535	Water	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 (modified)	3535	Water	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	3535	Water	Perfluorobutanoic acid (PFBA)
537 (modified)	3535	Water	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	3535	Water	Perfluorodecanoic acid (PFDA)
537 (modified)	3535	Water	Perfluorododecanoic acid (PFDoA)
537 (modified)	3535	Water	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	3535	Water	Perfluoroheptanoic acid (PFHpA)
537 (modified)	3535	Water	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	3535	Water	Perfluorohexanoic acid (PFHxA)
537 (modified)	3535	Water	Perfluorononanesulfonic acid (PFNS)
537 (modified)	3535	Water	Perfluorononanoic acid (PFNA)
537 (modified)	3535	Water	Perfluorooctanesulfonamide (FOSA)
537 (modified)	3535	Water	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	3535	Water	Perfluorooctanoic acid (PFOA)
537 (modified)	3535	Water	Perfluoropentanesulfonic acid (PFPeS)
537 (modified)	3535	Water	Perfluoropentanoic acid (PFPeA)
537 (modified)	3535	Water	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	3535	Water	Perfluorotridecanoic acid (PFTriA)
537 (modified)	3535	Water	Perfluoroundecanoic acid (PFUnA)
537 (modified)	SHAKE	Solid	4:2 FTS
537 (modified)	SHAKE	Solid	6:2 FTS
537 (modified)	SHAKE	Solid	8:2 FTS
537 (modified)	SHAKE	Solid	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 (modified)	SHAKE	Solid	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 (modified)	SHAKE	Solid	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	SHAKE	Solid	Perfluorobutanoic acid (PFBA)
537 (modified)	SHAKE	Solid	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	SHAKE	Solid	Perfluorodecanoic acid (PFDA)
537 (modified)	SHAKE	Solid	Perfluorododecanoic acid (PFDoA)
537 (modified)	SHAKE	Solid	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	SHAKE	Solid	Perfluoroheptanoic acid (PFHpA)
537 (modified)	SHAKE	Solid	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	SHAKE	Solid	Perfluorohexanoic acid (PFHxA)
537 (modified)	SHAKE	Solid	Perfluorononanesulfonic acid (PFNS)
537 (modified)	SHAKE	Solid	Perfluorononanoic acid (PFNA)
537 (modified)	SHAKE	Solid	Perfluorooctanesulfonamide (FOSA)
537 (modified)	SHAKE	Solid	Perfluorooctanesulfonic acid (PFOS)

Accreditation/Certification Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Laboratory: Eurofins TestAmerica, Sacramento (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
537 (modified)	SHAKE	Solid	Perfluorooctanoic acid (PFOA)
537 (modified)	SHAKE	Solid	Perfluoropentanesulfonic acid (PFPeS)
537 (modified)	SHAKE	Solid	Perfluoropentanoic acid (PFPeA)
537 (modified)	SHAKE	Solid	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	SHAKE	Solid	Perfluorotridecanoic acid (PFTriA)
537 (modified)	SHAKE	Solid	Perfluoroundecanoic acid (PFUnA)
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Method Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63958-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
D 2216	Percent Moisture	ASTM	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	TAL SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction


Job ID: 320-63958-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-63958-1	BET20-WA-RB02	Water	08/11/20 23:15	08/25/20 09:50	
320-63958-2	BET20-TH30-01	Solid	08/11/20 23:50	08/25/20 09:50	
320-63958-3	BET20-TH30-02	Solid	08/12/20 00:35	08/25/20 09:50	
320-63958-4	BET20-TH30-03	Solid	08/11/20 23:55	08/25/20 09:50	
320-63958-5	BET20-TH21-01	Solid	08/12/20 03:30	08/25/20 09:50	
320-63958-6	BET20-TH21-02	Solid	08/12/20 04:15	08/25/20 09:50	
320-63958-7	BET20-TH17-02	Solid	08/12/20 23:00	08/25/20 09:50	
320-63958-8	BET20-TH17-01	Solid	08/12/20 22:55	08/25/20 09:50	
320-63958-9	BET20-TH17-03	Solid	08/12/20 23:05	08/25/20 09:50	
320-63958-10	BET20-TH19-01	Solid	08/13/20 01:40	08/25/20 09:50	
320-63958-11	BET20-TH19-02	Solid	08/13/20 02:20	08/25/20 09:50	
320-63958-12	BET20-TH20-01	Solid	08/13/20 03:20	08/25/20 09:50	
320-63958-13	BET20-TH20-02	Solid	08/13/20 03:50	08/25/20 09:50	
320-63958-14	BET20-TH22-01	Solid	08/13/20 22:50	08/25/20 09:50	
320-63958-15	BET20-TH22-02	Solid	08/13/20 23:53	08/25/20 09:50	
320-63958-16	BET20-TH22-03	Solid	08/13/20 23:05	08/25/20 09:50	
320-63958-17	BET20-WA-RB03	Water	08/14/20 01:20	08/25/20 09:50	
320-63958-18	BET20-TH25-01	Solid	08/14/20 01:30	08/25/20 09:50	
320-63958-19	BET20-TH25-02	Solid	08/14/20 01:57	08/25/20 09:50	
320-63958-20	BET20-TH24-01	Solid	08/14/20 03:20	08/25/20 09:50	
320-63958-21	BET20-TH24-02	Solid	08/14/20 03:40	08/25/20 09:50	
320-63958-22	BET20-TH23-01	Solid	08/14/20 23:55	08/25/20 09:50	
320-63958-23	BET20-TH23-02	Solid	08/15/20 00:10	08/25/20 09:50	
320-63958-24	BET20-TH23-03	Solid	08/15/20 00:05	08/25/20 09:50	
320-63958-25	BET20-TH18-01	Solid	08/15/20 01:50	08/25/20 09:50	
320-63958-26	BET20-TH18-02	Solid	08/15/20 02:05	08/25/20 09:50	
320-63958-27	BET20-TH01-01	Solid	08/15/20 23:00	08/25/20 09:50	
320-63958-28	BET20-TH01-02	Solid	08/15/20 23:20	08/25/20 09:50	
320-63958-29	BET20-TH01-03	Solid	08/15/20 23:30	08/25/20 09:50	
320-63958-30	BET20-TH02-01	Solid	08/16/20 00:25	08/25/20 09:50	
320-63958-31	BET20-TH02-02	Solid	08/16/20 01:30	08/25/20 09:50	
320-63958-32	BET20-TH03-01	Solid	08/16/20 03:50	08/25/20 09:50	
320-63958-33	BET20-TH03-02	Solid	08/16/20 04:15	08/25/20 09:50	



R&M CONSULTANTS, INC.

CHAIN OF CUSTODY RECORD

Client:	R&M Consultants, Inc	Analytical Laboratory:	TA-Sacramento	No	Project:	Page	of			
Project No. / NPDL No.:	2690.02	Bethe' Airport Main Runway Reconstruction	907.646.9655		1	2	2			
Contact Name:	Christopher Fell	Phone Number:	907.646.9655		Cooler ID: TENDR					
Reports To:	Christopher Fell	Email:	cfell@rmconsult.com		Preservative/Analysis					
Invoice To:	Brian Mullen	Email:	bmullen@rmconsult.com		Remarks					
		R&M Consultants, Inc	PO #: 2690.02							
		Attn: Accounting Department/Courtney Maillet	Quote #: 32015144							
		9101 Vanguard Drive, Anchorage, AK, 99507								
		cmaillet@rmconsult.com / 907.522.1707								
RESERVED for lab use	Sample Identification	LocID	Sampler	Date (mm/dd/yy)	Time (hhmm)	Matrix/Matrix Code	Sample Type (ie. Grab(C), Comp.(c), etc)	No. Containers	DOD Project?	Turnaround Time, Deliverable Req., and/or Special Instructions
	BET20-WA-RB02	BET	BMM	8-11-20	2315	WA	PFAS (EPA 537.1 Mod.) 0-6 °C	2	X	 <p>320-63958 Chain of Custody</p>
	BET20-TH30-01	BH-DD		8-11-20	2350	SO		1	X	
	BET20-TH30-02	BH-DD		8-12-20	0035	SO		1	X	
	BET20-TH30-03	BH-DD		8-11-20	2355	SO		1	X	
	BET20-TH21-01	BH-U		8-12-20	0330	SO		1	X	
	BET20-TH21-02	BH-U		8-12-20	0415	SO		1	X	
	BET20-TH17-02	BH-Q		8-12-20	2300	SO		1	X	
	BET20-TH17-01	BH-Q		8-12-20	2255	SO		1	X	
	BET20-TH17-03	BH-Q		8-12-20	2305	SO		1	X	
	BET20-TH19-01	BH-S		8-13-20	0140	SO		1	X	
	BET20-TH19-02	BH-S		8-13-20	0220	SO		1	X	
	BET20-TH20-01	BH-T		8-13-20	0320	SO		1	X	
	BET20-TH20-02	BH-T		8-13-20	0350	SO		1	X	
	BET20-TH22-01	BH-V		8-13-20	2250	SO		1	X	
	BET20-TH22-02	BH-V		8-13-20	2353	SO		1	X	
	BET20-TH22-03	BH-V		8-13-20	2305	SO		1	X	
	BET20-WA-RB03	BET		8-14-20	0120	WA		2	X	
Relinquished By (1):	<i>[Signature]</i>	Date:	08/17/2020	Time:	2050	Received By:	<i>[Signature]</i>	Date:	12/4/20	Standard TAT, Level 2 PDF
Relinquished By (2):	<i>[Signature]</i>	Date:	08/18/20	Time:	0910	Received By:	<i>[Signature]</i>	Date:	8/21/20	
Relinquished By (3):	<i>[Signature]</i>	Date:	08/24/20	Time:	0910	Received By:	<i>[Signature]</i>	Date:	8/25/20	
Relinquished By (4):	<i>[Signature]</i>	Date:		Time:		Received By:		Date:		
Laboratory Check In Information										Chain of Custody Seal (Circle):
Temp Blank °C										Intact
3.9 / 4.4										Broken
										Absent





R&M CONSULTANTS, INC.

CHAIN OF CUSTODY RECORD

Client: R&M Consultants, Inc		Analytical Laboratory	TA-Sacramento	No	Page 2 of 2							
Project No.: 2690.02	Project Name: Bethel Airport Main Runway Reconstruction	Phone Number: 907.646.9655										
Contact Name: Christopher Fell	Phone Number: cfell@rmconsult.com											
Reports To: Christopher Fell	Email: bmulen@rmconsult.com											
Reports To: Brian Mullen												
Invoice To: R&M Consultants, Inc	Attn: Accounting Department/Courtney Maillet	PO#: 2690.02										
	9101 Vanguard Drive, Anchorage, AK, 99507	Quote #: 32015144										
	cmaillet@rmconsult.com / 907.522.1707											
RESERVED for lab use	Sample Identification	LocID	Sampler	Date (mm/dd/yy)	Time (hhmm)	Matrix/Matrix Code	No. Containers	Sample Type (ie. Grab(C), Comp.(c), etc)	DOD Project:	Cooler ID: TENDR	Preservative/Analysis	Remarks
	BET20-TH25-01	BH-Y	BMM/AMB	8-14-20	0130	SO	1	PFAS (EPA 537.1 Mod.) 0-6 °C				
	BET20-TH25-02	BH-Y		8-14-20	0157	SO	1					
	BET20-TH24-01	BH-X		8-14-20	0320	SO	1					
	BET20-TH24-02	BH-X		8-14-20	0340	SO	1					
	BET20-TH23-01	BH-W		8-14-20	2355	SO	1					
	BET20-TH23-02	BH-W		8-15-20	0010	SO	1					
	BET20-TH23-03	BH-W		8-15-20	0005	SO	1					
	BET20-TH18-01	BH-R		8-15-20	0150	SO	1					
	BET20-TH18-02	BH-R		8-15-20	0205	SO	1					
	BET20-TH01-01	BH-A		8-15-20	2300	SO	1					
	BET20-TH02-02 AMB 8/17						1	AMB 8/17				
	BET20-TH01-02	BH-A		8-15-20	2320	SO	1					
	BET20-TH01-03	BH-A		8-15-20	2330	SO	1					
	BET20-TH02-01	BH-B		8-16-20	0025	SO	1					
	BET20-TH02-02	BH-B		8-16-20	0130	SO	1					
	BET20-TH03-01	BH-C		8-16-20	0350	SO	1					
	BET20-TH03-02	BH-C		8-16-20	0415	SO	1					
Relinquished By (1):	<i>[Signature]</i>	Date: 08/17	Time: 2056	Received By: <i>[Signature]</i>	Time: 08/17	Standard TAT, Level 2 PDF						
Relinquished By (2):	<i>[Signature]</i>	Date: 08/24/20	Time: 0910	Received By: <i>[Signature]</i>	Time: 08/24/20	Laboratory Check In Information						
Relinquished By (3):	<i>[Signature]</i>	Date:	Time:	Received By:	Time:	Temp Blank °C						
Relinquished By (4):	<i>[Signature]</i>	Date:	Time:	Received For By Laboratory:	Time:	Chain of Custody Seal (Circle):						
						Intact						
						Broken						
						Absent						



Login Sample Receipt Checklist

Client: R&M Consultants, Inc

Job Number: 320-63958-1

Login Number: 63958

List Source: Eurofins TestAmerica, Sacramento

List Number: 1

Creator: Guzman, Juan

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

ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

Laboratory Job ID: 320-63979-1

Client Project/Site: Bethel Airport Main Runway Reconstruction

For:

R&M Consultants, Inc
9101 Vanguard Drive
Anchorage, Alaska 99507

Attn: Christopher Fell



Authorized for release by:
9/4/2020 9:04:15 AM

Jill Kellmann, Client Service Manager
(916)374-4402
Jill.Kellmann@Eurofinset.com

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

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



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Definitions/Glossary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5	Isotope dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Case Narrative

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Job ID: 320-63979-1

Laboratory: Eurofins TestAmerica, Sacramento

Narrative

Receipt

The samples were received on 8/25/2020 9:50 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.6° C.

LCMS

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS for the following samples : BET20-TH04-02 (320-63979-3), BET20-TH06-01 (320-63979-5), BET20-TH35-01 (320-63979-17), BET20-TH36-01 (320-63979-18) and (320-63979-A-2-C MSD). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-8:2 FTS and M2-4:2 FTS in the following sample: BET20-TH34-01 (320-63979-16). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for several analytes in the following sample: BET20-TH33-01 (320-63979-15). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

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

General Chemistry

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

Organic Prep

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-406783.

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

Detection Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-WA-RB04

Lab Sample ID: 320-63979-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.30	J B	1.8	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.51	J B	1.8	0.32	ng/L	1		537 (modified)	Total/NA

Client Sample ID: BET20-TH04-01

Lab Sample ID: 320-63979-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.21	B	0.21	0.029	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.16	J	0.21	0.090	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.53		0.21	0.033	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.73		0.53	0.21	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH04-02

Lab Sample ID: 320-63979-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.20	J B	0.21	0.029	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.069	J	0.21	0.044	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.0		0.21	0.089	ug/Kg	1	*	537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.027	J	0.21	0.021	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.49		0.21	0.032	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH04-03

Lab Sample ID: 320-63979-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.20	J B	0.22	0.031	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.15	J	0.22	0.094	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.45		0.22	0.034	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.80		0.55	0.22	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH06-01

Lab Sample ID: 320-63979-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.21	B	0.21	0.029	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.49	J	0.52	0.21	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH06-02

Lab Sample ID: 320-63979-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J B	0.20	0.028	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.32	J	0.50	0.20	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH05-01

Lab Sample ID: 320-63979-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J B	0.21	0.029	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.061	J	0.21	0.032	ug/Kg	1	*	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.39	J	0.52	0.21	ug/Kg	1	*	537 (modified)	Total/NA

Client Sample ID: BET20-TH05-02

Lab Sample ID: 320-63979-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.13	J B	0.19	0.027	ug/Kg	1	*	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Detection Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH05-03

Lab Sample ID: 320-63979-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.060	J	0.20	0.031	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.20	J	0.50	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH29-01

Lab Sample ID: 320-63979-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J B	0.20	0.028	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH29-02

Lab Sample ID: 320-63979-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.18	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.36	J	0.52	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH31-01

Lab Sample ID: 320-63979-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J B	0.19	0.027	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.31	J	0.48	0.19	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH31-02

Lab Sample ID: 320-63979-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.21	B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.24	J	0.52	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH32-01

Lab Sample ID: 320-63979-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.30	J	0.53	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH33-01

Lab Sample ID: 320-63979-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.19	J B	0.22	0.031	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.038	J	0.22	0.032	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.037	J	0.22	0.034	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.35	J	0.55	0.22	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH34-01

Lab Sample ID: 320-63979-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.18	J B	0.19	0.027	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.29	J	0.49	0.19	ug/Kg	1	✳	537 (modified)	Total/NA

Client Sample ID: BET20-TH35-01

Lab Sample ID: 320-63979-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.16	J B	0.21	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.23	J	0.52	0.21	ug/Kg	1	✳	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Detection Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH36-01

Lab Sample ID: 320-63979-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J B	0.20	0.029	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.29	J	0.51	0.20	ug/Kg	1	✳	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-WA-RB04

Lab Sample ID: 320-63979-1

Date Collected: 08/16/20 00:15

Matrix: Water

Date Received: 08/25/20 09:50

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.8	0.32	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.53	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.23	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.78	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.29	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.51	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.27	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.28	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorohexanesulfonic acid (PFHxS)	0.30	J B	1.8	0.16	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.17	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.50	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.15	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		08/26/20 11:42	08/27/20 19:07	1
Perfluorooctanesulfonamide (FOSA)	0.51	J B	1.8	0.32	ng/L		08/26/20 11:42	08/27/20 19:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18	2.9	ng/L		08/26/20 11:42	08/27/20 19:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18	1.7	ng/L		08/26/20 11:42	08/27/20 19:07	1
4:2 FTS	ND		18	4.8	ng/L		08/26/20 11:42	08/27/20 19:07	1
6:2 FTS	ND		18	1.8	ng/L		08/26/20 11:42	08/27/20 19:07	1
8:2 FTS	ND		18	1.8	ng/L		08/26/20 11:42	08/27/20 19:07	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	74		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C5 PFPeA	77		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C2 PFHxA	79		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C4 PFHpA	76		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C4 PFOA	75		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C5 PFNA	81		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C2 PFDA	86		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C2 PFUnA	89		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C2 PFDoA	65		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C2 PFTeDA	72		25 - 150				08/26/20 11:42	08/27/20 19:07	1
18O2 PFHxS	84		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C4 PFOS	82		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C8 FOSA	76		25 - 150				08/26/20 11:42	08/27/20 19:07	1
d3-NMeFOSAA	77		25 - 150				08/26/20 11:42	08/27/20 19:07	1
d5-NEtFOSAA	80		25 - 150				08/26/20 11:42	08/27/20 19:07	1
M2-6:2 FTS	84		25 - 150				08/26/20 11:42	08/27/20 19:07	1
M2-8:2 FTS	95		25 - 150				08/26/20 11:42	08/27/20 19:07	1
M2-4:2 FTS	70		25 - 150				08/26/20 11:42	08/27/20 19:07	1
13C3 PFBS	79		25 - 150				08/26/20 11:42	08/27/20 19:07	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH04-01

Lab Sample ID: 320-63979-2

Date Collected: 08/16/20 23:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 90.8

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.21	B	0.21	0.029	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorooctanoic acid (PFOA)	0.16	J	0.21	0.090	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.054	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorohexanesulfonic acid (PFHxS)	0.53		0.21	0.033	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorooctanesulfonic acid (PFOS)	0.73		0.53	0.21	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.086	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
4:2 FTS	ND		2.1	0.39	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/26/20 11:31	08/28/20 15:09	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	74		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C5 PFPeA	75		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C2 PFHxA	76		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C4 PFHpA	82		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C4 PFOA	80		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C5 PFNA	87		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C2 PFDA	78		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C2 PFUnA	86		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C2 PFDoA	82		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C2 PFTeDA	80		25 - 150				08/26/20 11:31	08/28/20 15:09	1
18O2 PFHxS	76		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C4 PFOS	77		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C8 FOSA	72		25 - 150				08/26/20 11:31	08/28/20 15:09	1
d3-NMeFOSAA	78		25 - 150				08/26/20 11:31	08/28/20 15:09	1
d5-NEtFOSAA	86		25 - 150				08/26/20 11:31	08/28/20 15:09	1
M2-6:2 FTS	126		25 - 150				08/26/20 11:31	08/28/20 15:09	1
M2-8:2 FTS	118		25 - 150				08/26/20 11:31	08/28/20 15:09	1
M2-4:2 FTS	134		25 - 150				08/26/20 11:31	08/28/20 15:09	1
13C3 PFBS	72		25 - 150				08/26/20 11:31	08/28/20 15:09	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH04-01

Lab Sample ID: 320-63979-2

Date Collected: 08/16/20 23:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 90.8

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.2		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	90.8		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH04-02

Lab Sample ID: 320-63979-3

Date Collected: 08/17/20 00:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 93.0

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.20	J B	0.21	0.029	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorohexanoic acid (PFHxA)	0.069	J	0.21	0.044	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorooctanoic acid (PFOA)	4.0		0.21	0.089	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluoropentanesulfonic acid (PFPeS)	0.027	J	0.21	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorohexanesulfonic acid (PFHxS)	0.49		0.21	0.032	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.52	0.21	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
4:2 FTS	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/26/20 11:31	08/28/20 15:37	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	80		25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C5 PFPeA	83		25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C2 PFHxA	87		25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C4 PFHpA	90		25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C4 PFOA	83		25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C5 PFNA	95		25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C2 PFDA	90		25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C2 PFUnA	93		25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C2 PFDoA	90		25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C2 PFTeDA	89		25 - 150	08/26/20 11:31	08/28/20 15:37	1
18O2 PFHxS	82		25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C4 PFOS	80		25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C8 FOSA	85		25 - 150	08/26/20 11:31	08/28/20 15:37	1
d3-NMeFOSAA	95		25 - 150	08/26/20 11:31	08/28/20 15:37	1
d5-NEtFOSAA	93		25 - 150	08/26/20 11:31	08/28/20 15:37	1
M2-6:2 FTS	123		25 - 150	08/26/20 11:31	08/28/20 15:37	1
M2-8:2 FTS	133		25 - 150	08/26/20 11:31	08/28/20 15:37	1
M2-4:2 FTS	161	*5	25 - 150	08/26/20 11:31	08/28/20 15:37	1
13C3 PFBS	78		25 - 150	08/26/20 11:31	08/28/20 15:37	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH04-02

Lab Sample ID: 320-63979-3

Date Collected: 08/17/20 00:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 93.0

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.0		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	93.0		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH04-03

Lab Sample ID: 320-63979-4

Date Collected: 08/16/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 90.0

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.20	J B	0.22	0.031	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluoropentanoic acid (PFPeA)	ND		0.22	0.084	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorohexanoic acid (PFHxA)	ND		0.22	0.046	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluoroheptanoic acid (PFHpA)	ND		0.22	0.032	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorooctanoic acid (PFOA)	0.15	J	0.22	0.094	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.039	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.024	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.039	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.073	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.056	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.059	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.027	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.22	0.022	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorohexanesulfonic acid (PFHxS)	0.45		0.22	0.034	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.22	0.038	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorooctanesulfonic acid (PFOS)	0.80		0.55	0.22	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorononanesulfonic acid (PFNS)	ND		0.22	0.022	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.22	0.043	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
Perfluorooctanesulfonamide (FOSA)	ND		0.22	0.090	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.2	0.43	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.2	0.41	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
4:2 FTS	ND		2.2	0.41	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
6:2 FTS	ND		2.2	0.16	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1
8:2 FTS	ND		2.2	0.27	ug/Kg	☼	08/26/20 11:31	08/28/20 15:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	80		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C5 PFPeA	83		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C2 PFHxA	84		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C4 PFHpA	87		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C4 PFOA	84		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C5 PFNA	90		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C2 PFDA	93		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C2 PFUnA	93		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C2 PFDoA	89		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C2 PFTeDA	91		25 - 150	08/26/20 11:31	08/28/20 15:46	1
18O2 PFHxS	82		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C4 PFOS	79		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C8 FOSA	76		25 - 150	08/26/20 11:31	08/28/20 15:46	1
d3-NMeFOSAA	87		25 - 150	08/26/20 11:31	08/28/20 15:46	1
d5-NEtFOSAA	95		25 - 150	08/26/20 11:31	08/28/20 15:46	1
M2-6:2 FTS	131		25 - 150	08/26/20 11:31	08/28/20 15:46	1
M2-8:2 FTS	124		25 - 150	08/26/20 11:31	08/28/20 15:46	1
M2-4:2 FTS	114		25 - 150	08/26/20 11:31	08/28/20 15:46	1
13C3 PFBS	81		25 - 150	08/26/20 11:31	08/28/20 15:46	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH04-03

Lab Sample ID: 320-63979-4

Date Collected: 08/16/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 90.0

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	10.0		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	90.0		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH06-01

Lab Sample ID: 320-63979-5

Date Collected: 08/17/20 02:15

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.8

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.21	B	0.21	0.029	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.043	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.089	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorooctanesulfonic acid (PFOS)	0.49	J	0.52	0.21	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
4:2 FTS	ND		2.1	0.38	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
6:2 FTS	ND		2.1	0.16	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1
8:2 FTS	ND		2.1	0.26	ug/Kg	✳	08/26/20 11:31	08/28/20 15:56	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	83		25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C5 PFPeA	86		25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C2 PFHxA	90		25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C4 PFHpA	92		25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C4 PFOA	82		25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C5 PFNA	97		25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C2 PFDA	85		25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C2 PFUnA	89		25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C2 PFDoA	88		25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C2 PFTeDA	90		25 - 150	08/26/20 11:31	08/28/20 15:56	1
18O2 PFHxS	80		25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C4 PFOS	82		25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C8 FOSA	77		25 - 150	08/26/20 11:31	08/28/20 15:56	1
d3-NMeFOSAA	71		25 - 150	08/26/20 11:31	08/28/20 15:56	1
d5-NEtFOSAA	73		25 - 150	08/26/20 11:31	08/28/20 15:56	1
M2-6:2 FTS	106		25 - 150	08/26/20 11:31	08/28/20 15:56	1
M2-8:2 FTS	105		25 - 150	08/26/20 11:31	08/28/20 15:56	1
M2-4:2 FTS	158	*5	25 - 150	08/26/20 11:31	08/28/20 15:56	1
13C3 PFBS	78		25 - 150	08/26/20 11:31	08/28/20 15:56	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH06-01

Lab Sample ID: 320-63979-5

Date Collected: 08/17/20 02:15

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.8

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.2		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	95.8		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH06-02

Lab Sample ID: 320-63979-6

Date Collected: 08/17/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.5

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.17	J B	0.20	0.028	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorooctanesulfonic acid (PFOS)	0.32	J	0.50	0.20	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
4:2 FTS	ND		2.0	0.37	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/26/20 11:31	08/28/20 16:05	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	83		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C5 PFPeA	86		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C2 PFHxA	88		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C4 PFHpA	91		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C4 PFOA	84		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C5 PFNA	94		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C2 PFDA	87		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C2 PFUnA	88		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C2 PFDoA	91		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C2 PFTeDA	92		25 - 150				08/26/20 11:31	08/28/20 16:05	1
18O2 PFHxS	84		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C4 PFOS	81		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C8 FOSA	75		25 - 150				08/26/20 11:31	08/28/20 16:05	1
d3-NMeFOSAA	62		25 - 150				08/26/20 11:31	08/28/20 16:05	1
d5-NEtFOSAA	63		25 - 150				08/26/20 11:31	08/28/20 16:05	1
M2-6:2 FTS	79		25 - 150				08/26/20 11:31	08/28/20 16:05	1
M2-8:2 FTS	74		25 - 150				08/26/20 11:31	08/28/20 16:05	1
M2-4:2 FTS	81		25 - 150				08/26/20 11:31	08/28/20 16:05	1
13C3 PFBS	80		25 - 150				08/26/20 11:31	08/28/20 16:05	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH06-02

Lab Sample ID: 320-63979-6

Date Collected: 08/17/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.5		0.1	0.1	%			08/27/20 11:26	1
Percent Solids	95.5		0.1	0.1	%			08/27/20 11:26	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH05-01

Lab Sample ID: 320-63979-7

Date Collected: 08/17/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.7

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.17	J B	0.21	0.029	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.043	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.089	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorohexanesulfonic acid (PFHxS)	0.061	J	0.21	0.032	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorooctanesulfonic acid (PFOS)	0.39	J	0.52	0.21	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
4:2 FTS	ND		2.1	0.38	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
6:2 FTS	ND		2.1	0.15	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1
8:2 FTS	ND		2.1	0.26	ug/Kg	✳	08/26/20 11:31	08/28/20 16:14	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	78		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C5 PFPeA	83		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C2 PFHxA	83		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C4 PFHpA	85		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C4 PFOA	81		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C5 PFNA	91		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C2 PFDA	88		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C2 PFUnA	87		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C2 PFDoA	89		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C2 PFTeDA	83		25 - 150	08/26/20 11:31	08/28/20 16:14	1
18O2 PFHxS	77		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C4 PFOS	74		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C8 FOSA	72		25 - 150	08/26/20 11:31	08/28/20 16:14	1
d3-NMeFOSAA	68		25 - 150	08/26/20 11:31	08/28/20 16:14	1
d5-NEtFOSAA	73		25 - 150	08/26/20 11:31	08/28/20 16:14	1
M2-6:2 FTS	95		25 - 150	08/26/20 11:31	08/28/20 16:14	1
M2-8:2 FTS	84		25 - 150	08/26/20 11:31	08/28/20 16:14	1
M2-4:2 FTS	105		25 - 150	08/26/20 11:31	08/28/20 16:14	1
13C3 PFBS	71		25 - 150	08/26/20 11:31	08/28/20 16:14	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH05-01

Lab Sample ID: 320-63979-7

Date Collected: 08/17/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.7

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.3		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	95.7		0.1	0.1	%			08/28/20 15:01	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH05-02

Lab Sample ID: 320-63979-8

Date Collected: 08/17/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.3

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.13	J B	0.19	0.027	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.075	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.041	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.028	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.084	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.065	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorotridecanoic acid (PFTriA)	ND		0.19	0.050	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.19	0.052	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.024	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.030	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.19	0.034	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.49	0.19	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.038	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
Perfluorooctanesulfonamide (FOSA)	ND		0.19	0.080	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.36	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
4:2 FTS	ND		1.9	0.36	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
6:2 FTS	ND		1.9	0.15	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1
8:2 FTS	ND		1.9	0.24	ug/Kg	☼	08/26/20 11:31	08/28/20 16:42	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	74		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C5 PFPeA	76		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C2 PFHxA	78		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C4 PFHpA	79		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C4 PFOA	76		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C5 PFNA	78		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C2 PFDA	78		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C2 PFUnA	81		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C2 PFDoA	80		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C2 PFTeDA	79		25 - 150	08/26/20 11:31	08/28/20 16:42	1
18O2 PFHxS	71		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C4 PFOS	68		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C8 FOSA	65		25 - 150	08/26/20 11:31	08/28/20 16:42	1
d3-NMeFOSAA	71		25 - 150	08/26/20 11:31	08/28/20 16:42	1
d5-NEtFOSAA	67		25 - 150	08/26/20 11:31	08/28/20 16:42	1
M2-6:2 FTS	69		25 - 150	08/26/20 11:31	08/28/20 16:42	1
M2-8:2 FTS	64		25 - 150	08/26/20 11:31	08/28/20 16:42	1
M2-4:2 FTS	70		25 - 150	08/26/20 11:31	08/28/20 16:42	1
13C3 PFBS	69		25 - 150	08/26/20 11:31	08/28/20 16:42	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH05-02

Lab Sample ID: 320-63979-8

Date Collected: 08/17/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.3

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.7		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	95.3		0.1	0.1	%			08/28/20 15:01	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH05-03

Lab Sample ID: 320-63979-9

Date Collected: 08/17/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.17	J B	0.20	0.028	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.087	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorohexanesulfonic acid (PFHxS)	0.060	J	0.20	0.031	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorooctanesulfonic acid (PFOS)	0.20	J	0.50	0.20	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
4:2 FTS	ND		2.0	0.37	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
6:2 FTS	ND		2.0	0.15	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
8:2 FTS	ND		2.0	0.25	ug/Kg	✱	08/26/20 11:31	08/28/20 16:52	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	56		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C5 PFPeA	58		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C2 PFHxA	57		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C4 PFHpA	60		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C4 PFOA	57		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C5 PFNA	62		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C2 PFDA	62		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C2 PFUnA	66		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C2 PFDoA	61		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C2 PFTeDA	65		25 - 150				08/26/20 11:31	08/28/20 16:52	1
18O2 PFHxS	54		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C4 PFOS	56		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C8 FOSA	57		25 - 150				08/26/20 11:31	08/28/20 16:52	1
d3-NMeFOSAA	62		25 - 150				08/26/20 11:31	08/28/20 16:52	1
d5-NEtFOSAA	69		25 - 150				08/26/20 11:31	08/28/20 16:52	1
M2-6:2 FTS	83		25 - 150				08/26/20 11:31	08/28/20 16:52	1
M2-8:2 FTS	79		25 - 150				08/26/20 11:31	08/28/20 16:52	1
M2-4:2 FTS	96		25 - 150				08/26/20 11:31	08/28/20 16:52	1
13C3 PFBS	55		25 - 150				08/26/20 11:31	08/28/20 16:52	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH05-03

Lab Sample ID: 320-63979-9

Date Collected: 08/17/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.8		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	95.2		0.1	0.1	%			08/28/20 15:01	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH29-01

Lab Sample ID: 320-63979-10

Date Collected: 08/18/20 00:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.8

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J B	0.20	0.028	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.076	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.041	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.085	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.035	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.035	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.066	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.050	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.053	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.034	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.49	0.20	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.038	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.081	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.36	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
4:2 FTS	ND		2.0	0.36	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/26/20 11:31	08/28/20 17:01	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	75		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C5 PFPeA	77		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C2 PFHxA	79		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C4 PFHpA	83		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C4 PFOA	79		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C5 PFNA	83		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C2 PFDA	78		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C2 PFUnA	88		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C2 PFDoA	80		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C2 PFTeDA	83		25 - 150	08/26/20 11:31	08/28/20 17:01	1
18O2 PFHxS	69		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C4 PFOS	71		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C8 FOSA	67		25 - 150	08/26/20 11:31	08/28/20 17:01	1
d3-NMeFOSAA	76		25 - 150	08/26/20 11:31	08/28/20 17:01	1
d5-NEtFOSAA	78		25 - 150	08/26/20 11:31	08/28/20 17:01	1
M2-6:2 FTS	88		25 - 150	08/26/20 11:31	08/28/20 17:01	1
M2-8:2 FTS	86		25 - 150	08/26/20 11:31	08/28/20 17:01	1
M2-4:2 FTS	119		25 - 150	08/26/20 11:31	08/28/20 17:01	1
13C3 PFBS	68		25 - 150	08/26/20 11:31	08/28/20 17:01	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH29-01

Lab Sample ID: 320-63979-10

Date Collected: 08/18/20 00:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.8

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.2		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	95.8		0.1	0.1	%			08/28/20 15:01	1

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH29-02

Lab Sample ID: 320-63979-11

Date Collected: 08/18/20 00:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.9

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.18	J B	0.21	0.029	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.089	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorooctanesulfonic acid (PFOS)	0.36	J	0.52	0.21	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
4:2 FTS	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/26/20 11:31	08/28/20 17:10	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	56		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C5 PFPeA	57		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C2 PFHxA	56		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C4 PFHpA	58		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C4 PFOA	55		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C5 PFNA	62		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C2 PFDA	58		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C2 PFUnA	61		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C2 PFDoA	59		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C2 PFTeDA	58		25 - 150				08/26/20 11:31	08/28/20 17:10	1
18O2 PFHxS	58		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C4 PFOS	56		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C8 FOSA	47		25 - 150				08/26/20 11:31	08/28/20 17:10	1
d3-NMeFOSAA	50		25 - 150				08/26/20 11:31	08/28/20 17:10	1
d5-NEtFOSAA	53		25 - 150				08/26/20 11:31	08/28/20 17:10	1
M2-6:2 FTS	58		25 - 150				08/26/20 11:31	08/28/20 17:10	1
M2-8:2 FTS	54		25 - 150				08/26/20 11:31	08/28/20 17:10	1
M2-4:2 FTS	57		25 - 150				08/26/20 11:31	08/28/20 17:10	1
13C3 PFBS	56		25 - 150				08/26/20 11:31	08/28/20 17:10	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH29-02

Lab Sample ID: 320-63979-11

Date Collected: 08/18/20 00:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.1		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	92.9		0.1	0.1	%			08/28/20 15:01	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH31-01

Lab Sample ID: 320-63979-12

Date Collected: 08/18/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 91.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J B	0.19	0.027	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.074	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.041	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.028	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.083	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.065	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorotridecanoic acid (PFTriA)	ND		0.19	0.049	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.19	0.052	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.024	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.030	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.19	0.034	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorooctanesulfonic acid (PFOS)	0.31	J	0.48	0.19	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.038	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Perfluorooctanesulfonamide (FOSA)	ND		0.19	0.079	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.36	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
4:2 FTS	ND		1.9	0.36	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
6:2 FTS	ND		1.9	0.14	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
8:2 FTS	ND		1.9	0.24	ug/Kg	☼	08/26/20 11:31	08/28/20 17:20	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	57		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C5 PFPeA	59		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C2 PFHxA	56		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C4 PFHpA	61		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C4 PFOA	58		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C5 PFNA	65		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C2 PFDA	59		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C2 PFUnA	64		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C2 PFDoA	61		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C2 PFTeDA	61		25 - 150				08/26/20 11:31	08/28/20 17:20	1
18O2 PFHxS	56		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C4 PFOS	52		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C8 FOSA	55		25 - 150				08/26/20 11:31	08/28/20 17:20	1
d3-NMeFOSAA	53		25 - 150				08/26/20 11:31	08/28/20 17:20	1
d5-NEtFOSAA	56		25 - 150				08/26/20 11:31	08/28/20 17:20	1
M2-6:2 FTS	60		25 - 150				08/26/20 11:31	08/28/20 17:20	1
M2-8:2 FTS	58		25 - 150				08/26/20 11:31	08/28/20 17:20	1
M2-4:2 FTS	57		25 - 150				08/26/20 11:31	08/28/20 17:20	1
13C3 PFBS	54		25 - 150				08/26/20 11:31	08/28/20 17:20	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH31-01

Lab Sample ID: 320-63979-12

Date Collected: 08/18/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 91.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.8		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	91.2		0.1	0.1	%			08/28/20 15:01	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH31-02

Lab Sample ID: 320-63979-13

Date Collected: 08/18/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 91.4

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.21	B	0.21	0.029	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.090	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorooctanesulfonic acid (PFOS)	0.24	J	0.52	0.21	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
4:2 FTS	ND		2.1	0.39	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
6:2 FTS	ND		2.1	0.16	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1
8:2 FTS	ND		2.1	0.26	ug/Kg	✱	08/26/20 11:31	08/28/20 17:29	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	64		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C5 PFPeA	66		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C2 PFHxA	68		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C4 PFHpA	68		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C4 PFOA	67		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C5 PFNA	72		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C2 PFDA	67		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C2 PFUnA	71		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C2 PFDoA	72		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C2 PFTeDA	70		25 - 150	08/26/20 11:31	08/28/20 17:29	1
18O2 PFHxS	64		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C4 PFOS	64		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C8 FOSA	62		25 - 150	08/26/20 11:31	08/28/20 17:29	1
d3-NMeFOSAA	67		25 - 150	08/26/20 11:31	08/28/20 17:29	1
d5-NEtFOSAA	66		25 - 150	08/26/20 11:31	08/28/20 17:29	1
M2-6:2 FTS	82		25 - 150	08/26/20 11:31	08/28/20 17:29	1
M2-8:2 FTS	74		25 - 150	08/26/20 11:31	08/28/20 17:29	1
M2-4:2 FTS	84		25 - 150	08/26/20 11:31	08/28/20 17:29	1
13C3 PFBS	60		25 - 150	08/26/20 11:31	08/28/20 17:29	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH31-02

Lab Sample ID: 320-63979-13

Date Collected: 08/18/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 91.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.6		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	91.4		0.1	0.1	%			08/28/20 15:01	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH32-01

Lab Sample ID: 320-63979-14

Date Collected: 08/18/20 23:35

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.17	J B	0.21	0.029	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.081	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.031	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.090	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.038	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.054	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.057	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.033	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorooctanesulfonic acid (PFOS)	0.30	J	0.53	0.21	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.086	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
4:2 FTS	ND		2.1	0.39	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
6:2 FTS	ND		2.1	0.16	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1
8:2 FTS	ND		2.1	0.26	ug/Kg	✳	08/26/20 11:31	08/28/20 17:39	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	62		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C5 PFPeA	64		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C2 PFHxA	70		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C4 PFHpA	69		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C4 PFOA	66		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C5 PFNA	75		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C2 PFDA	68		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C2 PFUnA	70		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C2 PFDoA	65		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C2 PFTeDA	60		25 - 150	08/26/20 11:31	08/28/20 17:39	1
18O2 PFHxS	64		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C4 PFOS	65		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C8 FOSA	62		25 - 150	08/26/20 11:31	08/28/20 17:39	1
d3-NMeFOSAA	63		25 - 150	08/26/20 11:31	08/28/20 17:39	1
d5-NEtFOSAA	64		25 - 150	08/26/20 11:31	08/28/20 17:39	1
M2-6:2 FTS	94		25 - 150	08/26/20 11:31	08/28/20 17:39	1
M2-8:2 FTS	82		25 - 150	08/26/20 11:31	08/28/20 17:39	1
M2-4:2 FTS	129		25 - 150	08/26/20 11:31	08/28/20 17:39	1
13C3 PFBS	60		25 - 150	08/26/20 11:31	08/28/20 17:39	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH32-01

Lab Sample ID: 320-63979-14

Date Collected: 08/18/20 23:35

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.9		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	92.1		0.1	0.1	%			08/28/20 15:01	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH33-01

Lab Sample ID: 320-63979-15

Date Collected: 08/19/20 00:10

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 88.6

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.19	J B	0.22	0.031	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluoropentanoic acid (PFPeA)	ND		0.22	0.085	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorohexanoic acid (PFHxA)	ND		0.22	0.046	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluoroheptanoic acid (PFHpA)	0.038	J	0.22	0.032	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorooctanoic acid (PFOA)	ND		0.22	0.095	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorononanoic acid (PFNA)	ND		0.22	0.040	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorodecanoic acid (PFDA)	ND		0.22	0.024	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluoroundecanoic acid (PFUnA)	ND		0.22	0.040	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorododecanoic acid (PFDoA)	ND		0.22	0.074	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorotridecanoic acid (PFTriA)	ND		0.22	0.056	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.22	0.059	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.22	0.027	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.22	0.022	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorohexanesulfonic acid (PFHxS)	0.037	J	0.22	0.034	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.22	0.038	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorooctanesulfonic acid (PFOS)	0.35	J	0.55	0.22	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorononanesulfonic acid (PFNS)	ND		0.22	0.022	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.22	0.043	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
Perfluorooctanesulfonamide (FOSA)	ND		0.22	0.090	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.2	0.43	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.2	0.41	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
4:2 FTS	ND		2.2	0.41	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
6:2 FTS	ND		2.2	0.16	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1
8:2 FTS	ND		2.2	0.27	ug/Kg	☼	08/26/20 11:31	08/28/20 17:48	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	54		25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C5 PFPeA	60		25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C2 PFHxA	63		25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C4 PFHpA	73		25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C4 PFOA	64		25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C5 PFNA	74		25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C2 PFDA	67		25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C2 PFUnA	73		25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C2 PFDoA	76		25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C2 PFTeDA	71		25 - 150	08/26/20 11:31	08/28/20 17:48	1
18O2 PFHxS	69		25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C4 PFOS	71		25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C8 FOSA	64		25 - 150	08/26/20 11:31	08/28/20 17:48	1
d3-NMeFOSAA	57		25 - 150	08/26/20 11:31	08/28/20 17:48	1
d5-NEtFOSAA	64		25 - 150	08/26/20 11:31	08/28/20 17:48	1
M2-6:2 FTS	167	*5	25 - 150	08/26/20 11:31	08/28/20 17:48	1
M2-8:2 FTS	171	*5	25 - 150	08/26/20 11:31	08/28/20 17:48	1
M2-4:2 FTS	216	*5	25 - 150	08/26/20 11:31	08/28/20 17:48	1
13C3 PFBS	64		25 - 150	08/26/20 11:31	08/28/20 17:48	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH33-01

Lab Sample ID: 320-63979-15

Date Collected: 08/19/20 00:10

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 88.6

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	11.4		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	88.6		0.1	0.1	%			08/28/20 15:01	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH34-01

Lab Sample ID: 320-63979-16

Date Collected: 08/19/20 00:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.5

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.18	J B	0.19	0.027	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluoropentanoic acid (PFPeA)	ND		0.19	0.075	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorohexanoic acid (PFHxA)	ND		0.19	0.041	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluoroheptanoic acid (PFHpA)	ND		0.19	0.028	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorooctanoic acid (PFOA)	ND		0.19	0.084	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorononanoic acid (PFNA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorodecanoic acid (PFDA)	ND		0.19	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluoroundecanoic acid (PFUnA)	ND		0.19	0.035	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorododecanoic acid (PFDoA)	ND		0.19	0.065	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorotridecanoic acid (PFTriA)	ND		0.19	0.050	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.19	0.052	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.19	0.024	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.19	0.030	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.19	0.034	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorooctanesulfonic acid (PFOS)	0.29	J	0.49	0.19	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorononanesulfonic acid (PFNS)	ND		0.19	0.019	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.19	0.038	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Perfluorooctanesulfonamide (FOSA)	ND		0.19	0.080	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1.9	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1.9	0.36	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
4:2 FTS	ND		1.9	0.36	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
6:2 FTS	ND		1.9	0.15	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
8:2 FTS	ND		1.9	0.24	ug/Kg	☼	08/26/20 11:31	08/28/20 17:57	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	70		25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C5 PFPeA	72		25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C2 PFHxA	82		25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C4 PFHpA	80		25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C4 PFOA	72		25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C5 PFNA	87		25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C2 PFDA	80		25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C2 PFUnA	87		25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C2 PFDoA	85		25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C2 PFTeDA	83		25 - 150				08/26/20 11:31	08/28/20 17:57	1
18O2 PFHxS	76		25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C4 PFOS	74		25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C8 FOSA	78		25 - 150				08/26/20 11:31	08/28/20 17:57	1
d3-NMeFOSAA	83		25 - 150				08/26/20 11:31	08/28/20 17:57	1
d5-NEtFOSAA	85		25 - 150				08/26/20 11:31	08/28/20 17:57	1
M2-6:2 FTS	139		25 - 150				08/26/20 11:31	08/28/20 17:57	1
M2-8:2 FTS	162	*5	25 - 150				08/26/20 11:31	08/28/20 17:57	1
M2-4:2 FTS	210	*5	25 - 150				08/26/20 11:31	08/28/20 17:57	1
13C3 PFBS	71		25 - 150				08/26/20 11:31	08/28/20 17:57	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH34-01

Lab Sample ID: 320-63979-16

Date Collected: 08/19/20 00:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.5		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	94.5		0.1	0.1	%			08/28/20 15:01	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH35-01

Lab Sample ID: 320-63979-17

Date Collected: 08/19/20 01:15

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.8

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.16	J B	0.21	0.029	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.080	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.044	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.089	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.070	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorotridecanoic acid (PFTriA)	ND		0.21	0.053	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.056	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorooctanesulfonic acid (PFOS)	0.23	J	0.52	0.21	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.041	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.085	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.41	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
4:2 FTS	ND		2.1	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
6:2 FTS	ND		2.1	0.16	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
8:2 FTS	ND		2.1	0.26	ug/Kg	☼	08/26/20 11:31	08/28/20 18:07	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	68		25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C5 PFPeA	70		25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C2 PFHxA	78		25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C4 PFHpA	79		25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C4 PFOA	72		25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C5 PFNA	80		25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C2 PFDA	75		25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C2 PFUnA	75		25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C2 PFDoA	77		25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C2 PFTeDA	77		25 - 150				08/26/20 11:31	08/28/20 18:07	1
18O2 PFHxS	73		25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C4 PFOS	71		25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C8 FOSA	70		25 - 150				08/26/20 11:31	08/28/20 18:07	1
d3-NMeFOSAA	77		25 - 150				08/26/20 11:31	08/28/20 18:07	1
d5-NEtFOSAA	80		25 - 150				08/26/20 11:31	08/28/20 18:07	1
M2-6:2 FTS	105		25 - 150				08/26/20 11:31	08/28/20 18:07	1
M2-8:2 FTS	105		25 - 150				08/26/20 11:31	08/28/20 18:07	1
M2-4:2 FTS	162	*5	25 - 150				08/26/20 11:31	08/28/20 18:07	1
13C3 PFBS	67		25 - 150				08/26/20 11:31	08/28/20 18:07	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH35-01

Lab Sample ID: 320-63979-17

Date Collected: 08/19/20 01:15

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.8

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.2		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	92.8		0.1	0.1	%			08/28/20 15:01	1

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Client Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH36-01

Lab Sample ID: 320-63979-18

Date Collected: 08/19/20 02:00

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.17	J B	0.20	0.029	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.079	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.043	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.030	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.088	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.037	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.037	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.068	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.052	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.055	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.032	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.036	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorooctanesulfonic acid (PFOS)	0.29	J	0.51	0.20	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.040	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.084	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.40	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
4:2 FTS	ND		2.0	0.38	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
6:2 FTS	ND		2.0	0.15	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
8:2 FTS	ND		2.0	0.25	ug/Kg	☼	08/26/20 11:31	08/28/20 18:35	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	80		25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C5 PFPeA	82		25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C2 PFHxA	90		25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C4 PFHpA	91		25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C4 PFOA	83		25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C5 PFNA	93		25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C2 PFDA	88		25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C2 PFUnA	95		25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C2 PFDoA	85		25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C2 PFTeDA	92		25 - 150				08/26/20 11:31	08/28/20 18:35	1
18O2 PFHxS	83		25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C4 PFOS	83		25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C8 FOSA	84		25 - 150				08/26/20 11:31	08/28/20 18:35	1
d3-NMeFOSAA	88		25 - 150				08/26/20 11:31	08/28/20 18:35	1
d5-NEtFOSAA	88		25 - 150				08/26/20 11:31	08/28/20 18:35	1
M2-6:2 FTS	133		25 - 150				08/26/20 11:31	08/28/20 18:35	1
M2-8:2 FTS	140		25 - 150				08/26/20 11:31	08/28/20 18:35	1
M2-4:2 FTS	195	*5	25 - 150				08/26/20 11:31	08/28/20 18:35	1
13C3 PFBS	78		25 - 150				08/26/20 11:31	08/28/20 18:35	1

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Client Sample Results

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH36-01

Lab Sample ID: 320-63979-18

Date Collected: 08/19/20 02:00

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.9		0.1	0.1	%			08/28/20 15:01	1
Percent Solids	94.1		0.1	0.1	%			08/28/20 15:01	1

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Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-63979-2	BET20-TH04-01	74	75	76	82	80	87	78	86
320-63979-2 MS	BET20-TH04-01	70	73	75	77	71	81	78	78
320-63979-2 MSD	BET20-TH04-01	88	88	93	98	92	102	92	98
320-63979-3	BET20-TH04-02	80	83	87	90	83	95	90	93
320-63979-4	BET20-TH04-03	80	83	84	87	84	90	93	93
320-63979-5	BET20-TH06-01	83	86	90	92	82	97	85	89
320-63979-6	BET20-TH06-02	83	86	88	91	84	94	87	88
320-63979-7	BET20-TH05-01	78	83	83	85	81	91	88	87
320-63979-8	BET20-TH05-02	74	76	78	79	76	78	78	81
320-63979-9	BET20-TH05-03	56	58	57	60	57	62	62	66
320-63979-10	BET20-TH29-01	75	77	79	83	79	83	78	88
320-63979-11	BET20-TH29-02	56	57	56	58	55	62	58	61
320-63979-12	BET20-TH31-01	57	59	56	61	58	65	59	64
320-63979-13	BET20-TH31-02	64	66	68	68	67	72	67	71
320-63979-14	BET20-TH32-01	62	64	70	69	66	75	68	70
320-63979-15	BET20-TH33-01	54	60	63	73	64	74	67	73
320-63979-16	BET20-TH34-01	70	72	82	80	72	87	80	87
320-63979-17	BET20-TH35-01	68	70	78	79	72	80	75	75
320-63979-18	BET20-TH36-01	80	82	90	91	83	93	88	95
LCS 320-406777/2-A	Lab Control Sample	53	56	53	56	56	59	56	57
MB 320-406777/1-A	Method Blank	76	80	77	81	85	81	78	81

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDaA (25-150)	PFTDA (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)	M262FTS (25-150)
320-63979-2	BET20-TH04-01	82	80	76	77	72	78	86	126
320-63979-2 MS	BET20-TH04-01	80	79	72	72	69	80	78	116
320-63979-2 MSD	BET20-TH04-01	94	99	88	90	82	92	95	134
320-63979-3	BET20-TH04-02	90	89	82	80	85	95	93	123
320-63979-4	BET20-TH04-03	89	91	82	79	76	87	95	131
320-63979-5	BET20-TH06-01	88	90	80	82	77	71	73	106
320-63979-6	BET20-TH06-02	91	92	84	81	75	62	63	79
320-63979-7	BET20-TH05-01	89	83	77	74	72	68	73	95
320-63979-8	BET20-TH05-02	80	79	71	68	65	71	67	69
320-63979-9	BET20-TH05-03	61	65	54	56	57	62	69	83
320-63979-10	BET20-TH29-01	80	83	69	71	67	76	78	88
320-63979-11	BET20-TH29-02	59	58	58	56	47	50	53	58
320-63979-12	BET20-TH31-01	61	61	56	52	55	53	56	60
320-63979-13	BET20-TH31-02	72	70	64	64	62	67	66	82
320-63979-14	BET20-TH32-01	65	60	64	65	62	63	64	94
320-63979-15	BET20-TH33-01	76	71	69	71	64	57	64	167 *5
320-63979-16	BET20-TH34-01	85	83	76	74	78	83	85	139
320-63979-17	BET20-TH35-01	77	77	73	71	70	77	80	105
320-63979-18	BET20-TH36-01	85	92	83	83	84	88	88	133
LCS 320-406777/2-A	Lab Control Sample	55	56	60	55	48	54	53	72
MB 320-406777/1-A	Method Blank	76	80	85	81	71	71	71	119

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)		
		M282FTS (25-150)	M242FTS (25-150)	C3PFBS (25-150)
320-63979-2	BET20-TH04-01	118	134	72

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Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Solid

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M282FTS (25-150)	M242FTS (25-150)	C3PFBS (25-150)
320-63979-2 MS	BET20-TH04-01	103	132	68
320-63979-2 MSD	BET20-TH04-01	139	154 *5	86
320-63979-3	BET20-TH04-02	133	161 *5	78
320-63979-4	BET20-TH04-03	124	114	81
320-63979-5	BET20-TH06-01	105	158 *5	78
320-63979-6	BET20-TH06-02	74	81	80
320-63979-7	BET20-TH05-01	84	105	71
320-63979-8	BET20-TH05-02	64	70	69
320-63979-9	BET20-TH05-03	79	96	55
320-63979-10	BET20-TH29-01	86	119	68
320-63979-11	BET20-TH29-02	54	57	56
320-63979-12	BET20-TH31-01	58	57	54
320-63979-13	BET20-TH31-02	74	84	60
320-63979-14	BET20-TH32-01	82	129	60
320-63979-15	BET20-TH33-01	171 *5	216 *5	64
320-63979-16	BET20-TH34-01	162 *5	210 *5	71
320-63979-17	BET20-TH35-01	105	162 *5	67
320-63979-18	BET20-TH36-01	140	195 *5	78
LCS 320-406777/2-A	Lab Control Sample	61	56	58
MB 320-406777/1-A	Method Blank	86	83	79

Surrogate Legend

- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- PFHxA = 13C2 PFHxA
- C4PFHA = 13C4 PFHpA
- PFOA = 13C4 PFOA
- PFNA = 13C5 PFNA
- PFDA = 13C2 PFDA
- PFUnA = 13C2 PFUnA
- PFDaA = 13C2 PFDaA
- PFTDA = 13C2 PFTeDA
- PFHxS = 18O2 PFHxS
- PFOS = 13C4 PFOS
- PFOSA = 13C8 FOSA
- d3NMFOS = d3-NMeFOSAA
- d5NEFOS = d5-NEtFOSAA
- M262FTS = M2-6:2 FTS
- M282FTS = M2-8:2 FTS
- M242FTS = M2-4:2 FTS
- C3PFBS = 13C3 PFBS

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-63979-1	BET20-WA-RB04	74	77	79	76	75	81	86	89
LCS 320-406783/2-A	Lab Control Sample	85	84	87	82	80	90	90	93
LCS 320-406783/3-A	Lab Control Sample Dup	81	86	87	88	79	91	90	88

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Isotope Dilution Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
MB 320-406783/1-A	Method Blank	86	94	87	96	91	96	105	96

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)	M262FTS (25-150)
320-63979-1	BET20-WA-RB04	65	72	84	82	76	77	80	84
LCS 320-406783/2-A	Lab Control Sample	86	76	92	90	79	85	86	88
LCS 320-406783/3-A	Lab Control Sample Dup	88	76	86	90	78	84	85	87
MB 320-406783/1-A	Method Blank	81	82	95	94	85	90	96	94

		Percent Isotope Dilution Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	M282FTS (25-150)	M242FTS (25-150)	C3PFBS (25-150)
320-63979-1	BET20-WA-RB04	95	70	79
LCS 320-406783/2-A	Lab Control Sample	98	72	88
LCS 320-406783/3-A	Lab Control Sample Dup	94	71	86
MB 320-406783/1-A	Method Blank	108	74	90

Surrogate Legend

- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- PFHxA = 13C2 PFHxA
- C4PFHA = 13C4 PFHpA
- PFOA = 13C4 PFOA
- PFNA = 13C5 PFNA
- PFDA = 13C2 PFDA
- PFUnA = 13C2 PFUnA
- PFDoA = 13C2 PFDoA
- PFTDA = 13C2 PFTeDA
- PFHxS = 18O2 PFHxS
- PFOS = 13C4 PFOS
- PFOSA = 13C8 FOSA
- d3NMFOS = d3-NMeFOSAA
- d5NEFOS = d5-NEtFOSAA
- M262FTS = M2-6:2 FTS
- M282FTS = M2-8:2 FTS
- M242FTS = M2-4:2 FTS
- C3PFBS = 13C3 PFBS

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-406777/1-A
Matrix: Solid
Analysis Batch: 407565

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 406777

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	0.178	J	0.20	0.028	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorotridecanoic acid (PFTriA)	ND		0.20	0.051	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.50	0.20	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
4:2 FTS	ND		2.0	0.37	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
6:2 FTS	ND		2.0	0.15	ug/Kg		08/26/20 11:31	08/28/20 14:50	1
8:2 FTS	ND		2.0	0.25	ug/Kg		08/26/20 11:31	08/28/20 14:50	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	76		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C5 PFPeA	80		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C2 PFHxA	77		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C4 PFHpA	81		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C4 PFOA	85		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C5 PFNA	81		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C2 PFDA	78		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C2 PFUnA	81		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C2 PFDoA	76		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C2 PFTeDA	80		25 - 150	08/26/20 11:31	08/28/20 14:50	1
18O2 PFHxS	85		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C4 PFOS	81		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C8 FOSA	71		25 - 150	08/26/20 11:31	08/28/20 14:50	1
d3-NMeFOSAA	71		25 - 150	08/26/20 11:31	08/28/20 14:50	1
d5-NEtFOSAA	71		25 - 150	08/26/20 11:31	08/28/20 14:50	1
M2-6:2 FTS	119		25 - 150	08/26/20 11:31	08/28/20 14:50	1
M2-8:2 FTS	86		25 - 150	08/26/20 11:31	08/28/20 14:50	1
M2-4:2 FTS	83		25 - 150	08/26/20 11:31	08/28/20 14:50	1
13C3 PFBS	79		25 - 150	08/26/20 11:31	08/28/20 14:50	1

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-406777/2-A
Matrix: Solid
Analysis Batch: 407565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406777

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	2.00	2.41		ug/Kg		121	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	1.85		ug/Kg		93	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	1.97		ug/Kg		99	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	2.09		ug/Kg		105	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	1.91		ug/Kg		96	72 - 132
Perfluorononanoic acid (PFNA)	2.00	1.80		ug/Kg		90	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.17		ug/Kg		108	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	2.05		ug/Kg		102	66 - 126
Perfluorododecanoic acid (PFDoA)	2.00	2.05		ug/Kg		102	71 - 131
Perfluorotridecanoic acid (PFTriA)	2.00	2.11		ug/Kg		106	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	2.00		ug/Kg		100	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.77	1.81		ug/Kg		103	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.82		ug/Kg		97	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.58		ug/Kg		87	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	2.08		ug/Kg		109	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	2.07		ug/Kg		112	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	2.03		ug/Kg		106	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	1.93		ug/Kg		100	71 - 131
Perfluorooctanesulfonamide (FOSA)	2.00	2.33		ug/Kg		117	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.96	J	ug/Kg		98	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.89	J	ug/Kg		95	72 - 132
4:2 FTS	1.87	1.81	J	ug/Kg		97	68 - 143
6:2 FTS	1.90	1.90	J	ug/Kg		100	73 - 139
8:2 FTS	1.92	1.89	J	ug/Kg		99	75 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	53		25 - 150
13C5 PFPeA	56		25 - 150
13C2 PFHxA	53		25 - 150
13C4 PFHpA	56		25 - 150
13C4 PFOA	56		25 - 150
13C5 PFNA	59		25 - 150
13C2 PFDA	56		25 - 150
13C2 PFUnA	57		25 - 150
13C2 PFDoA	55		25 - 150
13C2 PFTeDA	56		25 - 150
18O2 PFHxS	60		25 - 150
13C4 PFOS	55		25 - 150

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-406777/2-A
Matrix: Solid
Analysis Batch: 407565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406777

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C8 FOSA	48		25 - 150
d3-NMeFOSAA	54		25 - 150
d5-NEtFOSAA	53		25 - 150
M2-6:2 FTS	72		25 - 150
M2-8:2 FTS	61		25 - 150
M2-4:2 FTS	56		25 - 150
13C3 PFBS	58		25 - 150

Lab Sample ID: 320-63979-2 MS
Matrix: Solid
Analysis Batch: 407565

Client Sample ID: BET20-TH04-01
Prep Type: Total/NA
Prep Batch: 406777

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	Limits
				Result	Qualifier				
Perfluorobutanoic acid (PFBA)	0.21	B	2.06	2.32		ug/Kg	☼	102	76 - 136
Perfluoropentanoic acid (PFPeA)	ND		2.06	1.94		ug/Kg	☼	94	69 - 129
Perfluorohexanoic acid (PFHxA)	ND		2.06	2.08		ug/Kg	☼	101	71 - 131
Perfluoroheptanoic acid (PFHpA)	ND		2.06	2.15		ug/Kg	☼	105	71 - 131
Perfluorooctanoic acid (PFOA)	0.16	J	2.06	2.13		ug/Kg	☼	96	72 - 132
Perfluorononanoic acid (PFNA)	ND		2.06	1.91		ug/Kg	☼	93	73 - 133
Perfluorodecanoic acid (PFDA)	ND		2.06	2.15		ug/Kg	☼	104	72 - 132
Perfluoroundecanoic acid (PFUnA)	ND		2.06	2.11		ug/Kg	☼	102	66 - 126
Perfluorododecanoic acid (PFDoA)	ND		2.06	2.15		ug/Kg	☼	105	71 - 131
Perfluorotridecanoic acid (PFTriA)	ND		2.06	2.08		ug/Kg	☼	101	71 - 131
Perfluorotetradecanoic acid (PFTeA)	ND		2.06	2.04		ug/Kg	☼	99	67 - 127
Perfluorobutanesulfonic acid (PFBS)	ND		1.82	1.99		ug/Kg	☼	110	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	ND		1.93	2.15		ug/Kg	☼	111	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	0.53		1.87	2.26		ug/Kg	☼	93	62 - 122
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.96	2.16		ug/Kg	☼	110	76 - 136
Perfluorooctanesulfonic acid (PFOS)	0.73		1.91	2.62		ug/Kg	☼	99	68 - 141
Perfluorononanesulfonic acid (PFNS)	ND		1.98	2.01		ug/Kg	☼	102	72 - 132
Perfluorodecanesulfonic acid (PFDS)	ND		1.98	2.02		ug/Kg	☼	102	71 - 131
Perfluorooctanesulfonamide (FOSA)	ND		2.06	2.36		ug/Kg	☼	115	77 - 137
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.06	2.09	J	ug/Kg	☼	102	72 - 132
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.06	2.07	J	ug/Kg	☼	101	72 - 132
4:2 FTS	ND		1.92	1.97	J	ug/Kg	☼	103	68 - 143
6:2 FTS	ND		1.95	1.79	J	ug/Kg	☼	92	73 - 139
8:2 FTS	ND		1.97	2.02	J	ug/Kg	☼	102	75 - 135

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

<i>Isotope Dilution</i>	<i>MS MS</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C4 PFBA	70		25 - 150
13C5 PFPeA	73		25 - 150
13C2 PFHxA	75		25 - 150
13C4 PFHpA	77		25 - 150
13C4 PFOA	71		25 - 150
13C5 PFNA	81		25 - 150
13C2 PFDA	78		25 - 150
13C2 PFUnA	78		25 - 150
13C2 PFDoA	80		25 - 150
13C2 PFTeDA	79		25 - 150
18O2 PFHxS	72		25 - 150
13C4 PFOS	72		25 - 150
13C8 FOSA	69		25 - 150
d3-NMeFOSAA	80		25 - 150
d5-NEtFOSAA	78		25 - 150
M2-6:2 FTS	116		25 - 150
M2-8:2 FTS	103		25 - 150
M2-4:2 FTS	132		25 - 150
13C3 PFBS	68		25 - 150

Lab Sample ID: 320-63979-2 MSD
Matrix: Solid
Analysis Batch: 407565

Client Sample ID: BET20-TH04-01
Prep Type: Total/NA
Prep Batch: 406777

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i>	<i>RPD</i>	<i>RPD Limit</i>
									<i>Limits</i>	<i>RPD</i>	<i>Limit</i>
Perfluorobutanoic acid (PFBA)	0.21	B	2.18	2.52		ug/Kg	*	106	76 - 136	8	30
Perfluoropentanoic acid (PFPeA)	ND		2.18	2.11		ug/Kg	*	97	69 - 129	8	30
Perfluorohexanoic acid (PFHxA)	ND		2.18	2.32		ug/Kg	*	106	71 - 131	11	30
Perfluoroheptanoic acid (PFHpA)	ND		2.18	2.31		ug/Kg	*	106	71 - 131	7	30
Perfluorooctanoic acid (PFOA)	0.16	J	2.18	2.19		ug/Kg	*	94	72 - 132	3	30
Perfluorononanoic acid (PFNA)	ND		2.18	2.09		ug/Kg	*	96	73 - 133	9	30
Perfluorodecanoic acid (PFDA)	ND		2.18	2.49		ug/Kg	*	114	72 - 132	15	30
Perfluoroundecanoic acid (PFUnA)	ND		2.18	2.32		ug/Kg	*	106	66 - 126	10	30
Perfluorododecanoic acid (PFDoA)	ND		2.18	2.22		ug/Kg	*	102	71 - 131	3	30
Perfluorotridecanoic acid (PFTriA)	ND		2.18	2.25		ug/Kg	*	103	71 - 131	8	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.18	2.17		ug/Kg	*	99	67 - 127	6	30
Perfluorobutanesulfonic acid (PFBS)	ND		1.93	1.98		ug/Kg	*	103	69 - 129	1	30
Perfluoropentanesulfonic acid (PFPeS)	ND		2.04	2.12		ug/Kg	*	104	66 - 126	2	30
Perfluorohexanesulfonic acid (PFHxS)	0.53		1.98	2.36		ug/Kg	*	92	62 - 122	4	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.08	2.16		ug/Kg	*	104	76 - 136	0	30
Perfluorooctanesulfonic acid (PFOS)	0.73		2.02	2.78		ug/Kg	*	101	68 - 141	6	30
Perfluorononanesulfonic acid (PFNS)	ND		2.09	2.07		ug/Kg	*	99	72 - 132	3	30
Perfluorodecanesulfonic acid (PFDS)	ND		2.10	2.06		ug/Kg	*	98	71 - 131	2	30

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-63979-2 MSD
Matrix: Solid
Analysis Batch: 407565

Client Sample ID: BET20-TH04-01
Prep Type: Total/NA
Prep Batch: 406777

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonamide (FOSA)	ND		2.18	2.53		ug/Kg	☼	116	77 - 137	7	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.18	2.25		ug/Kg	☼	103	72 - 132	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.18	2.16	J	ug/Kg	☼	99	72 - 132	4	30
4:2 FTS	ND		2.04	1.79	J	ug/Kg	☼	88	68 - 143	10	30
6:2 FTS	ND		2.07	1.90	J	ug/Kg	☼	92	73 - 139	6	30
8:2 FTS	ND		2.09	1.98	J	ug/Kg	☼	95	75 - 135	2	30
MSD MSD											
Isotope Dilution	%Recovery	Qualifier	Limits								
13C4 PFBA	88		25 - 150								
13C5 PFPeA	88		25 - 150								
13C2 PFHxA	93		25 - 150								
13C4 PFHpA	98		25 - 150								
13C4 PFOA	92		25 - 150								
13C5 PFNA	102		25 - 150								
13C2 PFDA	92		25 - 150								
13C2 PFUnA	98		25 - 150								
13C2 PFDoA	94		25 - 150								
13C2 PFTeDA	99		25 - 150								
18O2 PFHxS	88		25 - 150								
13C4 PFOS	90		25 - 150								
13C8 FOSA	82		25 - 150								
d3-NMeFOSAA	92		25 - 150								
d5-NEtFOSAA	95		25 - 150								
M2-6:2 FTS	134		25 - 150								
M2-8:2 FTS	139		25 - 150								
M2-4:2 FTS	154	*5	25 - 150								
13C3 PFBS	86		25 - 150								

Lab Sample ID: MB 320-406783/1-A
Matrix: Water
Analysis Batch: 407300

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 406783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.0	0.35	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorotetradecanoic acid (PFTeA)	0.366	J	2.0	0.29	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		08/26/20 11:42	08/27/20 17:45	1

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-406783/1-A
Matrix: Water
Analysis Batch: 407300

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 406783

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorohexanesulfonic acid (PFHxS)	0.311	J	2.0	0.17	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.16	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		08/26/20 11:42	08/27/20 17:45	1
Perfluorooctanesulfonamide (FOSA)	1.12	J	2.0	0.35	ng/L		08/26/20 11:42	08/27/20 17:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		08/26/20 11:42	08/27/20 17:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		08/26/20 11:42	08/27/20 17:45	1
4:2 FTS	ND		20	5.2	ng/L		08/26/20 11:42	08/27/20 17:45	1
6:2 FTS	ND		20	2.0	ng/L		08/26/20 11:42	08/27/20 17:45	1
8:2 FTS	ND		20	2.0	ng/L		08/26/20 11:42	08/27/20 17:45	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	86		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C5 PFPeA	94		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C2 PFHxA	87		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C4 PFHpA	96		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C4 PFOA	91		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C5 PFNA	96		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C2 PFDA	105		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C2 PFUnA	96		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C2 PFDoA	81		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C2 PFTeDA	82		25 - 150	08/26/20 11:42	08/27/20 17:45	1
18O2 PFHxS	95		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C4 PFOS	94		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C8 FOSA	85		25 - 150	08/26/20 11:42	08/27/20 17:45	1
d3-NMeFOSAA	90		25 - 150	08/26/20 11:42	08/27/20 17:45	1
d5-NEtFOSAA	96		25 - 150	08/26/20 11:42	08/27/20 17:45	1
M2-6:2 FTS	94		25 - 150	08/26/20 11:42	08/27/20 17:45	1
M2-8:2 FTS	108		25 - 150	08/26/20 11:42	08/27/20 17:45	1
M2-4:2 FTS	74		25 - 150	08/26/20 11:42	08/27/20 17:45	1
13C3 PFBS	90		25 - 150	08/26/20 11:42	08/27/20 17:45	1

Lab Sample ID: LCS 320-406783/2-A
Matrix: Water
Analysis Batch: 407300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406783

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Perfluorobutanoic acid (PFBA)	40.0	39.3		ng/L		98	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	39.3		ng/L		98	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	40.9		ng/L		102	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	41.1		ng/L		103	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	45.7		ng/L		114	70 - 130
Perfluorononanoic acid (PFNA)	40.0	42.4		ng/L		106	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	37.9		ng/L		95	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	42.2		ng/L		106	68 - 128

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-406783/2-A
Matrix: Water
Analysis Batch: 407300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 406783

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorododecanoic acid (PFDoA)	40.0	32.9		ng/L		82	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	34.4		ng/L		86	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	39.6		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	35.3		ng/L		100	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	36.8		ng/L		98	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.7		ng/L		90	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	38.4		ng/L		101	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	38.4		ng/L		103	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	37.5		ng/L		98	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	37.0		ng/L		96	71 - 131
Perfluorooctanesulfonamide (FOSA)	40.0	44.2		ng/L		111	73 - 133
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	37.0		ng/L		92	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	39.1		ng/L		98	76 - 136
4:2 FTS	37.4	36.1		ng/L		97	79 - 139
6:2 FTS	37.9	35.5		ng/L		94	59 - 175
8:2 FTS	38.3	40.2		ng/L		105	75 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	85		25 - 150
13C5 PFPeA	84		25 - 150
13C2 PFHxA	87		25 - 150
13C4 PFHpA	82		25 - 150
13C4 PFOA	80		25 - 150
13C5 PFNA	90		25 - 150
13C2 PFDA	90		25 - 150
13C2 PFUnA	93		25 - 150
13C2 PFDoA	86		25 - 150
13C2 PFTeDA	76		25 - 150
18O2 PFHxS	92		25 - 150
13C4 PFOS	90		25 - 150
13C8 FOSA	79		25 - 150
d3-NMeFOSAA	85		25 - 150
d5-NEtFOSAA	86		25 - 150
M2-6:2 FTS	88		25 - 150
M2-8:2 FTS	98		25 - 150
M2-4:2 FTS	72		25 - 150
13C3 PFBS	88		25 - 150

QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-406783/3-A
Matrix: Water
Analysis Batch: 407300

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 406783

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	40.3		ng/L		101	76 - 136	2	30
Perfluoropentanoic acid (PFPeA)	40.0	39.0		ng/L		98	71 - 131	1	30
Perfluorohexanoic acid (PFHxA)	40.0	39.4		ng/L		99	73 - 133	4	30
Perfluoroheptanoic acid (PFHpA)	40.0	38.3		ng/L		96	72 - 132	7	30
Perfluorooctanoic acid (PFOA)	40.0	42.6		ng/L		107	70 - 130	7	30
Perfluorononanoic acid (PFNA)	40.0	38.7		ng/L		97	75 - 135	9	30
Perfluorodecanoic acid (PFDA)	40.0	36.5		ng/L		91	76 - 136	4	30
Perfluoroundecanoic acid (PFUnA)	40.0	42.4		ng/L		106	68 - 128	1	30
Perfluorododecanoic acid (PFDoA)	40.0	38.7		ng/L		97	71 - 131	16	30
Perfluorotridecanoic acid (PFTriA)	40.0	36.7		ng/L		92	71 - 131	7	30
Perfluorotetradecanoic acid (PFTeA)	40.0	40.0		ng/L		100	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	35.4	34.3		ng/L		97	67 - 127	3	30
Perfluoropentanesulfonic acid (PFPeS)	37.5	37.2		ng/L		99	66 - 126	1	30
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.6		ng/L		95	59 - 119	6	30
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	37.7		ng/L		99	76 - 136	2	30
Perfluorooctanesulfonic acid (PFOS)	37.1	37.8		ng/L		102	70 - 130	1	30
Perfluorononanesulfonic acid (PFNS)	38.4	36.9		ng/L		96	75 - 135	2	30
Perfluorodecanesulfonic acid (PFDS)	38.6	35.7		ng/L		93	71 - 131	4	30
Perfluorooctanesulfonamide (FOSA)	40.0	44.0		ng/L		110	73 - 133	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	37.9		ng/L		95	76 - 136	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	37.9		ng/L		95	76 - 136	3	30
4:2 FTS	37.4	36.6		ng/L		98	79 - 139	1	30
6:2 FTS	37.9	35.1		ng/L		93	59 - 175	1	30
8:2 FTS	38.3	37.5		ng/L		98	75 - 135	7	30

Isotope Dilution	LCSD		Limits
	%Recovery	Qualifier	
13C4 PFBA	81		25 - 150
13C5 PFPeA	86		25 - 150
13C2 PFHxA	87		25 - 150
13C4 PFHpA	88		25 - 150
13C4 PFOA	79		25 - 150
13C5 PFNA	91		25 - 150
13C2 PFDA	90		25 - 150
13C2 PFUnA	88		25 - 150
13C2 PFDoA	88		25 - 150
13C2 PFTeDA	76		25 - 150
18O2 PFHxS	86		25 - 150
13C4 PFOS	90		25 - 150

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QC Sample Results

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-406783/3-A
Matrix: Water
Analysis Batch: 407300

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 406783

<i>Isotope Dilution</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C8 FOSA	78		25 - 150
d3-NMeFOSAA	84		25 - 150
d5-NEtFOSAA	85		25 - 150
M2-6:2 FTS	87		25 - 150
M2-8:2 FTS	94		25 - 150
M2-4:2 FTS	71		25 - 150
13C3 PFBS	86		25 - 150

Method: D 2216 - Percent Moisture

Lab Sample ID: 320-63979-7 DU
Matrix: Solid
Analysis Batch: 407644

Client Sample ID: BET20-TH05-01
Prep Type: Total/NA

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>DU DU</i>		<i>Unit</i>	<i>D</i>	<i>RPD</i>	<i>Limit</i>
			<i>Result</i>	<i>Qualifier</i>				
Percent Moisture	4.3		3.7		%		16	20
Percent Solids	95.7		96.3		%		0.7	20

QC Association Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

LCMS

Prep Batch: 406777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63979-2	BET20-TH04-01	Total/NA	Solid	SHAKE	
320-63979-3	BET20-TH04-02	Total/NA	Solid	SHAKE	
320-63979-4	BET20-TH04-03	Total/NA	Solid	SHAKE	
320-63979-5	BET20-TH06-01	Total/NA	Solid	SHAKE	
320-63979-6	BET20-TH06-02	Total/NA	Solid	SHAKE	
320-63979-7	BET20-TH05-01	Total/NA	Solid	SHAKE	
320-63979-8	BET20-TH05-02	Total/NA	Solid	SHAKE	
320-63979-9	BET20-TH05-03	Total/NA	Solid	SHAKE	
320-63979-10	BET20-TH29-01	Total/NA	Solid	SHAKE	
320-63979-11	BET20-TH29-02	Total/NA	Solid	SHAKE	
320-63979-12	BET20-TH31-01	Total/NA	Solid	SHAKE	
320-63979-13	BET20-TH31-02	Total/NA	Solid	SHAKE	
320-63979-14	BET20-TH32-01	Total/NA	Solid	SHAKE	
320-63979-15	BET20-TH33-01	Total/NA	Solid	SHAKE	
320-63979-16	BET20-TH34-01	Total/NA	Solid	SHAKE	
320-63979-17	BET20-TH35-01	Total/NA	Solid	SHAKE	
320-63979-18	BET20-TH36-01	Total/NA	Solid	SHAKE	
MB 320-406777/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-406777/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-63979-2 MS	BET20-TH04-01	Total/NA	Solid	SHAKE	
320-63979-2 MSD	BET20-TH04-01	Total/NA	Solid	SHAKE	

Prep Batch: 406783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63979-1	BET20-WA-RB04	Total/NA	Water	3535	
MB 320-406783/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-406783/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-406783/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 407300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63979-1	BET20-WA-RB04	Total/NA	Water	537 (modified)	406777
MB 320-406783/1-A	Method Blank	Total/NA	Water	537 (modified)	406783
LCS 320-406783/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	406783
LCSD 320-406783/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	406783

Analysis Batch: 407565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63979-2	BET20-TH04-01	Total/NA	Solid	537 (modified)	406777
320-63979-3	BET20-TH04-02	Total/NA	Solid	537 (modified)	406777
320-63979-4	BET20-TH04-03	Total/NA	Solid	537 (modified)	406777
320-63979-5	BET20-TH06-01	Total/NA	Solid	537 (modified)	406777
320-63979-6	BET20-TH06-02	Total/NA	Solid	537 (modified)	406777
320-63979-7	BET20-TH05-01	Total/NA	Solid	537 (modified)	406777
320-63979-8	BET20-TH05-02	Total/NA	Solid	537 (modified)	406777
320-63979-9	BET20-TH05-03	Total/NA	Solid	537 (modified)	406777
320-63979-10	BET20-TH29-01	Total/NA	Solid	537 (modified)	406777
320-63979-11	BET20-TH29-02	Total/NA	Solid	537 (modified)	406777
320-63979-12	BET20-TH31-01	Total/NA	Solid	537 (modified)	406777
320-63979-13	BET20-TH31-02	Total/NA	Solid	537 (modified)	406777
320-63979-14	BET20-TH32-01	Total/NA	Solid	537 (modified)	406777

Eurofins TestAmerica, Sacramento

QC Association Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

LCMS (Continued)

Analysis Batch: 407565 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63979-15	BET20-TH33-01	Total/NA	Solid	537 (modified)	406777
320-63979-16	BET20-TH34-01	Total/NA	Solid	537 (modified)	406777
320-63979-17	BET20-TH35-01	Total/NA	Solid	537 (modified)	406777
320-63979-18	BET20-TH36-01	Total/NA	Solid	537 (modified)	406777
MB 320-406777/1-A	Method Blank	Total/NA	Solid	537 (modified)	406777
LCS 320-406777/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	406777
320-63979-2 MS	BET20-TH04-01	Total/NA	Solid	537 (modified)	406777
320-63979-2 MSD	BET20-TH04-01	Total/NA	Solid	537 (modified)	406777

General Chemistry

Analysis Batch: 407126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63979-2	BET20-TH04-01	Total/NA	Solid	D 2216	
320-63979-3	BET20-TH04-02	Total/NA	Solid	D 2216	
320-63979-4	BET20-TH04-03	Total/NA	Solid	D 2216	
320-63979-5	BET20-TH06-01	Total/NA	Solid	D 2216	
320-63979-6	BET20-TH06-02	Total/NA	Solid	D 2216	

Analysis Batch: 407644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-63979-7	BET20-TH05-01	Total/NA	Solid	D 2216	
320-63979-8	BET20-TH05-02	Total/NA	Solid	D 2216	
320-63979-9	BET20-TH05-03	Total/NA	Solid	D 2216	
320-63979-10	BET20-TH29-01	Total/NA	Solid	D 2216	
320-63979-11	BET20-TH29-02	Total/NA	Solid	D 2216	
320-63979-12	BET20-TH31-01	Total/NA	Solid	D 2216	
320-63979-13	BET20-TH31-02	Total/NA	Solid	D 2216	
320-63979-14	BET20-TH32-01	Total/NA	Solid	D 2216	
320-63979-15	BET20-TH33-01	Total/NA	Solid	D 2216	
320-63979-16	BET20-TH34-01	Total/NA	Solid	D 2216	
320-63979-17	BET20-TH35-01	Total/NA	Solid	D 2216	
320-63979-18	BET20-TH36-01	Total/NA	Solid	D 2216	
320-63979-7 DU	BET20-TH05-01	Total/NA	Solid	D 2216	

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-WA-RB04

Lab Sample ID: 320-63979-1

Date Collected: 08/16/20 00:15

Matrix: Water

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			271.6 mL	10.00 mL	406783	08/26/20 11:42	LA	TAL SAC
Total/NA	Analysis	537 (modified)		1			407300	08/27/20 19:07	D1R	TAL SAC

Client Sample ID: BET20-TH04-01

Lab Sample ID: 320-63979-2

Date Collected: 08/16/20 23:20

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH04-01

Lab Sample ID: 320-63979-2

Date Collected: 08/16/20 23:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 90.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.24 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 15:09	RS1	TAL SAC

Client Sample ID: BET20-TH04-02

Lab Sample ID: 320-63979-3

Date Collected: 08/17/20 00:05

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH04-02

Lab Sample ID: 320-63979-3

Date Collected: 08/17/20 00:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 93.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.19 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 15:37	RS1	TAL SAC

Client Sample ID: BET20-TH04-03

Lab Sample ID: 320-63979-4

Date Collected: 08/16/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH04-03

Lab Sample ID: 320-63979-4

Date Collected: 08/16/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.07 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 15:46	RS1	TAL SAC

Client Sample ID: BET20-TH06-01

Lab Sample ID: 320-63979-5

Date Collected: 08/17/20 02:15

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH06-01

Lab Sample ID: 320-63979-5

Date Collected: 08/17/20 02:15

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.05 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 15:56	RS1	TAL SAC

Client Sample ID: BET20-TH06-02

Lab Sample ID: 320-63979-6

Date Collected: 08/17/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407126	08/27/20 11:26	KDB	TAL SAC

Client Sample ID: BET20-TH06-02

Lab Sample ID: 320-63979-6

Date Collected: 08/17/20 03:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.21 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 16:05	RS1	TAL SAC

Client Sample ID: BET20-TH05-01

Lab Sample ID: 320-63979-7

Date Collected: 08/17/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH05-01

Lab Sample ID: 320-63979-7

Date Collected: 08/17/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.06 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 16:14	RS1	TAL SAC

Client Sample ID: BET20-TH05-02

Lab Sample ID: 320-63979-8

Date Collected: 08/17/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Client Sample ID: BET20-TH05-02

Lab Sample ID: 320-63979-8

Date Collected: 08/17/20 23:30

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.40 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 16:42	RS1	TAL SAC

Client Sample ID: BET20-TH05-03

Lab Sample ID: 320-63979-9

Date Collected: 08/17/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Client Sample ID: BET20-TH05-03

Lab Sample ID: 320-63979-9

Date Collected: 08/17/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.22 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 16:52	RS1	TAL SAC

Client Sample ID: BET20-TH29-01

Lab Sample ID: 320-63979-10

Date Collected: 08/18/20 00:20

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH29-01

Lab Sample ID: 320-63979-10

Date Collected: 08/18/20 00:20

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.30 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 17:01	RS1	TAL SAC

Client Sample ID: BET20-TH29-02

Lab Sample ID: 320-63979-11

Date Collected: 08/18/20 00:55

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Client Sample ID: BET20-TH29-02

Lab Sample ID: 320-63979-11

Date Collected: 08/18/20 00:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.18 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 17:10	RS1	TAL SAC

Client Sample ID: BET20-TH31-01

Lab Sample ID: 320-63979-12

Date Collected: 08/18/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Client Sample ID: BET20-TH31-01

Lab Sample ID: 320-63979-12

Date Collected: 08/18/20 22:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 91.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.67 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 17:20	RS1	TAL SAC

Client Sample ID: BET20-TH31-02

Lab Sample ID: 320-63979-13

Date Collected: 08/18/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH31-02

Lab Sample ID: 320-63979-13

Date Collected: 08/18/20 23:05

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.25 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 17:29	RS1	TAL SAC

Client Sample ID: BET20-TH32-01

Lab Sample ID: 320-63979-14

Date Collected: 08/18/20 23:35

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Client Sample ID: BET20-TH32-01

Lab Sample ID: 320-63979-14

Date Collected: 08/18/20 23:35

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.16 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 17:39	RS1	TAL SAC

Client Sample ID: BET20-TH33-01

Lab Sample ID: 320-63979-15

Date Collected: 08/19/20 00:10

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Client Sample ID: BET20-TH33-01

Lab Sample ID: 320-63979-15

Date Collected: 08/19/20 00:10

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 88.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.13 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 17:48	RS1	TAL SAC

Client Sample ID: BET20-TH34-01

Lab Sample ID: 320-63979-16

Date Collected: 08/19/20 00:55

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Lab Chronicle

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Client Sample ID: BET20-TH34-01

Lab Sample ID: 320-63979-16

Date Collected: 08/19/20 00:55

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.45 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 17:57	RS1	TAL SAC

Client Sample ID: BET20-TH35-01

Lab Sample ID: 320-63979-17

Date Collected: 08/19/20 01:15

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Client Sample ID: BET20-TH35-01

Lab Sample ID: 320-63979-17

Date Collected: 08/19/20 01:15

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 92.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.18 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 18:07	RS1	TAL SAC

Client Sample ID: BET20-TH36-01

Lab Sample ID: 320-63979-18

Date Collected: 08/19/20 02:00

Matrix: Solid

Date Received: 08/25/20 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			407644	08/28/20 15:01	TCS	TAL SAC

Client Sample ID: BET20-TH36-01

Lab Sample ID: 320-63979-18

Date Collected: 08/19/20 02:00

Matrix: Solid

Date Received: 08/25/20 09:50

Percent Solids: 94.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.21 g	10.0 mL	406777	08/26/20 11:31	MC	TAL SAC
Total/NA	Analysis	537 (modified)		1			407565	08/28/20 18:35	RS1	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: R&M Consultants, Inc
 Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
537 (modified)	3535	Water	4:2 FTS
537 (modified)	3535	Water	6:2 FTS
537 (modified)	3535	Water	8:2 FTS
537 (modified)	3535	Water	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 (modified)	3535	Water	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 (modified)	3535	Water	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	3535	Water	Perfluorobutanoic acid (PFBA)
537 (modified)	3535	Water	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	3535	Water	Perfluorodecanoic acid (PFDA)
537 (modified)	3535	Water	Perfluorododecanoic acid (PFDoA)
537 (modified)	3535	Water	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	3535	Water	Perfluoroheptanoic acid (PFHpA)
537 (modified)	3535	Water	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	3535	Water	Perfluorohexanoic acid (PFHxA)
537 (modified)	3535	Water	Perfluorononanesulfonic acid (PFNS)
537 (modified)	3535	Water	Perfluorononanoic acid (PFNA)
537 (modified)	3535	Water	Perfluorooctanesulfonamide (FOSA)
537 (modified)	3535	Water	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	3535	Water	Perfluorooctanoic acid (PFOA)
537 (modified)	3535	Water	Perfluoropentanesulfonic acid (PFPeS)
537 (modified)	3535	Water	Perfluoropentanoic acid (PFPeA)
537 (modified)	3535	Water	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	3535	Water	Perfluorotridecanoic acid (PFTriA)
537 (modified)	3535	Water	Perfluoroundecanoic acid (PFUnA)
537 (modified)	SHAKE	Solid	4:2 FTS
537 (modified)	SHAKE	Solid	6:2 FTS
537 (modified)	SHAKE	Solid	8:2 FTS
537 (modified)	SHAKE	Solid	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 (modified)	SHAKE	Solid	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 (modified)	SHAKE	Solid	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	SHAKE	Solid	Perfluorobutanoic acid (PFBA)
537 (modified)	SHAKE	Solid	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	SHAKE	Solid	Perfluorodecanoic acid (PFDA)
537 (modified)	SHAKE	Solid	Perfluorododecanoic acid (PFDoA)
537 (modified)	SHAKE	Solid	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	SHAKE	Solid	Perfluoroheptanoic acid (PFHpA)
537 (modified)	SHAKE	Solid	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	SHAKE	Solid	Perfluorohexanoic acid (PFHxA)
537 (modified)	SHAKE	Solid	Perfluorononanesulfonic acid (PFNS)
537 (modified)	SHAKE	Solid	Perfluorononanoic acid (PFNA)
537 (modified)	SHAKE	Solid	Perfluorooctanesulfonamide (FOSA)
537 (modified)	SHAKE	Solid	Perfluorooctanesulfonic acid (PFOS)

Accreditation/Certification Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Laboratory: Eurofins TestAmerica, Sacramento (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
537 (modified)	SHAKE	Solid	Perfluorooctanoic acid (PFOA)
537 (modified)	SHAKE	Solid	Perfluoropentanesulfonic acid (PFPeS)
537 (modified)	SHAKE	Solid	Perfluoropentanoic acid (PFPeA)
537 (modified)	SHAKE	Solid	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	SHAKE	Solid	Perfluorotridecanoic acid (PFTriA)
537 (modified)	SHAKE	Solid	Perfluoroundecanoic acid (PFUnA)
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Method Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
D 2216	Percent Moisture	ASTM	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	TAL SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: R&M Consultants, Inc
Project/Site: Bethel Airport Main Runway Reconstruction

Job ID: 320-63979-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-63979-1	BET20-WA-RB04	Water	08/16/20 00:15	08/25/20 09:50	
320-63979-2	BET20-TH04-01	Solid	08/16/20 23:20	08/25/20 09:50	
320-63979-3	BET20-TH04-02	Solid	08/17/20 00:05	08/25/20 09:50	
320-63979-4	BET20-TH04-03	Solid	08/16/20 23:30	08/25/20 09:50	
320-63979-5	BET20-TH06-01	Solid	08/17/20 02:15	08/25/20 09:50	
320-63979-6	BET20-TH06-02	Solid	08/17/20 03:20	08/25/20 09:50	
320-63979-7	BET20-TH05-01	Solid	08/17/20 22:55	08/25/20 09:50	
320-63979-8	BET20-TH05-02	Solid	08/17/20 23:30	08/25/20 09:50	
320-63979-9	BET20-TH05-03	Solid	08/17/20 23:05	08/25/20 09:50	
320-63979-10	BET20-TH29-01	Solid	08/18/20 00:20	08/25/20 09:50	
320-63979-11	BET20-TH29-02	Solid	08/18/20 00:55	08/25/20 09:50	
320-63979-12	BET20-TH31-01	Solid	08/18/20 22:55	08/25/20 09:50	
320-63979-13	BET20-TH31-02	Solid	08/18/20 23:05	08/25/20 09:50	
320-63979-14	BET20-TH32-01	Solid	08/18/20 23:35	08/25/20 09:50	
320-63979-15	BET20-TH33-01	Solid	08/19/20 00:10	08/25/20 09:50	
320-63979-16	BET20-TH34-01	Solid	08/19/20 00:55	08/25/20 09:50	
320-63979-17	BET20-TH35-01	Solid	08/19/20 01:15	08/25/20 09:50	
320-63979-18	BET20-TH36-01	Solid	08/19/20 02:00	08/25/20 09:50	



R&M CONSULTANTS, INC.

CHAIN OF CUSTODY RECORD

Client: R&M Consultants, Inc		Analytical Laboratory		TA-Sacramento		DOD Project?: No		Cooler ID: BARTONE		Page 1 of 1	
Project Name: Bethel Airport Main Runway Reconstruction		Phone Number: 907.646.9655		PO #: 2690.02		Sample Type (i.e. Grab(c), Comp.(c), etc)		Preservative/Analysis		Remarks	
Contact Name: Christopher Feil		Email: cfell@rmconsult.com		Quote #: 32015144		No. Containers					
Reports To: Brian Mullen		R&M Consultants, Inc		Date (mm/dd/yy)		Time (hh:mm)		Matrix/Matrix Code			
Invoice To: Attn: Accounting Department/Courtney Maillet 9101 Vanguard Drive, Anchorage, AK, 99507 cmaillet@rmconsult.com / 907.522.1707		Sampler		LocID		Sample Identification		RESERVED for lab use			
		Date: 8-16-20		Time: 0015		Matrix/Matrix Code: WA		Sample Type: PFAS (EPA 537.1 Mod.) 0-6 °C		Rinsate blank	
		Date: 8-16-20		Time: 2320		Matrix/Matrix Code: SO					
		Date: 8-17-20		Time: 0005		Matrix/Matrix Code: SO					
		Date: 8-16-20		Time: 2330		Matrix/Matrix Code: SO					
		Date: 8-17-20		Time: 0216		Matrix/Matrix Code: SO					
		Date: 8-17-20		Time: 0320		Matrix/Matrix Code: SO					
		Date: 8-17-20		Time: 2255		Matrix/Matrix Code: SO					
		Date: 8-17-20		Time: 2330		Matrix/Matrix Code: SO					
		Date: 8-17-20		Time: 2305		Matrix/Matrix Code: SO					
		Date: 8-18-20		Time: 0020		Matrix/Matrix Code: SO					
		Date: 8-18-20		Time: 0055		Matrix/Matrix Code: SO					
		Date: 8-18-20		Time: 2255		Matrix/Matrix Code: SO					
		Date: 8-18-20		Time: 2305		Matrix/Matrix Code: SO					
		Date: 8-18-20		Time: 2335		Matrix/Matrix Code: SO					
		Date: 8-19-20		Time: 0010		Matrix/Matrix Code: SO					
		Date: 8-19-20		Time: 0055		Matrix/Matrix Code: SO					
		Date: 8-19-20		Time: 0115		Matrix/Matrix Code: SO					
		Date: 8-19-20		Time: 0200		Matrix/Matrix Code: SO					
Relinquished By (1):		Date: 8/19		Time: 0417		Received By:		Time: 8/21/2020		Turnaround Time, Deliverable Req., and/or Special Instructions	
Relinquished By (2):		Date: 8/24/20		Time: 0907		Received By:		Time: 9:50		Standard TAT, Level 2 PDF	
Relinquished By (3):		Date:		Time:		Received By:		Time:		Laboratory Check In Information	
Relinquished By (4):		Date:		Time:		Received For By Laboratory:		Time:		Temp Blank °C	
										Chain of Custody Seal (Circle):	
										Intact	
										Broken	
										Absent	



Login Sample Receipt Checklist

Client: R&M Consultants, Inc

Job Number: 320-63979-1

Login Number: 63979

List Source: Eurofins TestAmerica, Sacramento

List Number: 1

Creator: Guzman, Juan

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

APPENDIX F
ADEC LABORATORY DATA REVIEW
CHECKLISTS

Laboratory Data Review Checklist

Completed By:

Vanessa Crandell-Beck

Title:

Environmental Geologist

Date:

13 October 2020

Consultant Firm:

R&M Consultants, Inc.

Laboratory Name:

Eurofins Test America, Sacramento

Laboratory Report Number:

J63739

Laboratory Report Date:

11 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

ADEC File Number:

2407.38.031

Hazard Identification Number:

27155

J63739

Laboratory Report Date:

11 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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:

Eurofins TestAmerica, Sacramento

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 samples were transferred.

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:

J63739

Laboratory Report Date:

11 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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

Yes No N/A Comments:

No issues noted.

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:

No discrepancies were noted by the laboratory.

e. Data quality or usability affected?

Comments:

Data quality or usability were not affected.

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:

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

Comments:

The case narrative does not comment on data quality or usability.

J63739

Laboratory Report Date:

11 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

5. Samples Results

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

Yes No N/A Comments:

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:

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?

Data quality or usability were not affected.

6. QC Samples

a. Method Blank

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

Yes No N/A Comments:

J63739

Laboratory Report Date:

11 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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

Yes No N/A Comments:

PFOS was detected above the RL in the method blank associated with sample BET20-TH16-02, the sample was re-extracted outside of holding time, both sets of data have been reported. Multiple preparation batch method blanks contained PFOS above the RL; however, none of the samples associated with the method blanks contained the target compound and re-analysis was not required.

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

Comments:

Upon re-extraction in the method blank associated with sample BET20-TH16-02, PFOS was not detected above the RL in the method blank.

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

Yes No N/A Comments:

No data flags applied. Target analyte not detected in associated samples.

v. Data quality or usability affected?

Comments:

Data quality or usability were not affected.

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:

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:

J63739

Laboratory Report Date:

11 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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:

No LCSD analyzed for PFAS.

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

Comments:

Not applicable.

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

Yes No N/A Comments:

No data flags were applied as LCS/LCSD results were within QC criteria.

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

Comments:

Data quality or usability were not affected.

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:

J63739

Laboratory Report Date:

11 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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:

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:

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:

No failures occurred.

J63739

Laboratory Report Date:

11 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

iv. Data quality or usability affected?

Comments:

Data quality or usability were not affected.

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:

No volatile analyses performed.

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:

No volatile analyses performed.

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

Yes No N/A Comments:

No volatile analyses performed.

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

Comments:

Not applicable

v. Data quality or usability affected?

Comments:

Not applicable

f. Field Duplicate

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

Yes No N/A Comments:

J63739

Laboratory Report Date:

11 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

ii. Submitted blind to lab?

Yes No N/A Comments:

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

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

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No N/A Comments:

The PFOS RPD exceeded criteria (50%) for the following sample pairs:
BET20-TH09-02/BET20-TH09-03 = 68%
BET20-TH27-01/BET20-TH27-03 = 60%, results were below detection limit and data quality have not been affected.
Other duplicate RPDs associated with this laboratory work order were under 50%.
Results are flagged QN for samples associated with this SDG except for specific duplicate pairs that met criteria.

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

Comments:

Data quality or usability are affected as described above.

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

Yes No N/A Comments:

Decontamination or equipment blanks were not specified for the project.

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

Yes No N/A Comments:

See 6(g)

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

Comments:

See 6(g)

J63739

Laboratory Report Date:

11 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

iii. Data quality or usability affected?

Comments:

Not applicable.

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

a. Defined and appropriate?

Yes No N/A Comments:

No additional data flags were applied.

Laboratory Data Review Checklist

Completed By:

Vanessa Crandell-Beck

Title:

Environmental Geologist

Date:

13 October 2020

Consultant Firm:

R&M Consultants, Inc.

Laboratory Name:

Eurofins Test America, Sacramento

Laboratory Report Number:

J63958

Laboratory Report Date:

9 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

ADEC File Number:

2407.38.031

Hazard Identification Number:

27155

J63958

Laboratory Report Date:

9 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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:

Eurofins TestAmerica, Sacramento

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 samples were transferred.

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:

J63958

Laboratory Report Date:

9 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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

Yes No N/A Comments:

No issues noted.

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:

No discrepancies were noted by the laboratory.

e. Data quality or usability affected?

Comments:

Data quality or usability were not affected.

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:

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

Comments:

The case narrative does not comment on data quality or usability.

J63958

Laboratory Report Date:

9 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

5. Samples Results

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

Yes No N/A Comments:

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:

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?

Data quality or usability were not affected.

6. QC Samples

a. Method Blank

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

Yes No N/A Comments:

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

Yes No N/A Comments:

PFOS was detected above the RL in the method blank associated with batch 320-406779; however, the associated samples did not contain the target compound at concentrations greater than the RL. Re-extraction was not required.

J63958

Laboratory Report Date:

9 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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

Comments:

The method blank and LCS were associated with batch 320-406779

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

Yes No N/A Comments:

Data were not affected. No data flags applied.

v. Data quality or usability affected?

Comments:

Data quality or usability were not affected.

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:

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:

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:

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9 September 2020

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

Comments:

Not applicable.

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

Yes No N/A Comments:

No data flags were applied as LCS/LCSD results were within QC criteria.

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

Comments:

Data quality or usability were not affected.

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:

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:

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Laboratory Report Date:

9 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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:

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:

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:

No failures occurred.

iv. Data quality or usability affected?

Comments:

Data quality or usability were not affected.

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Laboratory Report Date:

9 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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:

No volatile analyses performed.

- 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:

No volatile analyses performed.

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

Yes No N/A Comments:

No volatile analyses performed.

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

Comments:

Not applicable

- v. Data quality or usability affected?

Comments:

Not applicable

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:

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9 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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

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

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No N/A Comments:

The PFOS RPD exceeded criteria (50%) for the following sample pairs:
BET20-TH01-02/BET20-TH01-03 = 71%
BET20-TH30-01/BET20-TH30-03 = 78%, results were below detection limit and data quality have not been affected.
Other duplicate RPDs associated with this laboratory work order were under 50%.
Results are flagged QN for samples associated with this SDG except for specific duplicate pairs that met criteria.

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

Comments:

Data quality or usability are affected as described above.

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

Yes No N/A Comments:

Decontamination or equipment blanks were not specified for the project.

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

Yes No N/A Comments:

See 6(g)

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

Comments:

See 6(g)

iii. Data quality or usability affected?

Comments:

Not applicable.

J63958

Laboratory Report Date:

9 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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

a. Defined and appropriate?

Yes No N/A Comments:

No additional data flags were applied.

Laboratory Data Review Checklist

Completed By:

Vanessa Crandell-Beck

Title:

Environmental Geologist

Date:

13 October 2020

Consultant Firm:

R&M Consultants, Inc.

Laboratory Name:

Eurofins Test America, Sacramento

Laboratory Report Number:

J63979

Laboratory Report Date:

4 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

ADEC File Number:

2407.38.031

Hazard Identification Number:

27155

J63979

Laboratory Report Date:

4 September 2020

CS Site Name:

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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:

Eurofins TestAmerica, Sacramento

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 samples were transferred.

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:

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

Yes No N/A Comments:

No issues noted.

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:

No discrepancies were noted by the laboratory.

e. Data quality or usability affected?

Comments:

Data quality or usability were not affected.

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:

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

Comments:

The case narrative does not comment on data quality or usability.

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CS Site Name:

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5. Samples Results

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

Yes No N/A Comments:

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:

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?

Data quality or usability were not affected.

6. QC Samples

a. Method Blank

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

Yes No N/A Comments:

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

Yes No N/A Comments:

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Laboratory Report Date:

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CS Site Name:

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

Comments:

Not Applicable

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

Yes No N/A Comments:

Not Applicable

v. Data quality or usability affected?

Comments:

Not Applicable

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:

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:

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:

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CS Site Name:

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

Comments:

Not applicable.

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

Yes No N/A Comments:

No data flags were applied as LCS/LCSD results were within QC criteria.

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

Comments:

Data quality or usability were not affected.

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:

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:

J63979

Laboratory Report Date:

4 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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:

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:

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:

No failures occurred.

iv. Data quality or usability affected?

Comments:

Data quality or usability were not affected.

J63979

Laboratory Report Date:

4 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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:

No volatile analyses performed.

- 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:

No volatile analyses performed.

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

Yes No N/A Comments:

No volatile analyses performed.

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

Comments:

Not applicable

- v. Data quality or usability affected?

Comments:

Not applicable

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:

J63979

Laboratory Report Date:

4 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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

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

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No N/A Comments:

The PFOS RPD exceeded criteria (50%) for the following sample pairs:
BET20-TH05-01/BET20-TH05-03 = 64%
Other duplicate RPDs associated with this laboratory work order were under 50%.
Results are flagged QN for samples associated with this SDG except for specific duplicate pairs that met criteria.

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

Comments:

Usability was not affected.

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

Yes No N/A Comments:

Decontamination or equipment blanks were not specified for the project.

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

Yes No N/A Comments:

See 6(g)

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

Comments:

See 6(g)

iii. Data quality or usability affected?

Comments:

Not applicable.

J63979

Laboratory Report Date:

4 September 2020

CS Site Name:

ADOT&PF Bethel Airport Statewide PFAS

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

a. Defined and appropriate?

Yes No N/A Comments:

No additional data flags were applied.

APPENDIX G
UPDATED CONCEPTUAL SITE MODEL

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: Alaska DOT&PF Bethel Airport - Main Runway (1L/19R) and Taxiway C
 File Number: 1507.38.017

Completed By: R&M Consultants, Inc.
 Date Completed: 7/22/2020, updated 10/19/2020

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

(1) Media	(2) Transport Mechanisms
<input checked="" type="checkbox"/> Surface Soil (0-2 ft bgs)	<input checked="" type="checkbox"/> Direct release to surface soil <i>check soil</i> <input checked="" type="checkbox"/> Migration to subsurface <i>check soil</i> <input checked="" type="checkbox"/> Migration to groundwater <i>check groundwater</i> <input type="checkbox"/> Volatilization <i>check air</i> <input checked="" type="checkbox"/> Runoff or erosion <i>check surface water</i> <input checked="" type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input type="checkbox"/> Subsurface Soil (2-15 ft bgs)	<input type="checkbox"/> Direct release to subsurface soil <i>check soil</i> <input type="checkbox"/> Migration to groundwater <i>check groundwater</i> <input type="checkbox"/> Volatilization <i>check air</i> <input type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input type="checkbox"/> Ground-water	<input type="checkbox"/> Direct release to groundwater <i>check groundwater</i> <input type="checkbox"/> Volatilization <i>check air</i> <input type="checkbox"/> Flow to surface water body <i>check surface water</i> <input type="checkbox"/> Flow to sediment <i>check sediment</i> <input type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input type="checkbox"/> Surface Water	<input type="checkbox"/> Direct release to surface water <i>check surface water</i> <input type="checkbox"/> Volatilization <i>check air</i> <input type="checkbox"/> Sedimentation <i>check sediment</i> <input type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____
<input type="checkbox"/> Sediment	<input type="checkbox"/> Direct release to sediment <i>check sediment</i> <input type="checkbox"/> Resuspension, runoff, or erosion <i>check surface water</i> <input type="checkbox"/> Uptake by plants or animals <i>check biota</i> <input type="checkbox"/> Other (list): _____

(3) Exposure Media	(4) Exposure Pathway/Route	(5) Current & Future Receptors						
		Residents (adults or children)	Commercial or Industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
<input checked="" type="checkbox"/> soil	<input checked="" type="checkbox"/> Incidental Soil Ingestion <input checked="" type="checkbox"/> Dermal Absorption of Contaminants from Soil <input checked="" type="checkbox"/> Inhalation of Fugitive Dust							
<input checked="" type="checkbox"/> groundwater	<input checked="" type="checkbox"/> Ingestion of Groundwater <input checked="" type="checkbox"/> Dermal Absorption of Contaminants in Groundwater <input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water	C/F	C/F	C/F	C/F			
<input type="checkbox"/> air	<input type="checkbox"/> Inhalation of Outdoor Air <input type="checkbox"/> Inhalation of Indoor Air <input type="checkbox"/> Inhalation of Fugitive Dust							
<input checked="" type="checkbox"/> surface water	<input type="checkbox"/> Ingestion of Surface Water <input type="checkbox"/> Dermal Absorption of Contaminants in Surface Water <input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water							
<input type="checkbox"/> sediment	<input type="checkbox"/> Direct Contact with Sediment							
<input checked="" type="checkbox"/> biota	<input type="checkbox"/> Ingestion of Wild or Farmed Foods							

Appendix A - Human Health Conceptual Site Model Scoping Form and Standardized Graphic

Site Name: Alaska DOT&PF Bethel Airport - Main Runway (1L/19R) and Taxiway C

File Number: 1507.38.017

Completed by: R&M Consultants, Inc. 7/22/2020, updated 10/19/2020

Introduction

The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, summary text about the CSM and a graphic depicting exposure pathways should be submitted with the site characterization work plan and updated as needed in later reports.

General Instructions: Follow the italicized instructions in each section below.

1. General Information:

Sources (*check potential sources at the site*)

- USTs
- ASTs
- Dispensers/fuel loading racks
- Drums
- Vehicles
- Landfills
- Transformers
- Other: Firefighting foam use

Release Mechanisms (*check potential release mechanisms at the site*)

- Spills
- Leaks
- Direct discharge
- Burning
- Other: Firefighting foam released to fight fires and periodic releases to show compliance with FAA regulations.

Impacted Media (*check potentially-impacted media at the site*)

- Surface soil (0-2 feet bgs*)
- Subsurface soil (>2 feet bgs)
- Air
- Sediment
- Groundwater
- Surface water
- Biota
- Other:

Receptors (*check receptors that could be affected by contamination at the site*)

- Residents (adult or child)
- Commercial or industrial worker
- Construction worker
- Subsistence harvester (i.e. gathers wild foods)
- Subsistence consumer (i.e. eats wild foods)
- Site visitor
- Trespasser
- Recreational user
- Farmer
- Other:

* bgs - below ground surface

2. Exposure Pathways: *(The answers to the following questions will identify complete exposure pathways at the site. Check each box where the answer to the question is "yes".)*

a) Direct Contact -

1. Incidental Soil Ingestion

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site-specific basis.)

If the box is checked, label this pathway complete:

Complete

Comments:

Detected PFOA and PFOS analytes are less than 1/10th of the human health cleanup level and this pathway is considered insignificant.

2. Dermal Absorption of Contaminants from Soil

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.)

Can the soil contaminants permeate the skin (see Appendix B in the guidance document)?

If both boxes are checked, label this pathway complete:

Complete

Comments:

Detected PFOA and PFOS analytes are less than 1/10th of the human health cleanup level and this pathway is considered insignificant.

b) Ingestion -

1. Ingestion of Groundwater

Have contaminants been detected or are they expected to be detected in the groundwater, or are contaminants expected to migrate to groundwater in the future?

Could the potentially affected groundwater be used as a current or future drinking water source? Please note, only leave the box unchecked if DEC has determined the groundwater is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350.

If both boxes are checked, label this pathway complete:

Complete

Comments:

PFOA and PFOS have been detected exceeding the migration to groundwater in 3 locations (2 PFOS, 1 PFOA). PFOA and PFOS exceed 1/10th of the migration to groundwater cleanup level in numerous locations.

2. Ingestion of Surface Water

Have contaminants been detected or are they expected to be detected in surface water, or are contaminants expected to migrate to surface water in the future?

Could potentially affected surface water bodies be used, currently or in the future, as a drinking water source? Consider both public water systems and private use (i.e., during residential, recreational or subsistence activities).

If both boxes are checked, label this pathway complete:

Incomplete

Comments:

Surface water bodies are not present within the runway main runway reconstruction area.

3. Ingestion of Wild and Farmed Foods

Is the site in an area that is used or reasonably could be used for hunting, fishing, or harvesting of wild or farmed foods?

Do the site contaminants have the potential to bioaccumulate (see Appendix C in the guidance document)?

Are site contaminants located where they would have the potential to be taken up into biota? (i.e. soil within the root zone for plants or burrowing depth for animals, in groundwater that could be connected to surface water, etc.)

If all of the boxes are checked, label this pathway complete:

Incomplete

Comments:

The airport operations area is a secured location at BET with limited access and is not open for hunting, fishing, or harvesting of wild or farmed foods.

c) Inhalation-

1. Inhalation of Outdoor Air

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.)

Are the contaminants in soil volatile (see Appendix D in the guidance document)?

If both boxes are checked, label this pathway complete:

Incomplete

Comments:

PFAS are not listed as volatile in Appendix D.

2. Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be occupied or placed on the site in an area that could be affected by contaminant vapors? (within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater; within 100 feet of non-petroleum contaminated soil or groundwater; or subject to "preferential pathways," which promote easy airflow like utility conduits or rock fractures)

Are volatile compounds present in soil or groundwater (see Appendix D in the guidance document)?

If both boxes are checked, label this pathway complete:

Incomplete

Comments:

PFAS are not listed as volatile in Appendix D.

3. Additional Exposure Pathways: *(Although there are no definitive questions provided in this section, these exposure pathways should also be considered at each site. Use the guidelines provided below to determine if further evaluation of each pathway is warranted.)*

Dermal Exposure to Contaminants in Groundwater and Surface Water

Dermal exposure to contaminants in groundwater and surface water may be a complete pathway if:

- Climate permits recreational use of waters for swimming.
- Climate permits exposure to groundwater during activities, such as construction.
- Groundwater or surface water is used for household purposes, such as bathing or cleaning.

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are deemed protective of this pathway because dermal absorption is incorporated into the groundwater exposure equation for residential uses.

Check the box if further evaluation of this pathway is needed:



Comments:

Surface water bodies are not present within the runway main runway reconstruction area. Detected PFOA and PFOS analytes are less than 1/10th of the human health cleanup level but exceed the migration to groundwater cleanup level.

Inhalation of Volatile Compounds in Tap Water

Inhalation of volatile compounds in tap water may be a complete pathway if:

- The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- The contaminants of concern are volatile (common volatile contaminants are listed in Appendix D in the guidance document.)

DEC groundwater cleanup levels in 18 AAC 75, Table C are protective of this pathway because the inhalation of vapors during normal household activities is incorporated into the groundwater exposure equation.

Check the box if further evaluation of this pathway is needed:



Comments:

PFAS are not listed as volatile in Appendix D.

Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- Dust particles are less than 10 micrometers (Particulate Matter - PM₁₀). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.

DEC human health soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because the inhalation of particulates is incorporated into the soil exposure equation.

Check the box if further evaluation of this pathway is needed:

Comments:

Detected PFOA and PFOS analytes are less than 1/10th of the human health cleanup level and this pathway is considered insignificant.

Direct Contact with Sediment

This pathway involves people's hands being exposed to sediment, such as during some recreational, subsistence, or industrial activity. People then incidentally ingest sediment from normal hand-to-mouth activities. In addition, dermal absorption of contaminants may be of concern if the the contaminants are able to permeate the skin (see Appendix B in the guidance document). This type of exposure should be investigated if:

- Climate permits recreational activities around sediment.
- The community has identified subsistence or recreational activities that would result in exposure to the sediment, such as clam digging.

Generally, DEC direct contact soil cleanup levels in 18 AAC 75, Table B1, are assumed to be protective of direct contact with sediment.

Check the box if further evaluation of this pathway is needed:

Comments:

Surface water bodies are not present within the runway main runway reconstruction area.

4. Other Comments (*Provide other comments as necessary to support the information provided in this form.*)

ADEC, 2017. "Guidance on Developing Conceptual Site Models." January 2017.