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Subject: Final PFC Site Inspection Report Addendum

Schenectady Air National Guard Base, Scotia, New York

Contract No. W9133L-14-D-0001, TO 0007 AECOM Project Number: 60520893

Dear Brian,

Please find an electronic copy of the Final Site Inspection Report Addendum for the above referenced installation. This Final Site Inspection Report Addendum represents updates based on your comments regarding the previously submitted Final Site Inspection Report. Specifically, this Final Site Inspection Report Addendum was updated to correct text language with regards to nearby private water wells usage, and to recommend two additional PRLs (PRL 1 and PRL 2) for future supplemental Site Inspection activities.

Please contact me at (301) 820-3246 or via e-mail (<u>mike.myers@aecom.com</u>) if you have any questions or comments.

Yours Sincerely,

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Schenectady Air National Guard Base Scotia, New York

NGB/A4OR

Contract No. W9133L-14-D-0001, Task Order No. 0007

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List of Acronyms and Abbreviations

AFFF aqueous film-forming foam
AGE Aerospace Ground Equipment

amsl above mean sea level
ANG Air National Guard
ANGB Air National Guard Base

ASOS Air Support Operations Squadron

BB&E BB&E, Inc.

bgs below ground surface btoc below top of casing

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

COPC chemical of potential concern

CSM conceptual site model

DoD Department of Defense
DPT direct-push technology
DQO data quality objective

ECATS Environmental Consulting and Training Services

ESS environmental sequence stratigraphy

FD fire department FS feasibility study

FSS fire suppression system

ft foot or feet

gal gallon

gpm gallon per minute

HA Health Advisory
HEF high expansion foam

IDW investigation-derived waste IRP Installation Restoration Program

LOD limit of detection LOQ level of quantitation

MS matrix spike

MSD matrix spike duplicate

NA Not Applicable NFA no further action

NGB/A4OR National Guard Bureau, Operations Division, Restoration Branch

ng/g nanograms per grams ng/L nanograms per liter

NYANG New York Air National Guard

NYSDEC New York State Department of Environmental Conservation

OWS oil/water separator

PA Preliminary Assessment PAL project action levels

PFAS per- and polyfluoroalkyl substances

PFBS Perfluorobutanesulfonate PFC Perfluorinated compounds PFHpA Perfluoroheptanoic acid Perfluorohexanesulfonate PFHxS PFNA Perfluorononanoic acid PFOA Perfluorooctanoic acid **PFOS** Perfluoro-octanesulfonate PID photoionization detector POL Petroleum, Oil, and Lubricant **Publicly Owned Treatment Works** POTW

ppm parts per million

PRL potential release location

PVC polyvinyl chloride

QA quality assurance

QAPP quality assurance project plan

QC Quality Control

RA risk assessment
RI Remedial Investigation
RRR Rapid Runway Repair
RSL Regional Screening Levels

SI Site Inspection

SOP standard operating procedure

sq ft square feet

SWPPP Stormwater Pollution Prevention Plan

THQ Target Hazard Quotient

UCMR-3 Third Unregulated Contaminant Monitoring Rule

US United States

USAF United States Air Force

US EPA United States Environmental Protection Agency

VOC volatile organic compounds

WP work plan

Executive Summary

Under contract to the National Guard Bureau, Operations Division, Restoration Branch (NGB/A4OR), AECOM conducted a basewide Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Site Inspection (SI) for per- and polyfluoroalkyl substances (PFAS) at the Schenectady Air National Guard Base (ANGB), 109th Airlift Wing, Schenectady County, Scotia, New York. The objectives for the SI are: (1) determine the presence or absence of PFAS in soil and surface water or sediment at eighteen potential release locations (PRLs) and in groundwater immediately downgradient of each PRL, (2) assess if PFAS from the base are migrating off-base, and (3) determine if the concentrations of PFAS at each PRL are present in quantities or concentrations that warrant no further action or additional investigation as part of a Remedial Investigation / Feasibility Study (RI/FS) phase, and if so, what the appropriate data quality objectives (DQOs) should be.

PFAS are not currently regulated at the federal level and are not regulated by the State of New York; however, the United States Environmental Protection Agency (US EPA) has established lifetime health advisory (HA) levels for Perfluoro-octanesulfonate (PFOS) and Perfluorooctanoic acid (PFOA) to protect against potential risk from exposure to these compounds via drinking water; additionally, US EPA tapwater regional screening level (RSL) was used for Perfluorobutanesulfonate (PFBS). US EPA residential soil RSLs were calculated for PFOS, PFOA, and PFBS to address direct contact with soils. Effective 3 March 2017, the New York State Department of Environmental Conservation (NYSDEC) added PFOA and PFOS to the New York State 6 New York Codes, Rules and Regulations Part 597 list of hazardous substances. While the Final Rule lists PFOS and PFOA as hazardous substances, it does not include any screening or clean-up criteria. The US EPA values were considered in establishing project action levels (PAL) that are provided in Appendix C, Laboratory Quality Assurance Project Plan (QAPP) in the Final SI Work Plan (WP) (AECOM, 2018). There are no PALs for Perfluoroheptanoic acid (PFHpA), Perfluorohexanesulfonate (PFHxS), and Perfluorononanoic acid (PFNA) due to a lack of toxicity data.

The PALs for PFOS, PFOA, and PFBS for groundwater and soil are as follows:

Groundwater:

- PFOS and PFOA: A PAL of 70 nanograms per liter (ng/L) was selected for PFOS and PFOA; it is the US EPA drinking water HA level for screening the individual and combined PFOS + PFOA groundwater concentrations (US EPA, 2016a,b,c).
- <u>PFBS</u>: A PAL of 400,000 ng/L was selected for PFBS; it is the November 2018 US EPA generic tapwater RSL that was derived using a target hazard quotient (THQ) equal to 1.0 and is protective of a residential receptor drinking the water (US EPA, 2018).

Soil:

- o PFOS and PFOA: PALs of 1,260 nanograms per gram (ng/g) for both PFOS and PFOA were conservatively calculated using the US EPA RSL calculator (May 2018 version); no toxicity value changes have occurred since the release of the November 2018 RSLs. The calculated PALs were derived using a THQ equal to 1.0 and are protective of a residential receptor coming into direct contact with soil (i.e., incidental ingestion of soil, dermal contact and outdoor inhalation of particulates) (US EPA, 2018).
- PFBS: A PAL of 1.26 x 10⁶ ng/g for PFBS was conservatively calculated using the US EPA RSL calculator (May 2018 version); no toxicity value changes have occurred since the release of the November 2018 RSLs. The calculated PAL was derived using a THQ equal to 1.0 and is protective of a residential receptor coming into direct contact with soil (i.e., incidental ingestion of soil, dermal contact and outdoor inhalation of particulates) (US EPA, 2018). US EPA does provide a generic residential direct contact soil RSL of 1.30 x 10⁶ ng/g dated November 2018 (US EPA 2018). However, the Air National Guard (ANG) bases around the country have chosen to use the more stringent, calculated RSL for screening PFBS.

PALs were not specifically defined for surface water and sediment in the SI WP (AECOM, 2018), for purposes of this SI Report, they are defined as follows:

- Surface Water: There are no surface water specific screening criteria due to the absence of state
 or federal guidance levels; therefore, surface water PALs are equivalent to groundwater PALs,
 defined above.
- Sediment: There are no sediment specific screening criteria due to the absence of state or federal guidance levels; therefore, sediment PALs are equivalent to soil PALs, defined above.

Twenty-three PRLs at Schenectady ANGB were included in a Preliminary Assessment (PA) site visit conducted in December 2015. The results of the PA site visit were documented in the *Final Perfluorinated Compounds Preliminary Assessment Site Visit Report* (BB&E, Inc. [BB&E], 2016). The PA Report identified twenty-three PRLs, eighteen of which were recommended for further investigation. According to the PA Report, IRP Site 1 (Fire Training Area 1) (PRL 1) and Current Fire Training Area (FTA) (PRL 2) were both recommended for NFA since there has been no known usage of aqueous film-forming foam (AFFF) at these locations. Building 25 (Civil Engineering) (PRL 11) was also recommended for NFA in the PA since no floor drains exist in the building and there have been no known or documented releases of AFFF. Building 46 (Hazmat Pharmacy) (PRL 13) and Building 53 (Rapid Runway Repair [RRR] Garage) (PRL 14) were recommended for NFA in the PA since there have been no documented releases and any releases would likely have been contained within each building (BB&E, 2016).

The SI field activities were completed from June to July 2018, culminating in the collection of 57 soil samples, eight groundwater samples, four surface water samples, and six sediment samples. Per the SI WP, co-located sediment and surface water samples were to be collected both at Outfall 001 (PRL 19) and Outfall 002 (PRL 20); however, the surface water sample was not collected since water was not present in the outfalls. Collected samples were analyzed for six PFAS consistent with the US EPA third Unregulated Contaminant Monitoring Rule (UCMR-3) (US EPA, 2012). One new monitoring well installed at the southern boundary was intended to be used to evaluate off-base migration, but was dry. Therefore, a downgradient monitoring well, which was also used to evaluate a PRL, was used to evaluate off-base migration. A summary of the maximum sampling results exceeding PALs for each PRL is provided in **Table ES-1**.

Table ES-1. Summary of SI Maximum Sampling Results Exceeding PALs

| PRL | | | Result Exceeding PAL a,b,c | | o,c |
|---------|--------------------------------------|---------------|---------------------------------------|----------|------|
| Number | PRL Name | Media | PFOS | PFOA | PFBS |
| 3 | Building 31 (Current Fire Station) | Soil | | | |
| 4 | Building 12 (Former Fire Station) | Soil | | | |
| 5 | Hangar 1 / Building 2 | Soil | | | |
| 5 | Hangar 17 Building 2 | Groundwater | 5, 300 ng/L | 310 ng/L | |
| 6 | Former Hangar 2 / Building 10 | Soil | | | |
| 7 | Former Hangar 3 / Building 11 | Soil | | | |
| | | Soil | | | |
| 8 | Hangar 7 / Building 7 | Groundwater | 3,300 ng/L | 97 ng/L | |
| 9 | Hangar 8 / Building 8 | Soil | | | |
| 10 | Building 3 (Base Supply Warehouse) | Soil | | | |
| | Building 25 (Vahiala | Soil | | | |
| 12 | Building 35 (Vehicle Maintenance) | Groundwater | Combined total was not above the PAL. | | |
| 45 | IRP Site 3 (Drum Burial | Soil | | | |
| 15 | Area) ^d | Groundwater | 970 ng/L | 100 ng/L | |
| 40 | Former Sewage Treatment | Soil | | | |
| 16 | Plant | Groundwater | 790 ng/L | 95 ng/L | |
| 17 | Anron | Soil | | | |
| 17 | Apron | Groundwater | 74 ng/L | 95 ng/L | |
| 18 | Drainage Ditch | Sediment | | | |
| | | Surface Water | 630 ng/L | | |
| 19 | Outfall 001e | Sediment | | | |
| 20 | Outfall 002e | Sediment | | | |
| 21 | Outfall 003 | Sediment | | | |
| <u></u> | Outraii 003 | Surface Water | 340 ng/L | | |
| 22 | Outfall 004 | Sediment | | | |
| | Cattan 00 i | Surface Water | 190 ng/L | | |
| 23 | Outfall 005 | Sediment | | | |
| | | Surface Water | | | |
| NA | Base Boundary Wellsf | Groundwater | 970 ng/L | 100 ng/L | |

Table ES-1. Summary of SI Maximum Sampling Results Exceeding PALs (cont.)

Note: IRP Site 1 (Fire Training Area 1) (PRL 1), Current FTA (PRL 2), Building 25 (Civil Engineering) (PRL 11), Building 46 (Hazmat Pharmacy) (PRL 13), and Building 53 (RRR Garage) (PRL 14) were recommended for NFA during the Preliminary Assessment (BB&E, 2016).

Table ES-1 lists the compounds that exceed the following PALs. Compounds without PALs are included in Tables in **Appendix B**.

| | Groundwater and Surface Water | Soil and Sediment |
|-------------|-------------------------------|------------------------|
| Compound | (ng/L) | (ng/g) |
| PFOS | 70 | 1,260 |
| PFOA | 70 | 1,260 |
| PFOS + PFOA | 70 | NA |
| PFBS | 400,000 | 1.26 x 10 ⁶ |

- (a) US EPA, 2016a,b. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. US EPA Document Number: 822-R-16-005. May 2016.
- (b) US EPA, 2016c. Fact Sheet, PFOA & PFOS Drinking Water Health Advisories. November 2016. https://www.epa.gov/sites/production/files/2016- 06/documents/drinkingwaterhealthadvisories pfoa pfos updated 5.31.16.pdf as accessed on 13 May 2018.
- (c) US EPA, 2018. Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator that are protective of a residential receptor and a THQ = 1.0.
- (d) Monitoring wells associated with this PRL served as base boundary wells to characterize groundwater impacts at the base boundary.
- (e) A co-located sediment and surface water sample was to be collected at Outfall 001 (PRL 19) and Outfall 002 (PRL 20); however, surface water samples were not collected at PRLs 19 and 20 because surface water was not present in the outfalls at the time of sampling.
- (f) Monitoring well IRP3-MW01 is located at the base boundary and was used to characterize groundwater impacts at the base boundary and to evaluate off-base migration. Analytical results for this well are included in the PRL-specific discussions.

-- indicates the compound was not detected above the PAL

FTA = Fire Training Area

IRP = Installation Restoration Program

NA = Not Applicable
NFA = no further action
ng/g = nanograms per gram
ng/L = nanograms per liter

PAL = project action level POL = petroleum, oil, and lubricant

PFBS = Perfluorobutanesulfonate
PFOA = Perfluoroctanoic acid
PFOS = Perfluoro-octanesulfonate
PRL = potential release location
RRR = Rapid Runway Repair

THQ = target hazard quotient

PFAS were present in all media sampled at each PRL. Five PRLs (PRLs 5, 8, 15, 16, and 17) had levels of PFAS exceeding PALs in groundwater, with the highest values recorded at Hangar 1 / Building 2 (PRL 5). Though PFAS were detected in soil samples at all PRLs, there were no exceedances of PALs in soil. PFAS were detected in the groundwater at the base boundary and exceeded PALs in the groundwater sample, suggesting that PFAS likely are migrating off-base, based on a groundwater flow direction to the south-southwest. There are currently no known public water supply wells at the base; however, there are five potable water supply wells five miles west of the ANGB, which supply Schenectady ANGB (BB&E, 2016). Private water wells are located near the ANGB.

PFAS were detected in the surface water and sediment samples. PALs were exceeded for PFAS in surface water at the Drainage Ditch (PRL 18), Outfall 003 (PRL 21) and Outfall 004 (PRL 22). PFAS detections in sediment were below the PALs. Stormwater that drains to these outfalls is not exclusively from the ANGB; therefore, additional sources of PFAS entering the outfalls are possible. It is likely that PFAS are migrating off-base via surface water.

The following recommendations are provided for consideration based on the SI results:

- Further investigation at all 18 PRLs is necessary to determine the nature and extent of PFAS contamination due to detectable levels at all PRLs.
- Expand the conceptual site model (CSM) that considers localized groundwater and surface water flow paths to select future sampling locations. To refine the CSM for Schenectady ANGB, an environmental sequence stratigraphy (ESS) analysis could be performed to generate new cross sections. This information could:
 - o Identify and map (the composition, shape, and interconnectivity of) potentially undefined fluvial channels and other geologic features at the plume scale.
 - Construct a geologically defensible framework of the subsurface that better defines subsurface heterogeneity, accurately predicts preferential pathways, and reduces data gaps.
 - Achieve a greater understanding of groundwater and dissolved contaminant flow preferential pathways and thus target areas for active remedial implementation.
 - Reduce the number of future wells for plume measurements through stratigraphic quidance.
- Complete the delineation as part of an RI that could consist of:
 - Expanding the groundwater sampling program to complete horizontal and vertical delineation of the PFAS impacts, which could potentially include bedrock sampling.
 Further groundwater evaluation is recommended at the base boundary and at all PRLs where the presence of PFAS in groundwater exceeded the PALs.
 - Installing and sampling downgradient monitoring wells to better define the impacts of PFAS that have migrated off-base, and installing upgradient monitoring wells to better define the impacts of PFAS that have migrated on-base (from off-base sources).
 - Conducting additional surface water and sediment sampling both on-base and off-base to determine the nature and extent of PFAS impacts in these media. Potential locations include the on-base system of storm drains and Drainage Ditch (PRL 18) as well as the off-base tributaries such as Collins Creek and the Indian and Alplaus Kills.
 - Performing additional soil, groundwater, surface water and sediment sampling and analysis of an expanded list of PFAS (in addition to the six UCMR-3 compounds) and precursor analysis to determine if significant source areas related to precursor substances are present. Precursor substances have been demonstrated to oxidize into PFOS and PFOA via biological and abiotic processes and thus could provide a lingering source of PFOS and PFOA in soil and groundwater.
- Conduct preliminary site-specific risk assessment (RA) calculations in order to identify chemicals of potential concern in every media and establish preliminary remedial goals for screening.

• The understanding of potential health effects from exposures to these emerging contaminants and the expected establishment of federal and New York State regulations is an evolving and ongoing process that may result in the establishment of promulgated regulations, including maximum contaminant levels, groundwater standards and/or soil cleanup objectives that differ from the PALs used to evaluate the data generated during this SI. Any of the above conclusions or recommendations may be subject to reinterpretation during future investigations, in response to updated toxicological information and/or newly promulgated regulations,

DQOs are proposed based on the results of the SI and are presented in **Table ES-2**. Additional sampling and analysis is required at each PRL to establish the nature and extent of PFAS for each applicable media and determine if there is a complete receptor pathway. For soil, additional sampling and analysis is required to determine if a source area exists and if so, the vertical and horizontal extent for both the vadose and saturated zones. For groundwater, additional sampling is proposed to better define potential groundwater impacts both vertically and horizontally through the sampling of existing and additional new monitoring wells in both upgradient and downgradient off-base locations. Surface water and sediment sampling and analysis is required at PRLs where the presence of PFAS has been identified in either or both media; including upstream and downstream surface water and sediment at on-base and off-base locations.

Table ES-2. Relevant Data Quality Objectives

| PRL | PRL | Compounds | |
|-----|--|----------------------------|---|
| No. | Description | Above PALs | Sampling Recommendation(s) and Objectives |
| 3 | Building 31 (Current Fire Station) | Name | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to |
| 4 | Building 12 (Former Fire Station) | None | groundwater migration. <u>Groundwater</u> : Since installed monitoring wells B31-MW01 (PRL 3), B12-MW01 (PRL 4) were dry at the time of sampling and PFAS were detected in soil samples, perform groundwater sampling to determine the presence or absence of PFAS in groundwater. |
| 5 | Hangar 1 / Building 2 | Groundwater: PFOS, PFOA | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. |
| | | | Groundwater: Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells. |
| 6 | Former Hangar 2 / Building 10 | Groundwater: PFOS, PFOA | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. Groundwater: Groundwater results from SC-APR-MW03 (PRL 17) were also |
| | | | used to evaluate PRL 6. Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells. |
| 7 | Former Hangar 3 / Building 11 | None | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. |
| | | | Groundwater: Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells. |
| 8 | Hangar 7 / Building 7 | Groundwater: PFOS, PFOA | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. Groundwater: Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells. |
| 9 | Hangar 8 / Building 8 | None | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. |
| 10 | Building 3 (Base Supply Warehouse) | <u>None</u> | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. Groundwater: Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells. |
| 12 | Building 35 (Vehicle | None | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. |
| | Maintenance) | | Groundwater: Although PALs were not exceeded, PFAS were detected in groundwater samples. Therefore, additional groundwater sampling is proposed to better define potential groundwater impacts both vertically and horizontally through the sampling of existing and additional new monitoring wells. |

Table ES-2. Relevant Data Quality Objectives

| PRL | PRL PRL Compounds | | Sampling Recommendation(s) and Objectives | |
|---|----------------------------------|----------------------------|--|--|
| No. | Description | Above PALs | Sampling Recommendation(s) and Objectives | |
| 15 | IRP Site 3 (Drum Burial Area) | | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to | |
| 16 | Former Sewage Treatment Plant | Groundwater: PFOS, PFOA | determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. | |
| 17 | Apron | | Groundwater: Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells. | |
| 18 | Drainage Ditch | Surface Water: PFOS | Surface Water and Sediment: Although PALs were not exceeded in the sediment sample, PFAS were detected. Therefore, additional surface water and sediment sampling downstream beyond the base boundary is proposed to determine the extent of surface water and sediment impacts, and support the evaluation of whether there are unacceptable risks to ecological or human health receptors. | |
| 19 | Outfall 001 | | Surface Water and Sediment: Conditions were dry at the time of sampling | |
| 20 | Outfall 002 | None | therefore surface water sampling was not conducted during the SI. Although PALs were not exceeded, PFAS were detected in the sediment sample. Therefore, additional surface water and sediment sampling downstream beyond the base boundary is proposed to determine the extent of surface water and sediment impacts, and support the evaluation of whether there are unacceptable risks to ecological or human health receptors. | |
| 21 | Outfall 003 | | Surface Water and Sediment: Although PALs were not exceeded in the | |
| 22 | Outfall 004 | Surface Water: PFOS | sediment, PFAS were detected. Therefore,_additional surface water and sediment sampling downstream beyond the base boundary is proposed to determine the extent of surface water and sediment impacts, and support the evaluation of whether there are unacceptable risks to ecological or human health receptors. | |
| 23 | 23 Outfall 005 None | | <u>Surface Water and Sediment:</u> Although PALs were not exceeded, PFAS were detected in surface water and sediment samples. Therefore, additional surface water and sediment sampling downstream beyond the base boundary is proposed to determine the extent of surface water and sediment impacts, and support the evaluation of whether there are unacceptable risks to ecological or human health receptors. | |
| PRL 1 (IRP Site 1 – Fire Training Area 1) | | Training Area 1) | Although the PA recommended this location for No Further Action, it should be included in further supplemental investigation, per correspondence with the New York State Department of Environmental Conservation. Supplemental investigation with come in the form of a Site Investigation to occur during the same time as the contracted RI for other PFAS PRLs at this installation. | |
| PRL 2 (Current FTA) | | it FTA) | Although the PA recommended this location for No Further Action, it should be included in further supplemental investigation, per correspondence with the New York State Department of Environmental Conservation. Supplemental investigation with come in the form of a Site Investigation to occur during the same time as the contracted RI for other PFAS PRLs at this installation. | |
| General | | l | Groundwater: (1) Collect additional groundwater samples in upgradient locations to quantify potential PFAS in upgradient sources; (2) collect additional groundwater samples off-base from a limited number of new monitoring wells to assess the nature and extent of PFAS impacts beyond the base boundary. | |

1. Introduction

Under contract to National Guard Bureau, Operations Division, Restoration Branch (NGB/A4OR), AECOM has prepared this Site Inspection (SI) Report to document the per- and polyfluoroalkyl substances (PFAS) focused field activities at 18 potential release locations (PRLs) and the base boundary wells identified by the Air National Guard (ANG) on Schenectady Air National Guard Base (ANGB) (base), 109th Airlift Wing, Schenectady County, Scotia, New York. **Figure 1-1** provides a general location map for Schenectady ANGB.

The SI, which follows the Preliminary Assessment (PA) in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process, is not intended as a full-scale study of the nature and extent of contamination. The United States Environmental Protection Agency (US EPA) identifies the SI as the onsite investigation to determine what hazardous substances are present and if they are being released to the environment. Its purpose is to augment the data collected in the PA and to generate, if necessary, sampling and other field data to determine if further response action or remedial investigation (RI) is appropriate.

A detailed description of the field procedures and scope of work intended to be performed during this SI is included in the Final SI Work Plan (WP) (AECOM, 2018). Field activities for the SI were conducted between June and July 2018. This SI Report presents the analytical results of the groundwater, soil, sediment and surface water sampling. Finally, it provides conclusions and recommendations based on the results of the SI.

1.1 PFAS Overview

Perfluorinated compounds (PFCs), which are more recently referred to as PFAS, comprise a diverse group of synthetic chemicals used for over 50 years in various military and industrial applications and consumer products. The term "PFAS" is used hereafter throughout the SI report when referring to "PFCs". PFAS are detected in aqueous film-forming foams (AFFF) used for firefighting and fire suppression systems (FSS) starting in the 1970s; however, it was introduced to some bases prior to 1970. Sources of PFAS used by military and commercial airports can include: firefighting training areas, nozzle test areas, hangars and other buildings equipped with fire suppression equipment, fire stations, AFFF loading, handling and storage areas, aircraft and vehicle crash response areas, and AFFF ponds, sumps, tanks, landfills and/or other areas of disposal. The United States Air Force (USAF) estimates PFAS-containing AFFF may have been used at approximately 200 active and former USAF bases, including ANG and USAF Reserve facilities.

Properties of some PFAS that were analyzed for in this SI include:

- Limited sorption to soil and sediments
- Highly water soluble, non-volatile and extremely mobile in water
- Exceptional stability
- Persistent with very little attenuation
- Widely present in the environment, bioaccumulative, and detected in plants, animals, and humans

Potential health effects are based on toxicological data that is generally limited for most PFAS with the exception of a few more highly studied compounds. The C8 Science Panel identified the following probable links to Perfluorooctanoic acid (PFOA) exposures (C8 Science Panel, 2018):

- Ulcerative colitis
- Thyroid disease
- Testicular and kidney cancer
- Pregnancy-induced hypertension
- Diagnosed high cholesterol

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Concerns associated with PFAS prompted the US EPA to include six PFAS in its third Unregulated Contaminant Monitoring Rule (UCMR-3) requiring sampling for PFAS in many large public water systems (US EPA, 2012). This sampling resulted in the discovery of impacted drinking water supplies; several linked to Department of Defense (DoD) and commercial airport sites. The US EPA finalized its lifetime health advisory (HA) levels in 2016 for Perfluoro-octanesulfonate (PFOS) and PFOA in drinking water at 70 nanograms per liter (ng/L) with a recommendation for combined PFOS+PFOA concentrations less than 70 ng/L (US EPA, 2016a,b). Given these impacts to drinking water sources and the establishment of US EPA HA levels, increased environmental regulatory scrutiny is occurring and is expected to continue.

1.2 Scope and Objectives

The objectives for the SI are to: (1) determine the presence or absence of PFAS in soil and surface water (if present) or sediment at 18 PRLs and in groundwater immediately downgradient of each PRL, (2) assess if PFAS from the base are migrating off-base, and (3) determine if the concentrations of PFAS at each PRL are present in quantities or concentrations that warrant no further action (NFA) or additional investigation as part of a Remedial Investigation (RI) / Feasibility Study (FS) phase, and if so, what the appropriate data quality objectives (DQOs) should be. The scope of work included the completion of soil borings and groundwater monitoring wells, and the collection of soil and groundwater samples, and sediment and surface water samples (if present) to evaluate the presence or absence of SI chemicals of potential concern (COPCs).

1.3 Report Organization

This SI Report is organized into the following eight sections:

- Section 1, Introduction
- Section 2, Base Description
- Section 3, Environmental Setting
- Section 4, Investigation Activities
- Section 5, Site Inspection Results
- Section 6, Analysis of Results
- Section 7, Conclusions and Recommendations
- Section 8, References

2. Base Description

2.1 Site History

Schenectady ANGB began operating at the Schenectady County Airport in 1948 as the 109th Fighter Squadron. The organization was converted to a transport group during 1958 and was activated to full-time status in 1961, flying regular missions to Southeast Asia in support of active duty forces in Vietnam. The 109th Airlift Group received its first C-130s during 1971 and began supporting scientific research programs in 1975. In 1988, they began augmenting the U.S. Navy's support of the U.S. Antarctic Program by supporting operations at the McMurdo and Palmer stations, Antarctica, as well as at other research stations located in Antarctica and Greenland (Environmental Consulting and Training Services [ECATS] 2003; Hueber et al. 1997). In 1996, the 109th Airlift Group was re-assigned as an Airlift Wing (ECATS 2003).

The main purpose of Schenectady ANGB is to provide organizational and maintenance support to the 109th Airlift Wing, which flies C-130H and ski-equipped LC-130H aircraft to support their Air Mobility Command and polar airlift missions. The major support operations include aircraft fueling, aircraft deicing, aircraft maintenance, aerospace ground equipment maintenance, ground vehicle maintenance, fueling of ground vehicles, and facilities maintenance (ANG, 2006).

The facility also provides general airlift support throughout the ANGB and Air Mobility Command passenger/cargo systems. The unit services other polar customers, such as the North American Aerospace Defense and the Navy, in addition to polar rescue operations. The unit also has a mission to assist New York State in the event of disaster, emergencies, and civil disturbances. Currently, there are approximately 430 full-time personnel at Schenectady ANGB and approximately 1,300 part-time personnel, including the weekend drill personnel.

2.2 PRL History

With the exception of the Installation Restoration Program (IRP) Site 1 (Fire Training Area 1) (PRL 1), no PFAS focused investigations have been completed at Schenectady ANGB. As described above, a base-wide PA was conducted at Schenectady ANGB in December 2015 to assess known and potential releases of PFAS at various areas known to have stored or released AFFF or other PFAS containing products (BB&E, Inc. [BB&E], 2016). The PA included assessments of sites to determine if there was sufficient information to indicate if a potential release of PFAS could impact human health and the environment.

As part of the PA, a total of twenty-three PRLs were identified; the ANG determined that further investigation was warranted at eighteen PRLs to provide consistency within the ANG program in evaluating potential PFAS releases and the remainder were recommended for NFA (BB&E, 2016). According to the PA Report, the IRP Site 1 (Fire Training Area 1) (PRL 1) and Current Fire Training Area (FTA) (PRL 2) were both recommended for NFA since there has been no known usage of aqueous film-forming foam (AFFF) at these locations. Building 25 (Civil Engineering) (PRL 11) was also recommended for NFA since no floor drains exist in the building and there have been no known or documented releases of AFFF. Building 46 (Hazmat Pharmacy) (PRL 13) and Building 53 (Rapid Runway Repair [RRR] Garage) (PRL 14) were recommended for NFA since there have been no documented releases and any releases would likely have been contained within each building (BB&E, 2016).

Figure 2-1 provides the locations of the eighteen PRLs investigated as part of the SI. Brief histories associated with PFAS usage at the PRLs are provided below. All histories were current as of the 2016 PA Report (BB&E, 2016).

2.2.1 Building 31 (Current Fire Station) (PRL 3)

Building 31 was built in 1998 and is used as the current Fire Station. According to the PA Report, C6 AFFF is present in the Fire Department (FD) vehicles and the crash trailer, which are stored within Building 31. C8 AFFF was removed from all vehicles in November 2016 and replaced with C6 AFFF. C8

AFFF was removed from the base in early 2017. The current vehicle inventory includes the following: P-23 (500 gallons [gal] AFFF), P-34 (56 gal AFFF), P-19R (210 gal AFFF), P-2 (200 gal AFFF), P-19 (135 gal AFFF), P-4 (180 gal AFFF), O11A (110 gal AFFF), and a crash trailer (1,000 gal AFFF). Some vehicles have had minor AFFF leaks. AFFF is transferred to the vehicles within the Fire Station via hand pouring or pumping, or via the crash trailer from bulk storage containers stored in Building 46, the Hazmat Pharmacy (PRL 13). FD vehicles are washed within the Fire Station when necessary. There are trench drains located in the Fire Station; therefore, any potential AFFF releases are captured by the trench drains, which discharge into the sanitary sewer system through an oil/water separator (OWS) (BB&E, 2016).

2.2.2 Building 12 (Former Fire Station) (PRL 4)

Prior to relocation to Building 31, the FD was stationed in Building 12, which is now the Aerospace Ground Equipment (AGE) Maintenance Facility. The first portion of Building 12 was built in 1948 (Bays 1, 2, and 3). The vehicle inventory was similar to the current inventory at Building 31 (PRL 3). There were some minor leaks from vehicles. AFFF was transferred to vehicles within the building via hand pouring or pumping, or via the crash trailer. FD vehicles were washed within the building when necessary. As noted during the December 2015 PA site visit, Building 12 contained trench drains that captured any potential AFFF releases; the trench drains discharged into the sanitary sewer system through an OWS. Discharges from Bays 1, 2, or 3 were routed to an OWS on the south corner of the building (currently paved area). Discharges from Bays 4, 5, or 6 were routed to an OWS on the southeast side of the building (currently a grassy area) (BB&E, 2016).

2.2.3 Hangar 1 / Building 2 (PRL 5)

Hangar 1/Building 1 was built in 1948. The AFFF FSS was installed in 1992 and remained until 2015; the system is currently being retrofitted for use of high expansion foam (HEF). The AFFF FSS was tested every two years. According to base personnel, there were accidental discharges from the FSS. A 300 gal AFFF storage tank and pump was stored in a contained room in the western portion of the building. Trench drains are located in the main portion of the hangar. During typical conditions, trench drain discharges entered the sanitary sewer system through an OWS (located south of Building 12). Planned (e.g., FSS activations) or accidental AFFF discharges were automatically diverted to a holding tank near the south corner of the building. The holding tank was replaced two years ago due to proximity to the roof drain, which caused water to fill the tank. There were no signs of tank leakage. Holding tank contents were manually pumped to the sanitary sewer system after approval by the Schenectady Publicly Owned Treatment Works (POTW). The trench drains could also be manually diverted to the holding tank for non-FSS spills, if necessary (BB&E, 2016).

2.2.4 Former Hangar 2 / Building 10 (PRL 6)

Former Hangar 2/Building 10 was built in 1963 and an AFFF FSS was installed in 1992. The building was demolished in 1999/2000 and only concrete remains. According to the 2016 PA Report, an AFFF concentrate holding tank was located in the main portion of the hangar, which fed two monitors. Trench drains were present in the hangar. During typical conditions, trench drain discharges entered the sanitary sewer system through an OWS. During FSS activations, planned or accidental, AFFF discharges were automatically diverted to two 7,000-gal holding tanks. Holding tank contents were manually pumped to the sanitary sewer system after approval by the Schenectady POTW. The trench drains could also be manually diverted to the holding tank for non-FSS spills if necessary (BB&E, 2016).

2.2.5 Former Hangar 3 / Building 11 (PRL 7)

Former Hangar 3/Building 11 was built in 1963 and the AFFF FSS was installed in 1992. The building was demolished in 2014 and the footprint of the building currently remains. According to the 2016 PA Report, an AFFF concentrate holding tank was located in the main portion of the hangar, which fed two monitors. Trench drains were present in the hangar. During typical conditions, trench drain discharges entered the sanitary sewer system through an OWS. During FSS activations, planned or accidental, AFFF discharges were automatically diverted to two 7,000-gal holding tanks at the northwest side of the building. Holding tank contents were manually pumped to the sanitary sewer system after approval by the Schenectady

POTW. The trench drains could also be manually diverted to the holding tank for non-FSS spills if necessary (BB&E, 2016).

2.2.6 Hangar 7 / Building 7 (PRL 8)

Hangar 7/Building 7 was built in 1999. The AFFF FSS was installed in 1999 and remained until 2015; the system is currently being retrofitted for use of HEF. According to Base personnel, the AFFF FSS was tested every two years. Hangar 7 construction drawings were unavailable, but according to base personnel, no AFFF was stored in this building. Trench drains are located near the apron door and down the middle of the hangar. During typical conditions, trench drain discharges entered the sanitary sewer system through an OWS. During FSS activations, planned or accidental, AFFF discharges were automatically diverted to a 25,000-gal holding tank located adjacent to the OWS, south of Hangar 7 in a parking lot. Holding tank contents were manually pumped to the sanitary sewer system after approval by the Schenectady POTW. The trench drains could also be manually diverted to the holding tank for non-FSS spills if necessary (BB&E, 2016).

2.2.7 Hangar 8 / Building 8 (PRL 9)

The construction of Hangar 8/Building 8 occurred in 1998. The AFFF FSS was installed in 1998 and remained until 2015; the system is currently being retrofitted for use of HEF. The AFFF FSS was tested every two years, according to base personnel. A 500-gal AFFF storage tank was located in the boiler room of Hangar 8 (located in bermed area). According to the December 2015 PA site visit, trench drains were located near the apron door of the main hangar. During typical conditions, trench drain discharges entered the sanitary sewer system through an OWS. During FSS activations, planned or accidental, AFFF discharges were automatically diverted to a 25,000-gal holding tank located adjacent to the OWS, south of Hangar 7 (PRL 8) in a parking lot. Holding tank contents were manually pumped to the sanitary sewer system after approval by the Schenectady POTW. The trench drains could also be manually diverted to the holding tank for non-FSS spills if necessary (BB&E, 2016).

2.2.8 Building 3 (Base Supply Warehouse) (PRL 10)

Building 3 (Base Supply Warehouse) was built in 1948 and was a former bulk AFFF storage area until the Hazmat Pharmacy (PRL 13) was built. According to the 2016 PA Report, AFFF 55-gal drums and 5-gal pails were stored with secondary containment. There were no nearby floor drains or overhead doors to facilitate an outside release of AFFF. However, AFFF was occasionally temporarily stored outside for a few days in the cage on the west side of Building 3 until it could be moved inside. The caged area does not have secondary containment. There are no records or Base personnel knowledge of any AFFF spills within or around Building 3 (BB&E, 2016).

2.2.9 Building 35 (Vehicle Maintenance) (PRL 12)

Building 35 (Vehicle Maintenance) was built in 1991. FD vehicles have been stationed for repair at Building 35 on occasion. If necessary, AFFF is transferred from the vehicles during repair to a storage tank inside the building, which was observed during the December 2015 PA site visit. Discharges inside the building were collected in a holding tank and thereafter routed to the sanitary sewer via an OWS. In warmer weather, FD vehicles have been stored outside on the ready line. There was one known AFFF release (unknown quantity) from a FD vehicle on the concrete west of Building 35. AFFF entered the nearby catch basin and was contained at Outfall 002 (PRL 20) via valve control. Thereafter, it was pumped to holding tanks and manually pumped to the sanitary sewer system following approval by the Schenectady POTW (BB&E, 2016).

2.2.10 IRP Site 3 (Drum Burial Area) (PRL 15)

IRP Site 3 (Drum Burial Area) is located near the former sewage treatment plant and sand filter. This area was identified when buried drums were discovered during construction activities. IRP Site 3 covers an area of approximately 0.68 acres and is bounded to the south by a chain link fence, to the west by a chain link fence and extending approximately 250 feet (ft) to the northeast from the chain link fence, along the

drainage ditch which bounds the north of IRP Site 3 (ANG, 2012). Five interim removal or remedial actions were completed to excavate contaminated soils. An additional soil excavation was completed to remove soil contaminated with xylene along the drainage ditch. Groundwater contamination was not identified at IRP Site 3. IRP Site 3 received NFA concurrence in 2015 from New York State Department of Environmental Conservation (NYSDEC) (NYSDEC, 2015). The IRP investigation did not include sampling for the presence of PFASs. There are no records or base personnel knowledge of any AFFF releases at IRP Site 3 (Drum Burial Area); however, base personnel stated AFFF could have been disposed of here (BB&E, 2016).

2.2.11 Former Sewage Treatment Plant (PRL 16)

The Former Sewage Treatment Plant operated from approximately 1972/73 to 2000 and consisted of a lagoon system. Any AFFF discharged to the Former Sewage Treatment Plant would have been from an accidental discharge to sanitary drains within base buildings. The former Sewage Treatment Plant Supervisor recalled two AFFF releases, although the specifics of each release are unknown. The lagoons discharged to the stream (unnamed tributary of the Mohawk River) on the south side of the Base, and ultimately the drainage ditch. According to the 2016 PA Report, when Sewage Treatment Plant operations were ceased in 2000, the lagoons were drained and a contractor removed the contents. The lagoon liner was cut, folded over, and the area was backfilled. The sand and stone from the sand filter beds were reportedly removed and the area backfilled. Base personnel indicated that AFFF was likely disposed of through the Former Sewage Treatment Plant; however, no records were identified during the PA (BB&E, 2016).

2.2.12 Apron (PRL 17)

The Apron is used for parking, fueling, deicing, and minor maintenance of aircraft. The Apron is surfaced with asphalt, with/concrete fringe for vehicle traffic. The Apron infrastructure includes a concrete apron surface and storm water controls (storm water inlets and drainage piping). A portion of the Apron is designated as an aircraft deicing area and is equipped with a 4,000-gal storage tank and associated diversion valves/piping to capture and contain much of the runoff that is generated during aircraft deicing activities. Contents from the 4,000-gal holding tank are evaluated and disposed of off-site if necessary, or directed to Outfall 003 (PRL 21). According to the 2016 PA Report, storm water drainage from the apron is discharged through Outfalls 003, 004, and 005 (PRLs 21, 22, and 23, respectively) into an unnamed creek that flows in an easterly direction south of the Apron. Storm water runoff from the designated aircraft parking spots for deicing is directed through Outfall 003 (PRL 21) (CH2M Hill, 2014). There are no records or base personnel knowledge of any AFFF spills on the apron (BB&E, 2016).

2.2.13 Drainage Ditch (PRL 18)

The Drainage Ditch is an unnamed tributary to Mohawk River and is located on the southern side of the base, near the base boundary. This unnamed tributary is also classified as a trout stream by the NYSDEC. It is equipped with a weir to contain the water prior to discharge. Base personnel also refer to this area as the Retention Pond. According to the 2016 PA Report, it was reported that the weir was built around 1972/1973. A monitor at the weir is setup to monitor hydrocarbons, but will detect AFFF if there are high concentrations. Base personnel do not recall detections of AFFF, in at least the past 12 years. Soil removal occurred within the drainage ditch, near the location of the weir. A contractor will come in to dispose of water if there is hydrocarbon contamination, otherwise, after inspection, the weir is lowered and the water ultimately discharges to the Mohawk River. Outfalls 001, 003, 004, and 005 (PRLs 19, 21, 22, and 23, respectively) discharge to the Drainage Ditch. Stormwater from the Former Sewage Treatment Plant (PRL 16) also drained to the Drainage Ditch (BB&E, 2016).

2.2.14 Outfall 001 (PRL 19)

Outfall 001 is located near the southwestern border of the base and discharges to the Drainage Ditch (PRL 18). Stormwater drainage from the base is collected by a series of storm drain inlets and conveyed by the storm water drainage system through underground piping, drainage swales, and culverts. The areas around some buildings lead to more than one outfall. According to the Stormwater Pollution

Prevention Plan (SWPP) (SWPP, CH2M Hill, 2014) mapping, Outfall 001 drains Building 12 (PRL 4), Hangar 1/Building 2 (PRL 5), Hangar 7/Building 7 (PRL 8), and Hangar 8/Building 8 (PRL 9).

2.2.15 Outfall 002 (PRL 20)

Outfall 002 is located on the base, at the intersection of D Street and Hemstreet Highway. Outfall 002 is a catch basin equipped with a sheen monitor that electronically controls an automatic valve located downstream of Outfall 002. Storm water drainage from the base is collected by a series of storm drain inlets and conveyed by the storm water drainage system through underground piping, drainage swales, and culverts. The areas around some buildings lead to more than one outfall. According to the SWPPP, Outfall 002 drains Building 35 (PRL 12) (CH2M Hill, 2014).

2.2.16 Outfall 003 (PRL 21)

Outfall 003 is located near the southwestern border of the base and discharges to the Drainage Ditch (PRL 18). Stormwater drainage from the base is collected by a series of storm drain inlets and conveyed by the storm water drainage system through underground piping, drainage swales, and culverts. According to the PA, Outfall 003 receives drainage from the southwestern-most line of Apron (PRL 17) drains. Drain discharges go to OWS prior to outfall. If necessary, the flow can be diverted to a holding tank at the south end of the Apron; however, personnel had no knowledge of diverting the flow to the holding tank (BB&E, 2016).

2.2.17 Outfall 004 (PRL 22)

Outfall 004 is located near the southwestern border of the base and discharges to the Drainage Ditch (PRL 18). Stormwater drainage from the base is collected by a series of storm drain inlets and conveyed by the storm water drainage system through underground piping, drainage swales, and culverts. According to base personnel, Outfall 004 receives discharges from the northern line of drains on the Apron (PRL 17). Discharges go directly to the outfall (no OWS or holding tank) (BB&E, 2016).

2.2.18 Outfall 005 (PRL 23)

Outfall 005 is located on the southwest border of the base and discharges to the Drainage Ditch (PRL 18). Stormwater drainage from the base is collected by a series of storm drain inlets and conveyed by the storm water drainage system through underground piping, drainage swales, and culverts. The area around some buildings leads to more than one outfall. Outfall 005 reportedly drains Hangar 1/Building 2 (PRL 5), Building 3 (PRL 10), Building 25 (PRL 11), Building 35 (PRL 12), and the Apron (PRL 17) (BB&E, 2016).

2.3 Regulatory Framework

PFAS are not currently regulated at the federal level and are not regulated by the State of New York; however, the US EPA has established lifetime HA levels for PFOS and PFOA to protect against potential risk from exposure to these compounds via drinking water; additionally, US EPA tapwater RSL was used for Perfluorobutanesulfonate (PFBS). US EPA residential soil RSLs were calculated for PFOS, PFOA, and PFBS to address direct contact with soils. Effective 3 March 2017, the NYSDEC added PFOA and PFOS to the New York State 6 New York Codes, Rules and Regulations Part 597 list of hazardous substances. While the Final Rule lists PFOS and PFOA as hazardous substances, it does not include any screening or clean-up criteria. The US EPA values were considered in establishing project action levels (PAL) that are provided in Appendix C, Laboratory Quality Assurance Project Plan (QAPP) in the Final SI WP (AECOM, 2018). There are no PALs for Perfluoroheptanoic acid (PFHpA), Perfluorohexanesulfonate (PFHxS), and Perfluorononanoic acid (PFNA) due to a lack of toxicity data.

The PALs for PFOS, PFOA, and PFBS for groundwater and soil are as follows:

Groundwater:

- <u>PFOS and PFOA</u>: A PAL of 70 ng/L was selected for PFOS and PFOA; it is the US EPA drinking water HA level for screening the individual and combined PFOS + PFOA groundwater concentrations (USEPA, 2016a,b,c).
- <u>PFBS</u>: A PAL of 400,000 ng/L was selected for PFBS; it is the November 2018 US EPA generic tapwater RSL that was derived using a target hazard quotient (THQ) equal to 1.0 and is protective of a residential receptor drinking the water (US EPA, 2018).

Soil:

- <u>PFOS and PFOA</u>: PALs of 1,260 nanograms per gram (ng/g) for both PFOS and PFOA were conservatively calculated using the US EPA RSL calculator (May 2018 version); no toxicity value changes have occurred since the release of the November 2018 RSLs. The calculated PALs were derived using a THQ equal to 1.0 and are protective of a residential receptor coming into direct contact with soil (i.e., incidental ingestion, dermal contact and outdoor inhalation of particulates) (US EPA, 2018).
- PFBS: A PAL of 1.26 x 10⁶ ng/g for PFBS was conservatively calculated using the US EPA RSL calculator (May 2018 version); no toxicity value changes have occurred since the release of the November 2018 RSLs. The calculated PAL was derived using a THQ equal to 1.0 and is protective of a residential receptor coming into direct contact with soil (i.e., incidental ingestion, dermal contact and outdoor inhalation of particulates) (US EPA, 2018). US EPA does provide a generic residential direct contact soil RSL of 1.30 x 10⁶ ng/g dated November 2018 (US EPA 2018). However, the Air National Guard (ANG) bases around the country have chosen to use the more stringent, calculated RSL for screening PFBS.

PALs were not specifically defined for surface water and sediment in the SI WP (AECOM, 2018), for purposes of this SI Report, they are defined as follows:

- Surface Water: There are no surface water specific screening criteria due to the absence of state
 or federal guidance levels; therefore, surface water PALs are equivalent to groundwater PALs,
 defined above.
- Sediment: There are no sediment specific screening criteria due to the absence of state or federal guidance levels; therefore, sediment PALs are equivalent to soil PALs, defined above.

Where multiple criteria exist, the more conservative screening value will be used. The PALs for each COPC by media are presented below.

| | Groundwater and Surface Water | Soil and Sediment |
|-------------|-------------------------------|------------------------|
| Analyte | (ng/L) | (ng/g) |
| PFOS | 70 | 1,260 |
| PFOA | 70 | 1,260 |
| PFBS | 400,000 | 1.26 x 10 ⁶ |
| PFOS + PFOA | 70 | Not Applicable |

Analytical data are compared to these PALs and are included in **Appendix B.**

3. Environmental Setting

This section describes the topography and site conditions found at Schenectady ANGB.

3.1 Site Topography and Drainage

Schenectady ANGB is located in east-central New York State in the Mohawk River Valley, at the Schenectady County Airport, Scotia, New York (**Figure 1-1**). The airport is located in the Town of Glenville, New York, which is approximately 2 miles northeast of the Scotia central business center. The geographic coordinates of the site are 42°51'10"N latitude and 73°55'48"W longitude. Scotia lies along the northern banks of the Mohawk River, which flows in an easterly direction toward the Hudson River. The City of Schenectady, New York lies on the banks of the Mohawk River, southeast of the airport.

The ANGB occupies the southeast portion of Schenectady County Airport. The western and northern boundaries of the ANGB border the airport property. The eastern portion of the ANGB is bordered by Habel Lane. Runway 15-33 borders the western portion of the ANGB. The northwest section is bordered by Taxiway E and Maple Avenue is to the south. Schenectady ANGB is comprised of two areas totaling 124 acres. Schenectady ANGB is a tenant (by lease agreement) of the Schenectady County Airport Authority and is responsible only for the operation and maintenance of the ANGB. The Schenectady ANGB is separated into two locations: New York Air National Guard (NYANG) Main Parcel and NYANG South Parcel (ANG, 2006).

Topographic features in the area include the foothills of the Adirondack Mountains to the north and the Helderberg Escarpment, the northern extreme of the Allegheny Plateau, to the south. The Mohawk River runs in a general northwest to southeast direction through the area. Area landforms are relatively flat adjacent to the Mohawk River, where elevations are approximately 210 ft above mean sea level (amsl) along the riverbanks. The elevations at Schenectady ANGB range from approximately 300 ft mean sea level to approximately 390 ft amsl. The land that Schenectady ANGB is located on has been predominantly cleared, leveled with little topographic relief, and developed (ANG, 2006).

The base is situated within 1 mile north of the Mohawk River. The Mohawk River drains approximately 65 percent of Schenectady County. Surface water channeled from Schenectady ANGB through a drainage system that runs south and east, which drains into the Mohawk River. The river's flow is regulated during the navigational season by a series of locks, as part of the New York State Barge Canal System. There are tributaries to the Mohawk River proximal to the ANGB, including Collins Creek and the Indian and Alplaus Kills.

Surface waters from Schenectady ANGB are conveyed through a system of drainage pipes, culverts, and ditches. Stormwater runoff from the ANGB flows into the Alplaus Kill via an unnamed creek. The Alplaus Kill flows for approximately 0.75 miles along Glenville's eastern boundary before emptying into the Mohawk River (ANG, 2006).

3.2 Site Geology/Hydrogeology

Hydrogeologic information was obtained from the Final Record of Decision for Sites 3 and 6 (ANG, 2012).

The Schenectady Aquifer (also referred to as the Great Flats Aquifer, the Schenectady Sole Source Aquifer, and other names) is the sole source of potable water to five municipalities and approximately 90 percent of Schenectady County residents. Municipal well fields utilizing this groundwater resource include the City of Schenectady, Town of Rotterdam (including a separate well field at Rotterdam Junction), Town of Glenville, Village of Scotia and part of the Town of Niskayuna. Pumping wells are approximately 50 ft deep and located over four miles west of the Base. The Base is situated near, but not over, the eastern end of the Schenectady Aquifer. The aquifer underlying the site is in general finer grained, less productive, and less subject to recharge when compared to Schenectady Aquifer. The base and majority surrounding residents are all connected to the Town of Glenville public water system. Private water wells have been identified in the vicinity of the base; the majority of these wells are either located hydraulically upgradient or cross-gradient from the base. Regionally, groundwater flow tends to

follow topographic controls flowing to the south and southeast towards the Mohawk River. Most of the water supplies are from groundwater encountered in the highly permeable unconsolidated glacial deposits, which overlie somewhat impermeable bedrock. There is one nearby private well located on Maple Avenue, about halfway between Freeman's Bridge Road and Ronald Reagan Way. This private well is located hydraulically downgradient and could potentially be used for potable purposes.

Groundwater recharge occurs almost wholly from precipitation. Under natural conditions, the water table fluctuates on a seasonal basis depending on precipitation and discharge. Both consolidated and unconsolidated deposits in Schenectady County are aquifers, even though their saturation and production characteristics vary greatly.

Regional bedrock formations are relatively poor sources of groundwater and normally only yield enough water for domestic use. The rocks are relatively impermeable, and groundwater occurs principally in open fractures along joints in the rock. The most common water-bearing zone lies within the top few feet of the bedrock surface.

The regional soil consists of glacial deposits containing irregularly spaced deposits of sand and gravel from glaciofluvial streams. These relatively coarse grained deposits are the most productive sources of water in the area. These productive zones range greatly in aerial extent and thickness due to changing depositional conditions. At many locations, a thin permeable zone of gravel is present between the till and the underlying bedrock that is capable of producing water at a rate measured in thousands of gallons per minute.

Glacial deposits at the Base consist predominately of clay and silt overlying a shallow fractured bedrock zone. Groundwater depths reported in monitoring wells screened at the soil/bedrock interface ranged between 6 and 11 ft below ground surface (bgs). Hydraulic conductivity tests conducted in these monitoring wells reported groundwater flow velocities estimated between 2 and 25 ft per year consistent with typical groundwater flow velocities found in fractured bedrock or a silt/clayey fine sand.

3.3 Critical Habitat and Threatened/Endangered Species

The following two species are federally endangered, threatened, proposed, and/or is listed as candidate species in the vicinity of Schenectady ANGB, Schenectady County, New York (United States Fish and Wildlife Service, 2017):

- New York Bat (endangered)
- Karner Blue Butterfly (endangered)

Neither of these species is known to have critical habitats identified on the base.

3.4 Potential Receptors

3.4.1 Groundwater

Potential human exposure pathways related to groundwater are the use of any drinking water and irrigation wells used for public or private water supply or irrigation purposes Potable water is supplied to only the Schenectady ANG Main Parcel by the Town of Glenville municipal water supply which consists of five municipal water wells that are supplied by the Schenectady Aquifer. There is no potable water supply to the Schenectady ANG South Parcel (ANG, 2006); the NYANG South Parcel uses non-potable water to service the washrooms.

The municipal water supply wells provide water to Schenectady ANGB and to most of the residences north and east of the ANGB. The Town of Glenville wells are located approximately 5 miles west of the ANGB and are relatively shallow, between 50 and 60 ft deep. The municipal water supply wells are installed at shallow depths into the bedrock since the bedrock formations in the Schenectady area have a low permeability and are poor sources of water. The groundwater in the bedrock primarily flows within the

fractures and joints in the rock and within the weathered or fractured zone within the upper few feet of the bedrock surface (Buckhurst, Fish, Hutton, Katz, Inc. 1990). Private water wells have been identified in the vicinity, but are either hydraulically upgradient or cross-gradient. There is one nearby private well located on Maple Avenue, about halfway between Freeman's Bridge Road and Ronald Reagan Way. This private well is located hydraulically downgradient and could potentially be used for potable purposes. According the Schenectady County Planning Department (1978), wellhead aquifer protection areas have been established for the Scotia and Glenville wells fields for protection of the water supply. The wellhead protection zones are areas that surround the public supply wells and extend to the limits of the cone of depression. These two zones are located approximately 7 miles west of Schenectady ANGB. The aquifer recharge area, which is an area considered sensitive and significant to groundwater recharge, is located at the southern entrance of Schenectady ANGB (ANG, 2006).

Depth to groundwater was measured at eight monitoring wells as part of the SI. Depth to groundwater is approximately 2.86 ft bgs to 6.89 ft bgs (see **Table 3-1**) and flows generally to the southwest in the northern portion of the base and the south-southeast towards the southern portion of the base (see **Figure 3-1**).

3.4.2 Surface Water and Sediment

Surface water runoff from Schenectady ANGB discharges to the facility-wide stormwater drainage system Surface water at the site is controlled runoff. The majority of the site is paved with storm drains and sloped pavement to control drainage. Adjoining areas have grass covered landscaping with drainage ditches to control runoff. Surface runoff into tributaries to the Mohawk River, including Collins Creek and the Indian and Alplaus Kills, is a possibility. The facility's drainage ditch is equipped with a weir at the downgradient site boundary but the flow off base is continuous unless impacts are detected and the weir is closed. The surface water from the site is not a primary source of drinking water so there is currently not an exposure pathway through ingestion as drinking water. Because much of the base is paved, infiltration and evapotranspiration of surface water are negligible.

The surface water from the base is not a primary source of drinking water, so there is currently not an exposure pathway for human and ecological receptors on-base; however, there is a potential for a complete exposure pathway off-base as a result surface water from the base discharging to nearby surface water bodies (e.g., tributaries of the Mohawk River including Collins Creek and the Indian and Alplaus Kills). As noted above, much of the base is paved and natural habitat for ecological receptors is limited; therefore, potential ecological exposures to impacted surface water are expected to be negligible.

Ecological receptors may also be exposed to sediment associated with the surface water outfalls if sufficient habitat is present to support or attract terrestrial flora and fauna. The presence of sediment on-base is limited, because the only water body on base is a small drainage ditch southwest of the Apron; therefore, the potential presence of SI COPCs in sediments likely presents minimal human/ecological risk, but should be evaluated during the RI.

3.4.3 Soil

Exposure to surface and subsurface soils may occur during routine activities or during construction and excavation activities. Ecological receptors may also be exposed to soils if sufficient habitat is present to support or attract terrestrial flora and fauna including burrowing animals.

Land use in Schenectady County is primarily undeveloped forest, brushland, and water areas (over 50 percent of total county acreage). Agricultural land use is the next largest segment (24 percent), while residential land use comprises 13.8 percent of the County. The land use in the Town of Glenville surrounding the 109th Airlift Wing property is primarily suburban residential and undeveloped lands with some limited industrial and commercial uses (ANG, 2006). There is undeveloped land immediately across Habel Lane zoned as Medium Density Residential. The railroad lines located along the east side of Maple Avenue are zoned as Industrial and a Land Conservation Zone is located along the Mohawk River frontage south of the ANGB (Town of Glenville 2004). Schenectady ANGB includes paved and landscaped areas and as such, there are limited pathways to soil and air migration from disturbed soils

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under normal operating conditions; however, during excavation, a worker could be exposed to soil and dust from soil.

4. Investigation Activities

Field activities were completed to achieve the field objectives, which were to determine the presence or absence of PFAS at Schenectady ANGB in various media and to determine if PFAS have the potential to migrate off-base. The field activities were completed between 11 June 2018 and 31 July 2018 in accordance with the SI WP except as noted in **Section 4.10**.

4.1 Pre-Investigation Activities

4.1.1 Public and Schenectady ANGB Utility Clearance

Proper clearance was obtained prior to completing subsurface disturbance activities. Information was provided to Jennifer Kotch, Environmental Base Manager, to facilitate the base utility clearance process. The base utility clearance process included a private utility location service performed by Civil Engineering prior to 11 June 2018. The base utility clearance process also included a public utility clearance process via the Dig Safely NY one-call system.

4.1.2 Source Water

City of Glenville potable water was used to decontaminate equipment throughout the investigation. A potable water sample was collected by AECOM personnel on 11 April 2018 prior to starting drilling activities to confirm that the water was PFAS-free. The sample was analyzed for the six UCMR-3 PFAS and PFAS were detected but the results were below 1/10th the regulatory level. These values were low enough to deem the sample PFAS-free to use for equipment decontamination. The analytical results are provided in **Appendix D**.

4.2 Environmental Investigation and Sampling

The SI sampling locations were based on historical data, potential source areas, and site conditions as observed during the PA. Following utility clearance and Accident Prevention Plan review and documentation, subsurface drilling and sampling commenced on 11 June 2018. Field activities occurred through 31 July 2018.

All samples were collected into laboratory-supplied containers and submitted to the analytical laboratory for analysis of selected parameters. Samples were packaged on ice and transported daily via overnight commercial carrier under standard chain-of-custody procedures to the laboratory.

Quality control (QC) samples collected as part of the SI included field duplicates, matrix spike and matrix spike duplicate (MS/MSD) samples, equipment blanks and trip blanks. Field duplicates were collected at a rate of 10 percent with MS/MSD samples collected at the rate of 5 percent. QC samples were analyzed for the same parameters as the accompanying parent samples. Field reagent blanks accompanied each cooler containing samples for PFAS analysis. A temperature blank was also placed in each cooler to check that samples were preserved at or below four degrees Celsius during shipment. All samples were analyzed for PFAS via US EPA Method 537 rev 1.1 modified.

The following samples were collected at Schenectady ANGB and analyzed for PFAS via US EPA Method 537 rev 1.1 modified to support the project objectives:

- Collection of 57 soil samples (plus 4 duplicate samples) from 22 soil boring locations;
- Collection of eight groundwater samples (plus two duplicate samples) from existing and new monitoring wells downgradient from the PRLs and at the base boundary;
- Collection of four surface water samples; and
- Collection of six sediment samples.

Figure 4-1 provides the sample locations for all media across the entire base.

4.3 Soil Borings

Soil samples were collected via direct-push technology (DPT). The soil cores were screened for volatile organic compounds (VOCs) with a photoionization detector (PID) immediately upon opening the liner. Lithology for each soil core was recorded on a soil boring log (see **Appendix C**). Recorded information included depth interval, recovery thickness, PID concentrations, moisture, relative density, color, texture, lithological descriptions, odors, groundwater or perched water depth, organic material, cultural debris, or color changes indicating staining. It should be noted that PFAS do not volatilize similar to VOCs or other gases; therefore, PID results are not necessarily indicative of the presence of PFAS. However, PID readings can be used to evaluate the presence of other potential contaminants which may have been released with PFAS. Additionally, other contaminants (e.g., VOCs) can impact the fate and transport of PFAS in soil and groundwater.

Two soil samples were collected from each boring, with the first sample collected from the surface (0.0 to 1.0 ft bgs) and the second from 3.0 to 4.0 ft bgs, in most cases. Most soil samples were collected from borings separate from the monitoring well locations as the soil boring locations were strategically positioned to maximize the potential for identifying "source" level releases of PFAS; whereas monitoring well locations were positioned to evaluate groundwater downgradient of the PRLs (and at the base boundary), and may not represent the highest concentrations in groundwater.

Following collection of the soil and groundwater samples, all boreholes not associated with a monitoring well were abandoned with bentonite and completed at ground surface with concrete or asphalt cold patch to match the existing surface.

4.4 Monitoring Well Installation/Groundwater Sampling

Permanent wells were installed using DPT and constructed of 10-ft sections of riser, between 2-ft and 5-ft of 0.010-inch slotted well screen of 2-inch diameter Schedule 40 polyvinyl chloride with a threaded bottom cap. Monitoring wells were installed in accordance with US EPA Resource Conservation and Recovery Act Ground-Water Monitoring Technical Enforcement Guidance Document (1986). The well screens were installed such that they "straddled" the water table. A filter pack of 20/40 silica sand was installed in the annulus around the well screen to a minimum of 1-ft above the well screen. A 1-ft minimum thick bentonite seal was placed above the filter sand and hydrated with distilled water. Bentonite grout was placed in the well annulus from the top of the bentonite seal to ground surface. The bentonite grout was allowed to set for a period of 24 hours prior to well completion. Any soil generated during the sampling event was containerized in 55-gal drums as investigation-derived waste (IDW) (discussed in **Section 4.9**).

Newly installed groundwater monitoring wells were developed no sooner than 24 hours after installation and prior to collecting groundwater samples in order to remove fine soils from the bottom of each well and from the surrounding sand pack. Well development was completed in accordance with the SI WP and AECOM standard operating procedure (SOP) 3-13 "Monitoring Well Development". **Appendix C-2** includes well development logs including water level, turbidity and flow rates. Water obtained during development was containerized in 55-gal drums as IDW.

Following development, monitoring wells were sampled using low-flow sampling methods using a peristaltic pump in accordance with the SI WP and AECOM SOP 3-14 "Monitoring Well Sampling". Groundwater samples were obtained from six new and two existing monitoring wells. Purge water was containerized in 55-gal drums as IDW. New dedicated high-density polyethylene tubing was used at each well. Non-dedicated equipment was decontaminated in accordance with the SI WP. Equipment blanks were collected to monitor the potential for cross-contamination between wells. Field parameters including flow rate, depth to water, turbidity, temperature, specific conductivity, pH, dissolved oxygen, and oxidation-reduction potential were collected to ensure that the groundwater was stabilized prior to sample collection. **Table 4-1** provides a summary of the monitoring well construction details for the eight wells that were sampled in this SI. **Table 4-1** also includes monitoring wells B31-MW01 (PRL 3), B12-MW01 (PRL 4), APR-MW02 (PRL 17), and BBW-MW01 (base boundary well) that were installed at Schenectady

ANGB, but were dry at the time of sampling. **Appendix C-1** includes boring logs and well construction diagrams for the new wells. Groundwater sampling logs are provided in **Appendix C-2**.

4.5 Surface Water and Sediment Sampling

One surface water sample and one sediment sample were collected from each of the following: Drainage Ditch (PRL 18), Outfall 003 (PRL 21), Outfall 004 (PRL 22), and Outfall 005 (PRL 23). The surface water samples were collected at the point where the stormwater discharges into the receiving waters, close to the storm sewer pipe discharge area. Per the SI WP, the samples were collected within the base property boundary and in accordance with AECOM SOP 3-10 ("Stormwater Sampling"). The samples were collected utilizing PFAS-free collection devices. A sediment sample was taken from Outfall 001 (PRL 19) and Outfall 002 (PRL 20); however, surface water was not present at the time of the SI. Therefore, a surface water sample was not collected. Recent precipitation data, weather conditions, and field notes related to Surface Water and Sediment Sampling are provided in **Appendix C-3**.

4.6 Potential Release Location Activities

The following sections describe the field activities at each PRL as well as groundwater monitoring activities at the base boundary wells. **Figure 4-1** provides the sample locations for all media across the entire base.

4.6.1 Building 31 (Current Fire Station) (PRL 3)

Three soil borings (B31-SB01, B31-SB02, & B31-SB03) and associated soil sampling were completed on 13 June 2018. A surface soil sample was collected from 0.0-1.0 ft bgs from all three borings. A subsurface soil sample was collected from 4.0-5.0 ft bgs from B31-SB01 and from 5.0-6.0 ft bgs from B31-SB03. No subsurface soil sample was collected from B31-SB02 due to refusal being hit at 2.5 ft bgs. Soil boring B31-SB03 was converted into monitoring well B31-MW01 on 15 June 2018. On 19 July 2018, B31-MW01 was found to be dry and no groundwater sample was taken (i.e., deviation from SI WP).

4.6.2 Building 12 (Former Fire Station) (PRL 4)

Two soil borings (B12-SB01 & B12-SB02) were completed on 13 June 2018. Two soil samples were collected from each boring: surface soil samples were collected from 0.0-1.0 ft bgs, and subsurface soil samples were collected from 6.0-7.0 ft bgs (B12-SB01) and 5.0-6.0 ft bgs (B12-SB02). Soil boring B12-SB02 was converted to monitoring well B12-MW01 on 15 June 2018. On 19 July 2018, B12-MW01 was found to be dry and no groundwater sample was taken (i.e., deviation from SI WP).

4.6.3 Hangar 1 / Building 2 (PRL 5)

Two soil borings (B02-SB01 & B02-SB02) were completed on 11 June 2018 and 13 June 2018, respectively. A surface soil sample was collected from each boring (0.0-1.0 ft bgs). At B02-SB01 a subsurface soil sample was collected from 7.0-8.0 ft bgs, and at B02-SB02 a subsurface soil sample was collected from 5.0-6.0 ft bgs. Soil boring B02-SB02 was converted to monitoring well B02-MW01 on 13 June 2018. On 19 July 2018 B02-MW01 was purged dry and a groundwater sample was taken the following day on 20 June 2018.

4.6.4 Former Hangar 2 / Building 10 (PRL 6)

Two soil borings (B10-SB01 & B10-SB02) were completed on 11 June 2018. Two soil samples were collected from each boring: surface soil samples were collected from 0.0-1.0 ft bgs, and subsurface soil samples were collected from 3.0-4.0 ft bgs.

4.6.5 Former Hangar 3 / Building 11 (PRL 7)

Three soil borings (B11-SB01, B11-SB02 & B11-SB03) were completed on 11 June 2018. A surface soil sample was collected from each boring from 0.0-1.0 ft bgs. A subsurface soil sample was collected from 3.0-4.0 from B11-SB01 and B11-SB02. A subsurface soil sample was collected from 4.0-5.0 ft bgs from B11-SB03. On 20 July 2018, B11-MW01 was found to be dry and no groundwater sample was taken (i.e., deviation from SI WP).

4.6.6 Hangar 7 / Building 7 (PRL 8)

Two soil borings (B07-SB01 & B07-SB02) were completed on 12 June 2018. A surface soil sample was collected from each boring at 0.0-1.0 ft bgs. A subsurface soil sample was collected from 3.0-4.0 from B07-SB01, and a subsurface soil sample was collected from 4.0-5.0 ft bgs from B07-SB02. Soil boring B07-SB02 was converted to monitoring well B07-MW01 on 12 June 2018. On 19 July 2018, a groundwater sample was taken from B07-MW01.

4.6.7 Hangar 8 / Building 8 (PRL 9)

One soil boring (B08-SB01) was completed on 12 June 2018. A surface soil sample was collected from 0.0-1.0 ft bgs, and subsurface soil sample was collected from 3.0-4.0 ft bgs.

4.6.8 Building 3 (Base Supply Warehouse) (PRL 10)

Two soil borings (B03-SB01 & B03-SB02) were completed on 13 June 2018. A surface soil sample was collected from 0.0-1.0 ft bgs from each boring. A subsurface soil sample was collected from 3.0-4.0 ft bgs from B03-SB01, and a subsurface soil sample was collected from 2.0-3.0 ft bgs from B03-SB02.

4.6.9 Building 35 (Vehicle Maintenance) (PRL 12)

Three soil borings (B35-SB01, B35-SB02 & B35-SB03) were completed on 13 June 2018. A surface soil sample was collected from each boring from 0.0-1.0 ft bgs. Subsurface soil samples were collected from 2.0-3.0 ft bgs at B35-SB01, from 3.0-4.0 ft bgs at B35-SB02, and from 5.0-6.0 ft bgs at B35-SB03. Soil boring B35-SB03 was converted to monitoring well B35-MW01 on 15 June 2018. On 20 July 2018, a groundwater sample was taken from B35-MW01.

4.6.10 IRP Site 3 (Drum Burial Area) (PRL 15)

Three soil borings (IRP3-SB01, IRP3-SB02 & IRP3-SB03) were completed on 12 June 2018. A surface soil sample was collected from each boring from 0.0-1.0 ft bgs. Subsurface soil samples were collected from 3.0-4.0 ft bgs from IRP3-SB01, and from 4.0-5.0 ft bgs from IRP3-SB02 and IRP3-SB03. Soil boring IRP3-SB03 was converted to monitoring well IRP3-MW01 on 12 June 2018. On 19 July 2018, a groundwater sample was taken from IRP3-MW01.

4.6.11 Former Sewage Treatment Plant (PRL 16)

Three soil borings (WTP-SB01, WTP-SB02 & WTP-SB03) were completed on 12 June 2018. Surface soil samples were collected from 0.0-1.0 ft bgs from each boring. Subsurface soil samples were collected from 3.0-4.0 ft bgs from borings WTP-SB01 and from WTP-SB03. A subsurface soil sample was collected from 2.0-3.0 ft bgs from WTP-SB02. Nearby pre-existing monitoring wells 6MW-20 and 6MW-24 were sampled on 19 July 2018.

4.6.12 Apron (PRL 17)

Three soil borings (APR-SB01, APR-SB02 & APR-SB03) were completed on 11 June 2018. Two soil samples were collected from each boring: surface soil collected from 0.0-1.0 ft bgs, and subsurface soil collected from 4.0-5.0 ft bgs. All three borings were converted to monitoring wells on 11 June 2018: APR-

MW01, APR-MW02 and APR-MW03, respectively. APR-MW01 and APR-MW03 were sampled on 20 July 2018; however, APR-MW02 was dry and no groundwater sample was taken (i.e., deviation from SI WP).

4.6.13 Drainage Ditch (PRL 18)

One surface water sample and one sediment sample were collected from the Drainage Ditch on 19 July 2018.

4.6.14 Outfall 001 (PRL 19)

One sediment sample was collected from Outfall 001 on 20 July 2018. No surface water was available to be sampled, as the outfall was dry (i.e., deviation from SI WP).

4.6.15 Outfall 002 (PRL 20)

One sediment sample was collected from Outfall 002 on 20 July 2018. No surface water was available to be sampled, as the outfall was dry (i.e., deviation from SI WP).

4.6.16 Outfall 003 (PRL 21)

One surface water sample and one sediment sample were collected from Outfall 003 on 20 July 2018.

4.6.17 Outfall 004 (PRL 22)

One surface water sample and one sediment sample were collected from Outfall 004 on 20 July 2018.

4.6.18 Outfall 005 (PRL 23)

One surface water sample and one sediment sample were collected from Outfall 001 on 20 July 2018.

4.6.19 Base Boundary Wells

Two base boundary wells (BBW-MW01 and IRP3-MW01) were installed. No soil samples were taken from the BBW-MW01 borehole, and a permanent monitoring well was installed on 14 June 2018. On 20 July 2018 BBW-MW01 was found to be dry and no groundwater sample was taken (i.e., deviation from SI WP). IRP3-MW01 was installed on 12 June 2018, and is a 'shared' well between the base boundary and PRL 15. A groundwater sample was collected from IRP3-MW01 on 19 July 2018.

4.7 Groundwater Level Measurements

Water levels were obtained from the eight monitoring wells that were included in this SI on 19 to 20 July 2018. Screened intervals and water level measurements are provided in **Table 4-1 and Table 3-1**, respectively. A potentiometric contour map is provided as **Figure 3-1**, which shows that groundwater flows generally to the southwest in the northern portion of the base and to the south-southeast toward the southern portion of the base.

4.8 Surveying

All of the monitoring wells installed as a part of the SI were surveyed by C.T. Male., a licensed surveyor in the State of New York. Survey data collected from each well included a latitude and longitude measurement and top of casing elevation. Surveying measurements were collected according to the North American Datum of 1983 New York East Zone State Grid Coordinate System using North American Datum of 2011. Elevation measurements are based on the National Geodetic Vertical Datum of 1988. Survey results are provided in **Appendix C-4**.

4.9 Investigation-Derived Waste

Two drums of drilling soil cuttings and one drum of decontamination water, development water and purge water were containerized in new 55-gal steel drums for storage pending disposal, and staged onsite at a base-designated area. The IDW was picked up by the disposal contractor, Clean Harbors, on 22 October 2018 and disposed of as non-hazardous, non-regulated material. Clean Harbors used the base-wide PFAS SI soil and groundwater analytical data to characterize the waste and prepare the waste profile. IDW-associated documentation is provided in **Appendix E**.

4.10 Deviations from the SI Work Plan

Deviations from the SI WP occurred based on field conditions (e.g., due to the presence of utilities) and are noted below:

- Though monitoring wells were installed at the following PRLs, groundwater samples were not collected because the wells were dry at the time of sampling:
 - o B31-MW01 at Building 31 (Current Fire Station) (PRL 3)
 - o B12-MW01 at Building 12 (Former Fire Station) (PRL 4)
 - B11-MW01 at Building 11 (Former Hangar 3) (PRL 7)
 - o APR-MW02 at Apron (PRL 17)
 - BBW-MW01 at the Base Boundary
- Subsurface soil sample was not collected from B31-SB02 (Current Fire Station) (PRL 3) due to refusal being hit at 2.5 ft bgs
- Surface water was not available at Outfall 001 (PRL 19) and Outfall 002 (PRL 20), and therefore surface water samples were not collected as proposed.

5. Site Inspection Results

Analytical results were evaluated to determine the presence or absence of PFAS in soil or surface water or sediment (if present) at each PRL and in groundwater downgradient of PRLs, and assess if PFAS from the base are migrating off-base. The six PFAS that were sampled and analyzed during the PFAS investigations per USAF (2017) guidance were:

- PFBS
- PFHpA
- PFHxS
- PFNA
- PFOS
- PFOA

Analytical results for PFOS, PFOA and PFBS were compared against the PALs described in **Section 2.3**. There are no PALs for PFHpA, PFHxS, or PFNA.

5.1 Data Usability

The laboratory analytical data generated during the SI were reviewed for conformance with the project DQOs specified in the SI WP and to ensure that the precision and accuracy of the data were adequate for their intended use. All analytical data were found to be useable (as qualified). **Appendix D** contains the data validation report, which details the scope, quality assurance (QA)/QC sample collection and analysis, and results of the analytical data review and validation.

Detected concentrations below the level of quantitation (LOQ) are reported with a "J" flag. The LOQ is the lowest concentration of a substance that produces a quantitative result within specified limits of precision and bias. During data validation, the J flag was further qualified. Validation flag "J+" means the analyte is present; however, the reported value may not be accurate or precise, and the result may be biased high. Alternatively, "J-" means the analyte is present; however, the reported value may not be accurate or precise, and the result may be biased low. Measurements between the detection limit and the LOQ assure the presence of the analyte with confidence, but their numeric values are estimates (DoD, 2009).

Non-detections are reported as the limit of detection (LOD) followed by a "U" flag. The LOD is the smallest amount or concentration of a substance that must be present in a sample to be detected at a 99 percent confidence level. The failure to obtain a detection is reported as "<LOD" because the false-negative rate at the LOD is 1 percent (DoD, 2009). In the instances where a result was qualified due to a blank detection, the non-detects are reported as the LOD followed by a 'U*' flag to indicate the flag was changed during data validation.

The data review and validation performed on the entire data set indicate overall high quality of the definitive-level data collected for this site. None of the data were qualified as rejected and completeness for this data set is 100 percent. Results qualified as estimated are generally for marginal QC exceedances and blank-qualified results below or near the LOQs, and the qualifications do not significantly affect project objectives.

5.2 Building 31 (Current Fire Station) (PRL 3)

Table 5-1 summarizes the analytical results of the soil sampling at Building 31 (Current Fire Station) (PRL 3). **Figure 5-1** summarizes the detected analytical results for the soil samples collected from around Building 31 (Current Fire Station). PFAS were detected in soil samples collected at this PRL.

All six PFAS were detected in the soil samples collected from PRL 3 with the maximum concentrations located at surface soil sample SC-B31-SS03-01. PFOS and PFOA were detected below the PALs of 1,260 ng/g at maximum concentrations of 350 ng/g and 3.6 ng/g, respectively. PFBS was detected below the PAL of 1.26 x 10⁶ ng/g at a maximum concentration of 2 ng/g. PFHpA was detected a maximum

concentration of 0.83 ng/g, PFHxS was detected at a maximum concentration of 32 ng/g, and PFNA was detected at a maximum concentration of 2.8 ng/g; however, there are no PALs for these compounds.

5.3 Building 12 (Former Fire Station) (PRL 4)

Table 5-2 summarizes the analytical results of the soil sampling at Building 12 (Former Fire Station) (PRL 4). **Figure 5-2** summarizes the detected analytical results for the soil samples collected from around Building 12 (Former Fire Station). PFAS were detected in all the soil samples collected at this PRL.

All six PFAS were detected in the soil samples collected from PRL 4. PFOS and PFOA were detected below the PALs of 1,260 ng/g at maximum concentrations of 190 ng/g and 7.6 ng/g, respectively. PFBS was detected below the PAL of 1.26 x 10⁶ ng/g at a maximum concentration of 5.9 ng/g. PFHpA was detected at a maximum concentration of 1.4 ng/g, PFHxS was detected at a maximum concentration of 47 ng/g, and PFNA was detected at a maximum concentration of 0.35 J ng/g; however, there are no PALs for these compounds.

5.4 Hangar 1 / Building 2 (PRL 5)

Table 5-3 summarizes the analytical results of the groundwater and soil sampling at Hangar 1/Building 2 (PRL 5). **Figure 5-2** summarizes the detected analytical results for the groundwater and soil samples collected from around Hangar 1/Building 2. PFAS were detected in the groundwater and soil samples.

All six PFAS were detected in the groundwater sample collected from monitoring well SC-B02-MW01. PFOS and PFOA exceeded the individual PALs of 70 ng/L with detected concentrations of 5,300 ng/L and 310 ng/L, respectively; the combined PFOS+PFOA groundwater concentration of 5,610 ng/L also exceeded the combined PFOS+PFOA PAL of 70 ng/L. PFBS was detected below the PAL of 400,000 ng/L at a concentration of 160 ng/L. PFHpA was detected at a concentration of 300 ng/L, PFHxS was detected at a concentration of 2,100 ng/L, and PFNA was detected at a concentration of 9.6 ng/L; however, there are no PALs for these compounds.

PFBS, PFHpA, PFHxS, PFOS, and PFOA were detected in the soil samples collected from PRL 5 with the maximum concentrations located at soil boring sample SC-B02-SB02-56. PFOS and PFOA were detected below the PALs of 1,260 ng/g at maximum concentrations of 51 ng/g and 0.73 J ng/g, respectively. PFBS was detected below the PAL of 1.26 x 10⁶ ng/g at a concentration of 0.25 ng/g. PFHpA was detected at a concentration of 0.29 J ng/g and PFHxS was detected at a maximum concentration of 6.8 ng/g; however, there are no PALs for these compounds.

5.5 Former Hangar 2 / Building 10 (PRL 6)

Table 5-4 summarizes the analytical results of the soil sampling at Former Hangar 2/Building 10 (PRL 6). **Figure 5-3** summarizes the detected analytical results for the soil samples collected from around Hangar 2/Building 10. PFAS were detected in all the soil samples collected at this PRL.

PFBS, PFHxS, PFOS, and PFOA were detected in the soil samples collected from PRL 6 with the maximum concentrations located at surface soil sample SC-B10-SS01-01. PFOS was detected at a maximum concentration of 21 ng/g and PFOA was detected at a concentration of 0.26 J ng/g which were below the PALs of 1,260 ng/g. PFBS was detected below the PAL of 1.26 x 10⁶ ng/g at a concentration of 0.29 J ng/g. PFHxS was detected at a maximum concentration of 3.7 ng/g; however, there is no PAL for this compound.

Monitoring well SC-APR-MW03 (Apron; PRL 17) was also included in the sampling program to evaluate potential groundwater impacts from PRL 6. All six PFAS were detected in the groundwater sample collected from SC-APR-MW03. See **Section 5.13 and Table 5-12** for discussion of the analytical results.

5.6 Former Hangar 3 / Building 11 (PRL 7)

Table 5-5 summarizes the analytical results of the soil sampling at Former Hangar 3/Building 11 (PRL 7). **Figure 5-1** summarizes the detected analytical results for the soil samples collected from around Former Hangar 3/Building 11. PFAS were detected in soil samples collected at this PRL.

All six PFAS were detected in the soil samples collected from PRL 7. PFOS and PFOA were detected below the PALs of 1,260 ng/g at maximum concentrations of 61 ng/g and 1.4 ng/g, respectively. PFBS was detected below the PAL of 1.26 x 10⁶ ng/g at a concentration of 0.41 J ng/g. PFHpA was detected at a maximum concentration of 0.54 J ng/g, PFHxS was detected at a maximum concentration of 8.3 ng/g, and PFNA was detected at a maximum concentration of 0.62 J ng/g; however, there are no PALs for these compounds.

5.7 Hangar 7 / Building 7 (PRL 8)

Table 5-6 summarizes the analytical results of the groundwater and soil sampling at Hangar 7/Building 7 (PRL 8). **Figure 5-2** summarizes the detected analytical results for the groundwater and soil samples collected from around Hangar 7/Building 7. PFAS were detected in the groundwater and soil samples.

All six PFAS were detected in groundwater sample collected from monitoring well SC-B07-MW01. PFOS was detected at a concentration of 3,300 ng/L and PFOA was detected at a concentration of 97 ng/L, both of which exceeded the individual PALs of 70 ng/L. The combined groundwater concentration of 3,397 ng/L exceeded the combined PFOS + PFOA PAL of 70 ng/L. PFBS was detected below the PAL of 400,000 ng/L at a concentration of 85 ng/L. PFHpA was detected at a concentration of 210 ng/L, PFHxS was detected at a concentration of 730 ng/L, and PFNA was detected at a concentration of 16 ng/L; however, there are no PALs for these compounds.

All six PFAS were detected in the soil samples collected from PRL 8 with the maximum concentrations located at surface soil sample SC-B07-SS01-01. PFOS and PFOA were detected below the PALs of 1,260 ng/g at maximum concentrations of 100 ng/g and 6.2 ng/g, respectively. PFBS was detected below the PAL of 1.26 x 10⁶ ng/g at a maximum concentration of 0.75 J ng/g. PFHpA was detected at a maximum concentration of 3.8 ng/g, PFHxS was detected at a maximum concentration of 34 ng/g, and PFNA was detected at a maximum concentration of 2.1 ng/g; however, there are no PALs for these compounds.

Soil boring SC-B08-SB01 (Hangar 8/Building 8; PRL 9) was also included in the sampling program to evaluate potential soil impacts from PRL 8. PFBS, PFHpA, PFHxS, PFOS, and PFOA were detected in the sample collected from the soil boring. See **Section 5.8 and Table 5-7** for a discussion of the soil analytical results.

5.8 Hangar 8 / Building 8 (PRL 9)

Table 5-7 summarizes the analytical results of the soil sampling at Hangar 8/Building 8 (PRL 9). **Figure 5-2** summarizes the detected analytical results for the soil samples collected from around Hangar 8/Building 8. PFAS were detected in the soil sample collected at this PRL.

Monitoring wells SC-B02-MW01 (Hangar 1/Building 2; PRL 5) and SC-B07-MW01 (Hangar 7/Building 7; PRL 8) were included in the sampling program to evaluate potential groundwater impacts from PRL 9. All six PFAS were detected in the groundwater samples collected. See **Sections 5.4 and 5.7 and Tables 5-3 and 5-6** for discussions of the groundwater analytical results.

PFBS, PFHpA, PFHxS, PFOS, and PFOA were detected in the soil sample collected from PRL 9. PFOS and PFOA were detected below the PALs of 1,260 ng/g at maximum concentrations of 14 ng/g and 1.8 ng/g, respectively. PFBS was detected below the PAL of 1.26 x 10⁶ ng/g at a concentration of 0.52 J ng/g. PFHpA was detected at a concentration of 0.25 J ng/g and PFHxS was detected at a maximum concentration of 7 ng/g; however, there are no PALs for these compounds.

Soil boring SC-B12-SB02 (Building 12, Former Fire Station; PRL 4) was also included in the sampling program to evaluate potential soil impacts from PRL 9. PFBS, PFHpA, PFHxS, PFOS, and PFOA were detected in the sample collected from the soil boring. See **Section 5.3 and Table 5-2** for a discussion of the soil analytical results.

5.9 Building 3 (Base Supply Warehouse) (PRL 10)

Table 5-8 summarizes the analytical results of the soil sampling at Building 3 (Base Supply Warehouse) (PRL 10). **Figure 5-2** summarizes the detected analytical results for the soil samples collected from around Building 3 (Base Supply Warehouse). PFAS were detected in all the soil samples collected at this PRL.

All six PFAS were detected in the soil samples collected from PRL 10 with the maximum concentrations located at surface soil sample SC-B03-SS01-01. PFOS and PFOA were detected below the PALs of 1,260 ng/g at maximum concentrations of 30 ng/g and 7.6 ng/g, respectively. PFBS was detected below the PAL of 1.26 x 10⁶ ng/g at a concentration of 0.52 J ng/g. PFHpA was detected at a maximum concentration of 3.4 ng/g, PFHxS was detected at a maximum concentration of 16 ng/g, and PFNA was detected at a concentration of 0.76 J ng/g; however, there are no PALs for these compounds.

5.10 Building 35 (Vehicle Maintenance) (PRL 12)

Table 5-9 summarizes the analytical results of the groundwater and soil sampling at Building 35 (Vehicle Maintenance) (PRL 12). PFAS were detected in the groundwater and soil samples. **Figure 5-1** summarizes the detected analytical results for the groundwater and soil samples collected from around Building 35 (Vehicle Maintenance). PFAS were detected in the groundwater sample and two soil boring locations collected at this PRL.

PFBS, PFHpA, PFHxS, and PFOS were detected in the groundwater sample collected from monitoring well SC-B35-MW01. PFOS was detected below the PAL of 70 ng/L at a concentration of 32 ng/L and PFBS was detected below the PAL of 400,000 ng/L at a concentration of 34 ng/L. PFHpA was detected at a concentration of 15 ng/L and PFHxS was detected at a concentration of 69 ng/L; however, there are no PALs for these compounds.

PFBS, PFHpA, PFHxS, PFOS, and PFOA were detected in the soil samples collected from PRL 12 with the maximum concentrations located at soil boring sample SC-B35-SB01-23. PFOS and PFOA were detected maximum concentrations of 6.8 ng/g and 0.50 J ng/g, respectively, which are below the PALs of 1,260 ng/g. PFBS was detected below the PAL of 1.26 x 10⁶ ng/g at a concentration of 0.49 J ng/g. PFHpA was detected at a concentration of 0.63 J ng/g and PFHxS was detected at a concentration of 3 ng/g; however, there are no PALs for these compounds.

5.11 IRP Site 3 (Drum Burial Area) (PRL 15)

Table 5-10 summarizes the analytical results of the groundwater and soil sampling at IRP Site 3 (Drum Burial Area) (PRL 15). **Figure 5-4** summarizes the detected analytical results for the groundwater and soil samples collected from around IRP Site 3 (Drum Burial Area). PFAS were detected in the groundwater and soil samples.

All six PFAS were detected in the groundwater samples (one parent and one duplicate) collected from monitoring well SC-IRP3-MW01. PFOS and PFOA were detected at a maximum concentration of 970 ng/L and 100 ng/L, respectively, which exceed the individual PALs of 70 ng/L. The maximum combined PFOS+PFOA groundwater concentration (duplicate) of 1,070 ng/L also exceeds the combined PFOS+PFOA PAL of 70 ng/L. PFBS was detected below the PAL of 400,000 ng/L at a maximum concentration of 56 ng/L. PFHpA was detected at a maximum concentration of 53 ng/L, PFHxS was detected at a maximum concentration of 9.9 ng/L; however, there are no PALs for these compounds.

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PFHxS, PFOS, and PFOA were detected in the soil samples collected from PRL 15. PFOS and PFOA were detected below the PALs of 1,260 ng/g at maximum concentrations of 31 ng/g and 1.2 ng/g, respectively. PFHxS was detected at a maximum concentration of 4.5 ng/g; however, there is no PAL for this compound.

5.12 Former Sewage Treatment Plant (PRL 16)

Table 5-11 summarizes the analytical results of the groundwater and soil sampling at Former Sewage Treatment Plant (PRL 16). **Figure 5-4** summarizes the detected analytical results for the groundwater and soil samples collected from around the Former Sewage Treatment Plant. PFAS were detected in the groundwater and soil samples.

All six PFAS were detected in the groundwater samples collected from PRL 16 with the maximum concentrations located at monitoring well SC-6MW-24. PFOS and PFOA were detected at a maximum concentration of 790 ng/L and 95 ng/L, respectively, which exceed the individual PALs of 70 ng/L. The maximum combined PFOS+PFOA groundwater concentration of 885 ng/L exceeded the combined PFOS+PFOA PAL of 70 ng/L. PFBS was detected below the PAL of 400,000 ng/L at a maximum concentration of 90 ng/L. PFHpA was detected at a maximum concentration of 70 ng/L, PFHxS was detected at a maximum concentration of 520 ng/L, and PFNA was detected at a maximum concentration of 14 ng/L; however, there are no PALs for these compounds.

All six PFAS were detected in the soil samples collected from PRL 16. PFOS and PFOA were detected below the PALs of 1,260 ng/g at maximum concentrations of 100 ng/g and 2.7 ng/g, respectively. PFBS was detected below the PAL of 1.26 x 10⁶ ng/g at a concentration of 0.33 J ng/g. PFHpA was detected at a maximum concentration of 0.71 J ng/g, PFHxS was detected at a maximum concentration of 11 ng/g, and PFNA was detected at a maximum concentration of 0.99 ng/g; however, there are no PALs for these compounds.

5.13 Apron (PRL 17)

Table 5-12 summarizes the analytical results of the groundwater and soil sampling at Apron (PRL 17). **Figure 5-3** summarizes the detected analytical results for the groundwater and soil samples collected from around the Apron. PFAS were detected in the groundwater and soil samples.

All six PFAS were detected in the groundwater samples collected from PRL 17 with the maximum concentrations located at monitoring well SC-APR-MW03. PFOS and PFOA were detected at maximum concentrations of 74 ng/L and 95 ng/L, respectively, which exceed the individual PALs of 70 ng/L. The maximum combined PFOS+PFOA groundwater concentration of 169 ng/L exceeded the combined PFOS+PFOA PAL of 70 ng/L. PFBS was detected below the PAL of 400,000 ng/L at a maximum concentration of 14 J+ ng/L. PFHpA was detected at a maximum concentration of 49 ng/L, PFHxS was detected at a maximum concentration of 13 ng/L; however, there are no PALs for these compounds.

PFHpA, PFHxS, PFNA, PFOS, and PFOA were detected in the soil samples collected from PRL 17. PFOS and PFOA were detected below the PALs of 1,260 ng/g at maximum concentrations of 14 J ng/g and 1.5 ng/g, respectively. PFHpA was detected at a maximum concentration of 0.58 J ng/g, PFHxS was detected at a maximum concentration of 3.7 ng/g, and PFNA was detected at a concentration of 0.67 J ng/g; however, there are no PALs for these compounds.

Soil borings SC-B10-SB01 and SC-B10-SB02 at Former Hangar 2/Building 10 (PRL 6) and SC-B11-SB03 at Former Hangar 3/Building 11 (PRL 7) were also included in the sampling program to evaluate potential soil impacts from PRL 17. All six PFAS were detected in one or more soil boring samples collected. See **Sections 5.5 and 5.6 and Tables 5-4 and 5-5** for discussions of the soil analytical results.

5.14 Drainage Ditch (PRL 18)

Table 5-13 summarizes the analytical results of the surface water and sediment sampling at Drainage Ditch (PRL 18). **Figure 5-5** summarizes the detected analytical results for surface water and sediment samples collected from around the Drainage Ditch. PFAS were detected in the surface water and sediment samples.

All six PFAS were detected in the surface water sample collected from PRL 18. PFOS was detected at a concentration of 630 ng/L above the individual PAL of 70 ng/L and PFOA was detected below the individual PAL of 70 ng/L at a concentration of 64 ng/L. The combined PFOS+PFOA concentration of 694 ng/L exceeded the combined PFOS+PFOA PAL of 70 ng/L. PFBS was detected below the PAL of 400,000 ng/L at a concentration of 39 ng/L. PFHpA was detected at a concentration of 55 ng/L, PFHxS was detected at a concentration of 320 ng/L, and PFNA was detected at a concentration of 8 ng/L; however, there are no PALs for these compounds.

Surface water samples SC-OF3-SW01 (Outfall 003; PRL 21), SC-OF4-SW01 (Outfall 004; PRL 22), and SC-OF5-SW01 (Outfall 005; PRL 23) were also included in the sampling program to determine potential surface water impacts from PRL 18. All six PFAS were detected in the surface water samples collected. See **Sections 5.17 through 5.19 and Tables 5-16 through 5-18** for discussions of the surface water analytical results.

PFHxS and PFOS were detected in the sediment sample collected from PRL 18. PFOS was detected below the PAL of 1,260 ng/g at a concentration of 5.6 J- ng/g. PFHxS was detected at a concentration of 0.58 J ng/g; however, there is no PAL for this compound.

Sediment samples SC-OF1-SD01 (Outfall 001; PRL 19), SCOF2-SD01 (Outfall 002; PRL 20), SC-OF3-SD01 (Outfall 003; PRL 21), SC-OF4-SD01 (Outfall 004; PRL 22), and SC-OF5-SD01 (Outfall 005; PRL 23) were also included in the sampling program to determine potential sediment impacts from PRL 18. PFHpA, PFHxS, PFNA, PFOS, and PFOA were detected in the sediment samples collected. See **Sections 5.15 through 5.19 and Tables 5-14 through 5-18** for discussions of the sediment analytical results.

5.15 Outfall 001 (PRL 19)

Table 5-14 summarizes the analytical results of the sediment sampling at Outfall 001 (PRL 19). **Figure 5-5** summarizes the detected analytical results for the sediment sample collected at Outfall 001. PFAS were detected in the sediment sample.

PFHxS and PFOS were detected in the sediment sample collected from PRL 19. PFOS was detected below the PAL of 1,260 ng/g at a concentration of 12 ng/g. PFHxS was detected at a concentration of 0.86 J ng/g; however, there is no PAL for this compound.

5.16 Outfall 002 (PRL 20)

Table 5-15 summarizes the analytical results of the sediment sampling at Outfall 002 (PRL 20). **Figure 5-5** summarizes the detected analytical results for the sediment sample collected at Outfall 002. PFAS were detected in the sediment sample.

PFHpA, PFHxS, PFNA, PFOS, and PFOA were detected in the sediment sample collected from PRL 20. PFOS and PFOA were detected below the PALs of 1,260 ng/g at detected concentrations of 5.7 ng/g and 0.63 J ng/g, respectively. PFHpA was detected at a concentration of 0.38 J ng/g, PFHxS was detected at a concentration of 0.36 J ng/g, and PFNA was detected at a concentration of 0.30 J ng/g; however, there are no PALs for these compounds.

5.17 Outfall 003 (PRL 21)

Table 5-16 summarizes the analytical results of the surface water and sediment sampling at Outfall 003 (PRL 21). **Figure 5-5** summarizes the detected analytical results for surface water and sediment samples collected at Outfall 3. PFAS were detected in the surface water and sediment samples.

All six PFAS were detected in the surface water sample collected from PRL 21. PFOS was detected at a concentration of 340 ng/L which exceeds the individual PAL of 70 ng/L and PFOA was detected below the individual PAL of 70 ng/L at a concentration of 40 ng/L. The combined PFOS+PFOA concentration of 380 ng/L exceeded the combined PFOS+PFOA PAL of 70 ng/L. PFBS was detected below the PAL of 400,000 ng/L at a concentration of 39 ng/L. PFHpA was detected at a concentration of 40 ng/L, PFHxS was detected at a concentration of 280 ng/L, and PFNA was detected at a concentration of 4.9 ng/L; however, there are no PALs for these compounds.

PFHxS and PFOS were detected in the sediment sample collected from PRL 21. PFOS was detected below the PAL of 1,260 ng/g at a concentration of 8.3 ng/g. PFHxS was detected at a concentration of 0.85 J ng/g; however, there is no PAL for this compound.

5.18 Outfall 004 (PRL 22)

Table 5-17 summarizes the analytical results of the surface water and sediment sampling at Outfall 004 (PRL 22). **Figure 5-5** summarizes the detected analytical results for surface water and sediment samples collected at Outfall 004. PFAS were detected in the surface water and sediment samples.

PFBS, PFHxS, and PFOS were detected in the surface water sample collected from PRL 22. PFOS was detected at a concentration of 190 ng/L which exceeds the individual and combined PFOS+PFOA PALs of 70 ng/L. PFBS was detected below the PAL of 400,000 ng/L at a concentration of 18 ng/L. PFHxS was detected at a concentration of 130 ng/L; however, there is no PAL for this compound.

PFHpA, PFHxS, PFNA, PFOS, and PFOA were detected in the sediment sample collected from PRL 22. PFOS and PFOA were detected below the PALs of 1,260 ng/g at concentrations of 5.2 ng/g and 0.95 J ng/g, respectively. PFHpA was detected at a concentration of 0.42 J ng/g, PFHxS was detected at a concentration of 0.59 J ng/g, and PFNA was detected at a concentration of 0.53 J ng/g; however, there are no PALs for these compounds.

5.19 Outfall 005 (PRL 23)

Table 5-18 summarizes the analytical results of the surface water and sediment sampling at Outfall 005 (PRL 23). **Figure 5-5** summarizes the detected analytical results for surface water and sediment samples collected at Outfall 005. PFAS were detected in the surface water and sediment samples.

PFBS, PFHpA, PFHxS, PFNA, and PFOS were detected in the surface water sample collected from PRL 23. PFOS was detected below the PAL of 70 ng/L at a concentration of 63 ng/L and PFOA was reported as not detected at a concentration of 13 U* ng/L. However, the combined PFOS+PFOA concentration of 76 ng/L exceeds the combined PFOS+PFOA PAL of 70 ng/L, if PFOA is conservatively considered a detected result. PFBS was detected below the PAL of 400,000 ng/L at a concentration of 9.9 ng/L. PFHpA was detected at a concentration of 15 ng/L, PFHxS was detected at a concentration of 72 ng/L, and PFNA was detected at a concentration of 2.6 ng/L; however, there are no PALs for these compounds.

PFOS was the only compound detected in the sediment sample collected from PRL 23. PFOS was detected below the PAL of 1,260 ng/g at a concentration of 0.46 J ng/g.

5.20 Base Boundary

Monitoring well BBW-MW01 was dry and could not be sampled at the time of collection. However, monitoring well SC-IRP3-MW01 was also included in the sampling program to evaluate potential groundwater impacts at the base boundary. All six PFAS were detected in the groundwater samples

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(parent and duplicate) collected from monitoring well SC-IRP3-MW01. **Figure 5-6** summarizes the detected analytical results for basewide groundwater. See **Section 5.11 and Table 5-10** for discussion of the groundwater analytical results for SC-IRP3-MW01.

6. Analysis of Results

6.1 Soil

PFAS were detected in 47 out of the 57 samples. PFAS soil detections occurred at every PRL evaluated in the SI. Of the three compounds with PALs, none were detected above their respective PALs in any of the soil samples. PFHpA, PFHxS, and PFNA were detected in soil samples; however, there are no PALs for these compounds.

6.2 Groundwater

PFAS were detected in all groundwater samples collected (See **Figure 5-6**). The PFAS levels in groundwater samples exceeded the PALs for at least one compound in five out of six PRLs at which groundwater samples were collected; groundwater PALs were not exceeded at Building 35 (Vehicle Maintenance) (PRL 12). The highest concentrations of PFAS were detected in the groundwater sample collected at Hangar 1 / Building 2 (PRL 5). The maximum concentrations of PFOS and PFOA were both located at PRL 5, at concentrations of 5,300 ng/L and 310 ng/L, respectively.

As discussed in **Section 5.20**, base boundary well BBW-MW01 was dry during the sampling event, and a groundwater sample was not collected. However, monitoring well SC-IRP3-MW01 was used in the sampling program to evaluate potential groundwater impacts at the base boundary. PFAS were detected above PALs in the parent and duplicate samples collected at this monitoring well. PFOS was detected at a maximum concentration of 970 ng/L, which is above the applicable PAL. PFOA was detected at a concentration of 100 ng/L, which is also above the applicable PAL. PFBS was not detected above the PAL of 400,000 ng/L; its maximum concentration was 56 ng/L. PFHpA, PFHxS, and PFNA were detected in both groundwater samples; however, there are no PALs for these compounds. Since PFAS were detected in groundwater at the base boundary, off-base migration of PFAS concentrations in groundwater is possible at Schenectady ANGB.

6.3 Surface Water and Sediment

PFAS were detected in all surface water and sediment samples collected at Schenectady ANGB. Surface water samples collected at Drainage Ditch (PRL 18), Outfall 003 (PRL 21) and Outfall 004 (PRL 22) had detections of PFOS exceeding the PAL at concentrations of 630 ng/L, 340 ng/L and 190 ng/L, respectively. Stormwater that drains to the outfalls is not exclusively from the ANGB; therefore, additional sources of PFAS entering the outfalls are also possible. Though PFAS were detected in all sediment samples, none were detected above PALs. Since PFAS were detected in surface water and sediment in the Drainage Ditch and Outfall areas, off-base migration of PFAS via surface water is possible at Schenectady ANGB.

6.4 Updated Conceptual Site Model

Section 3 of this report provided the known elements of the conceptual site model (CSM) for Schenectady ANGB. The subsections below provide an update of the geological/hydrogeological and surface water elements and the relationship between the surface/subsurface conditions as they relate to the PFAS results.

6.4.1 Geology/Hydrogeology

The information obtained from the eight shallow monitoring wells as part of this SI did not significantly change the Schenectady CSM. Based on the soil boring results, the water bearing zone was confirmed to exist within the silty/clayey fine sand. The subsurface investigation conducted as part of this project indicates that groundwater is generally encountered in the soil/bedrock interface at depths ranging from approximately 2.86 ft bgs to 6.89 ft bgs. The available SI groundwater measurements were limited due to five monitoring wells being dry at the time of sampling (B11-MW01, APR-MW02, BBW-MW01, B12-MW01

and B31-MW01). The potentiometric contour map (**Figure 3-1**) that was produced from the available groundwater level measurements collected as part of this SI confirmed and refined the groundwater flow direction: generally towards the south - southwest in the northern portion of the base and the southsoutheast towards the southern portion of the base. Specific analysis of how groundwater flows in the deeper portion of glacial till aquifer or in the bedrock aquifer remains theoretical since this SI did not include deeper wells.

6.4.2 Surface Water

The Schenectady CSM, as it pertains to surface water flow, remains as described in **Section 3.1**. The majority of stormwater runoff from the base flows into the unnamed drainage ditch southwest of the Apron, into tributaries of the Mohawk River such as Collins Creek and the Indian and Alplaus Kills.

6.4.3 Contaminant Distribution and Impacts to Potential Receptors

Soil samples were collected from 22 borings at twelve PRL locations and analyzed for PFAS. PFAS were detected in the vadose zone at all PRLs. The concentrations of PFOS, PFOA and PFBS in soil at all twelve PRLs where soil samples were taken were significantly below the PALs. PFBS was absent from PRL 17. PFHpA, PFHxS, and PFNA were detected at all PRLs, with the following exceptions: PFNA was absent at PRLs 5, 6, 9, 12, and 15 and PFHpA was absent at PRLs 6 and 15. However, there are no PALs for PFHpA, PFHxS, or PFNA. The wide range of PFAS detections in soil is more likely to be due to persistence of these contaminants in the environment at low levels rather than a confirmation of a source. Thus, the potential exposure to human and ecological receptors is significantly limited based on the SI soil results since the current levels in soil are below the applicable human exposure RSLs and there is not any critical habitat at Schenectady ANGB.

PFAS were detected in groundwater samples collected at each of the six PRLs where groundwater was sampled. All six UCMR-3 compounds were present at PRLs 5, 8, 15, 16 and 17: PFNA and PFOA were not detected at PRL 12. The highest levels of PFAS in groundwater were identified at Hangar 1 / Building 2 (PRL 5) at 5,300 ng/L of PFOS. The analytical results from the well located at the base boundary (IRP3-MW01) had values of PFOS and PFOA exceeding the PALs, indicating that PFAS may be migrating off-base. There are no known drinking water wells on-base; however, there are drinking water wells within a 5 mile-radius of the base, and thus impacts to human receptors are a possibility and should be investigated further.

Surface water and sediment sample results from this SI indicate that PFAS were detected in all of the surface water and sediment samples taken. Human receptors are limited to construction workers and recreational users, which would be minimal at Schenectady ANGB. Potential impacts to receptors as a result of surface water and/or sediment are currently low on base; however, future sample results at the on-base outfalls and downgradient streams could affect the evaluation of potential impacts to human or ecological receptors.

6.5 Environmental Sequence Stratigraphy

6.5.1 General Overview of ESS

Environmental Sequence Stratigraphy (ESS) is a US EPA-endorsed, state-of—the-art investigative approach that provides a detailed understanding of the subsurface geology in order to better predict the fate and transport of contaminants at complex sites. Although originally developed in the petroleum industry to find oil and natural gas reservoirs, AECOM has successfully adapted this technology to refine CSMs. In contrast to the traditional method of subsurface correlation, which involves matching sand with sand and clay with clay, ESS depicts a detailed cross-section of sediment layering that is consistent with known depositional patterns. These cross-sections are then utilized to identify and map formations with high fluid transmissive properties.

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ESS leverages all pre-existing base-wide and regional subsurface geologic data to better understand the base data within the context of the broader depositional environment. This lithologic information is then compared with established models to reveal depositional trends in the subsurface. Finally, this information is used to provide a more accurate characterization of subsurface conditions for the evaluation of potential PFAS migration pathways.

6.5.2 Schenectady ANGB Preliminary ESS Evaluation

The Schenectady ANGB is located in Schenectady County, Scotia, New York (**Figure 6-1**). During the Pleistocene, Southward advancing continental ice sheet blanketed New York (except for small areas in southwestern New York). Extensive removal of residual soils and dumping of heterogeneous detritus coupled with glacial sculpturing greatly altered existing topography and drainage patterns. As the ice front receded northward, an outlet for the newly formed Great Lakes was opened to the east via the Mohawk Valley to the Hudson Valley and ultimately to the Atlantic Ocean. Melted ice produced temporary lakes in which varied clays and silts and sands built up. According to the New York State Geological Survey, significant amounts of clay-like sediments were deposited in vast glacial lakes that occupied the state at the end of the last Ice Age (**Figure 6-2**). An angular unconformity separates the glacial deposits from the underlain by marine clay units of Ordovician time (Schenectady Shale and Canajoharie Shale) as shown in the stratigraphic column in **Figure 6-3** (New York State Geological Survey, 2014).

The Schenectady Shale represents interbedded silty gray and black shales, buff-weathering graywackes, and argillaceous sandstones that form the surface rock throughout virtually all of Schenectady County. Thicker than the whole of the preceding Paleozoic section, the Schenectady's actual thickness is undetermined owing to insufficient long sections and lack of marker beds within the monotonous repetitive lithologies. Well data disclose that 2000 ft are penetrated before the Canajoharie Shale is reached.

Canajoharie Shale approaches 1100 ft in the eastern Mohawk Valley thinning westward to 350 ft over the Adirondack Axis expanding again westward to 650 ft. It is lithologically remarkably uniform, being a slightly calcareous dark gray to black shale. Pyrite nodules, up to 4 inches, are rarely found. To the west, the Canajoharie passes through the Dolgeville facies (alternating black shale and thin-bedded black calcilutite) into typical Trenton limestone. To the east, the Canajoharie grades into the silty Snake Hill Shale and into the lower Schenectady graywacke and gray shale.

While traditional sequence stratigraphy of glacial deposits is complicated, understanding the subsurface lithology in terms of the different phases of glacial retreat can reveal distinctive and predictive patterns of deposition. Application of ESS will therefore be helpful in understanding the spatial distribution of clay and sand underneath the base and permit us to develop appropriate remedial strategies. The deeper aquifer of fractured shale (Vernon Shale) will need to be investigated with a different strategy for fractured rocks using bore-hole observation made by Tele-viewer or/and dip-meter data.

6.6 Data Quality Objectives

Additional investigation is required to further define the extent of PFAS contamination. The DQOs, by media, are outlined in **Table 6-1**.

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7. Conclusions and Recommendations

7.1 Conclusions

The SI field activities for the eighteen PRLs were completed between June and July 2018 culminating in the collection of 57 soil samples (plus four duplicates), eight groundwater samples (plus two duplicates), four surface water samples, and six sediment samples that were analyzed for six PFAS consistent with UCMR-3 (US EPA, 2012). A summary of the maximum sampling results exceeding PALs for each PRL is provided in **Table 7-1**.

PFAS were present in all media sampled at each PRL. Five PRLs (PRLs 5, 8, 15, 16, and 17) had levels of PFAS exceeding PALs in groundwater, with the highest values recorded at Hangar 1 / Building 2 (PRL 5). Though PFAS were detected in soil samples at all PRLs, there were no exceedances of PALs in soil. PFASs were detected in the groundwater at the base boundary and exceeded PALs in the groundwater sample, suggesting that PFAS are likely migrating off-base, based on a groundwater flow direction to the south-southwest. There are currently no known public water supply wells at the base; however, there are five potable water supply wells five miles west of the ANGB, which supply Schenectady ANGB (BB&E, 2016). Private water wells are located nearby the ANGB. There is one nearby private well located on Maple Avenue, about halfway between Freeman's Bridge Road and Ronald Reagan Way. This private well is located hydraulically downgradient and could be used for potable purposes.

PFAS were detected in the surface water and sediment samples. PALs were exceeded for PFAS in surface water at the Drainage Ditch (PRL 18), Outfall 003 (PRL 21) and Outfall 004 (PRL 22). PALs were not exceeded for PFAS in any sediment sample. Stormwater that drains to these outfalls is not exclusively from the ANGB; therefore, additional sources of PFAS entering the outfalls are possible. It is likely that PFAS are migrating off-base via surface water.

7.2 Recommendations

The following recommendations are provided for consideration based on the SI results:

- Further investigation at all 18 PRLs is necessary to determine the nature and extent of PFAS contamination due to detectable levels at all PRLs.
- Perform supplemental Site Investigation sampling activities at both PRL 1 (IRP Site 1 Fire Training Area 1) and PRL 2 (Current FTA). Site Investigation of PRL 1 and PRL 2 was recommended by the New York State Department of Environmental Conservation, despite a recommendation for No Further Action in the PA report. Future Site Investigation of PRL 1 and PRL 2 will come in the form of a stand-alone SI to occur during the same time as the contracted RI for the other PFAS PRLs at this installation.
- Expand the CSM that considers localized groundwater and surface water flow paths to select future sampling locations. To refine the CSM for Schenectady ANGB, an ESS analysis could be performed to generate new cross sections. This information could:
 - o Identify and map (the composition, shape, and interconnectivity of) potentially undefined fluvial channels and other geologic features at the plume scale.
 - Construct a geologically defensible framework of the subsurface that better defines subsurface heterogeneity, accurately predicts preferential pathways, and reduces data gaps.
 - Achieve a greater understanding of groundwater and dissolved contaminant flow preferential pathways and thus target areas for active remedial implementation.
 - Reduce the number of future wells for plume measurements through stratigraphic guidance.
- Complete the delineation as part of an RI that could consist of:

- Expanding the groundwater sampling program to complete horizontal and vertical delineation of the PFAS impacts, which could potentially include bedrock sampling.
 Further groundwater evaluation is recommended at the base boundary and at all PRLs where the presence of PFAS in groundwater exceeded the PALs.
- Installing and sampling downgradient monitoring wells to better define the impacts of PFAS that have migrated off-base, and installing upgradient monitoring wells to better define the impacts of PFAS that have migrated on-base (from off-base sources).
- Conducting additional surface water and sediment sampling both on-base and off-base to determine the nature and extent of PFAS impacts in these media. Potential locations include the on-base system of storm drains and Drainage Ditch (PRL 18) as well as the off-base tributaries such as Collins Creek and the Indian and Alplaus Kills.
- Performing additional soil sampling and analysis of an expanded list of PFAS (in addition to the six UCMR-3 compounds) and precursor analysis to determine if significant source areas related to precursor substances are present. Precursor substances have been demonstrated to oxidize into PFOS and PFOA via biological and abiotic processes and thus could provide a lingering source of PFOS and PFOA in soil and groundwater.
- Conduct preliminary site-specific RA calculations in order to identify chemicals of potential concern in every media and establish preliminary remedial goals for screening.
- The understanding of potential health effects from exposures to these emerging contaminants and the expected establishment of federal and New York State regulations is an evolving and ongoing process that may result in the establishment of promulgated regulations, including maximum contaminant levels, groundwater standards and/or soil cleanup objectives that differ from the PALs used to evaluate the data generated during this SI. Any of the above conclusions or recommendations may be subject to reinterpretation during future investigations, in response to updated toxicological information and/or newly promulgated regulations,

Additional sampling and analysis is required at each PRL to establish the nature and extent of PFAS for each applicable media and determine if there is a complete receptor pathway. For soil, additional sampling and analysis is required to determine if a source area exists and if so, the vertical and horizontal extent for both the vadose and saturated zones. For groundwater, additional sampling is proposed to better define potential groundwater impacts both vertically and horizontally through the sampling of existing and additional new monitoring wells in both upgradient and off-base locations. Surface water and sediment sampling and analysis is required at PRLs where the presence of PFAS has been identified in either or both media; including upstream and downstream surface water and sediment at on-base and off-base locations.

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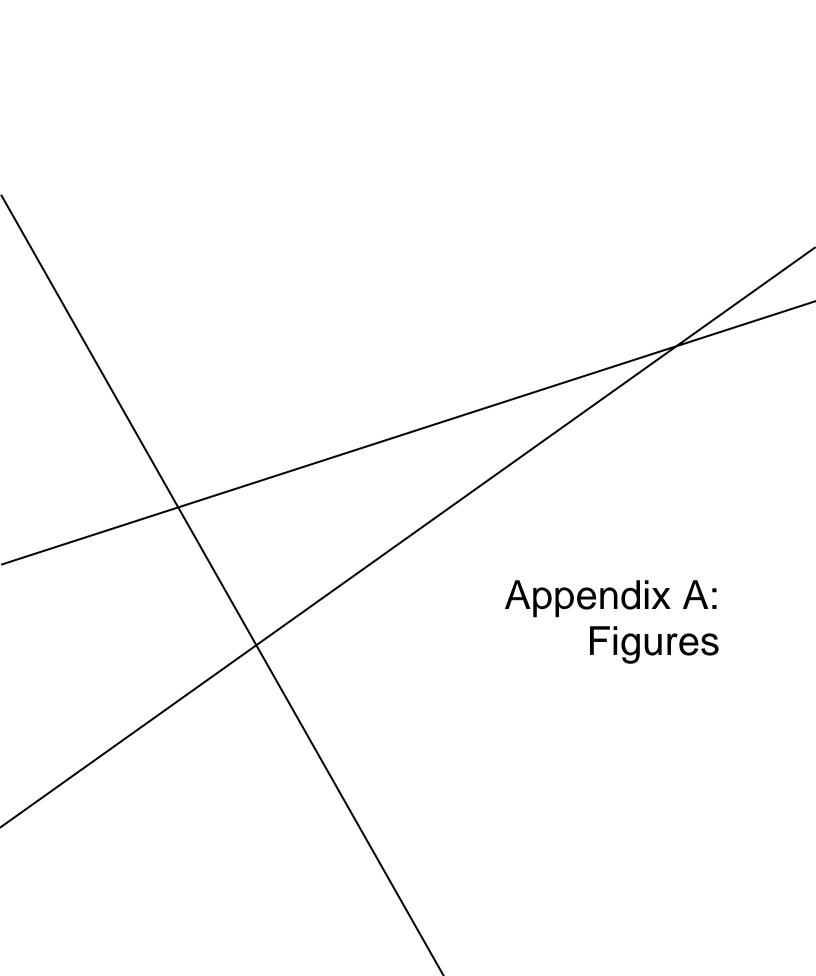
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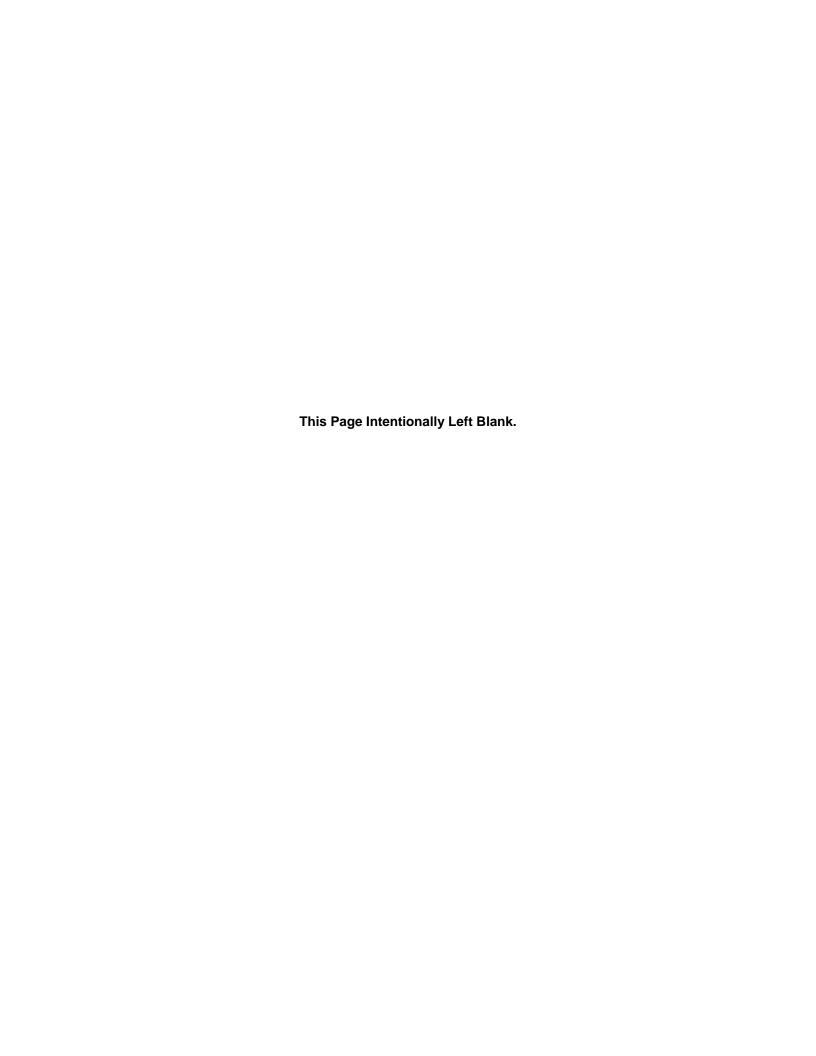
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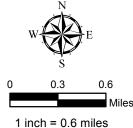


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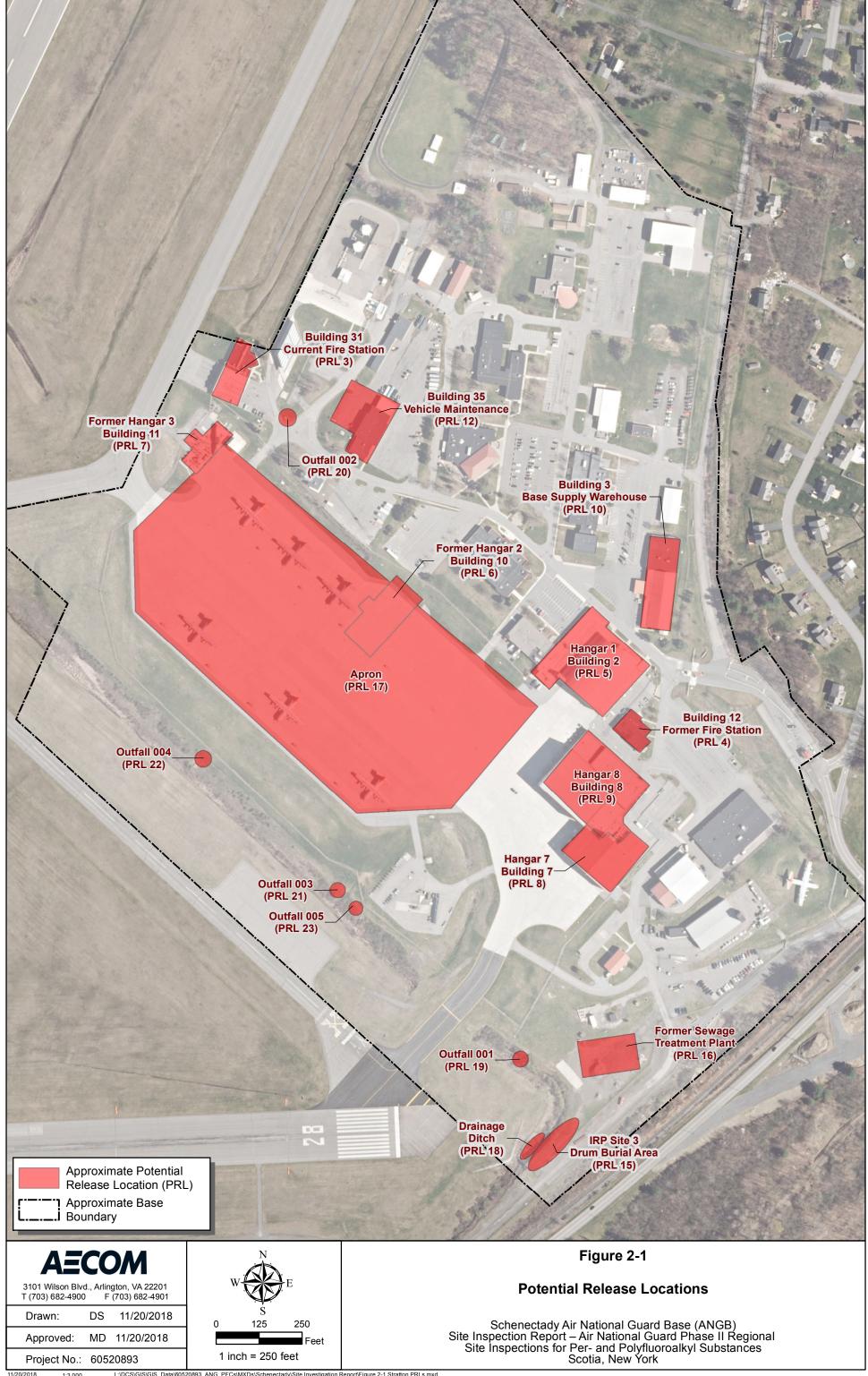
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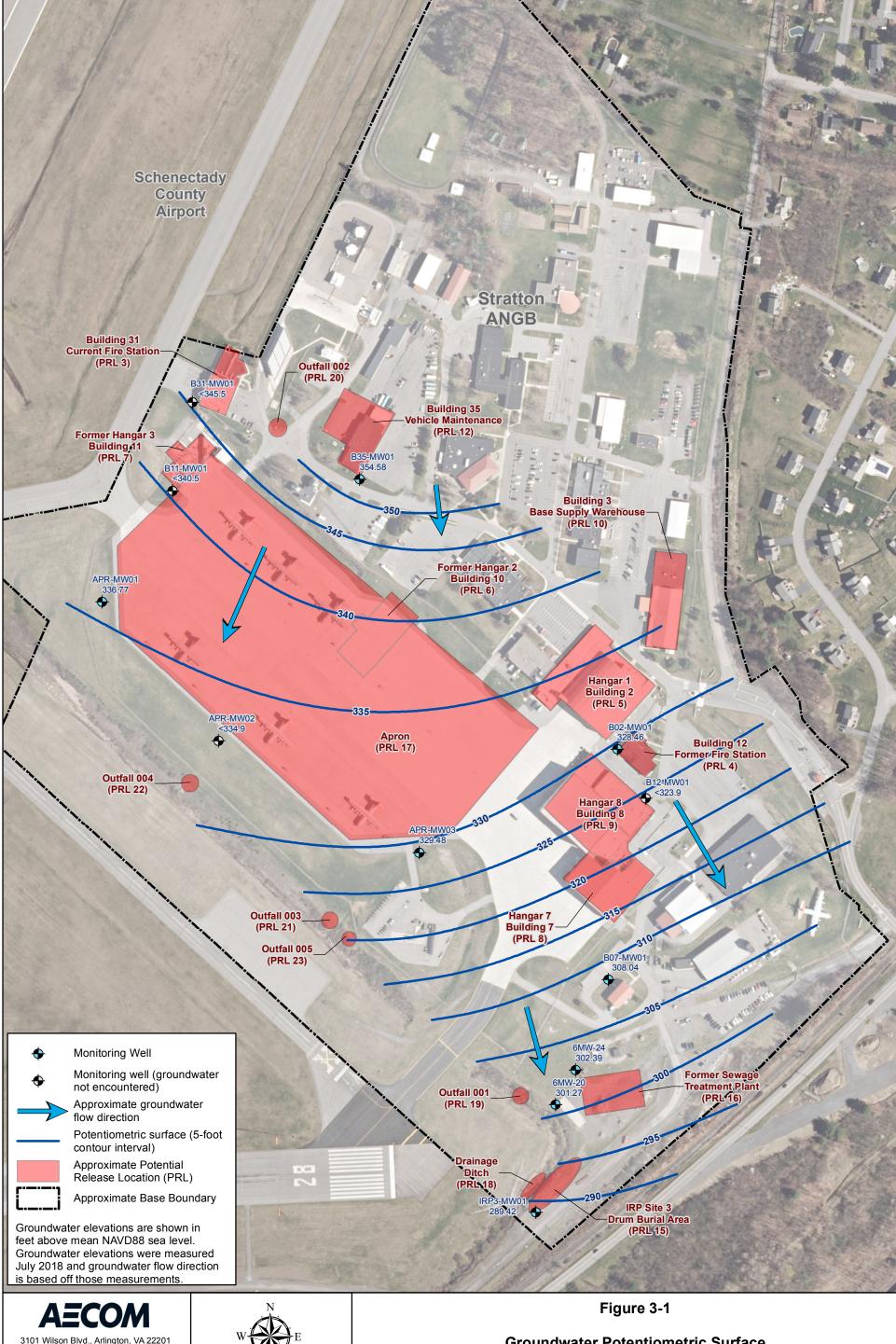
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Schenectady Air National Guard Base Location



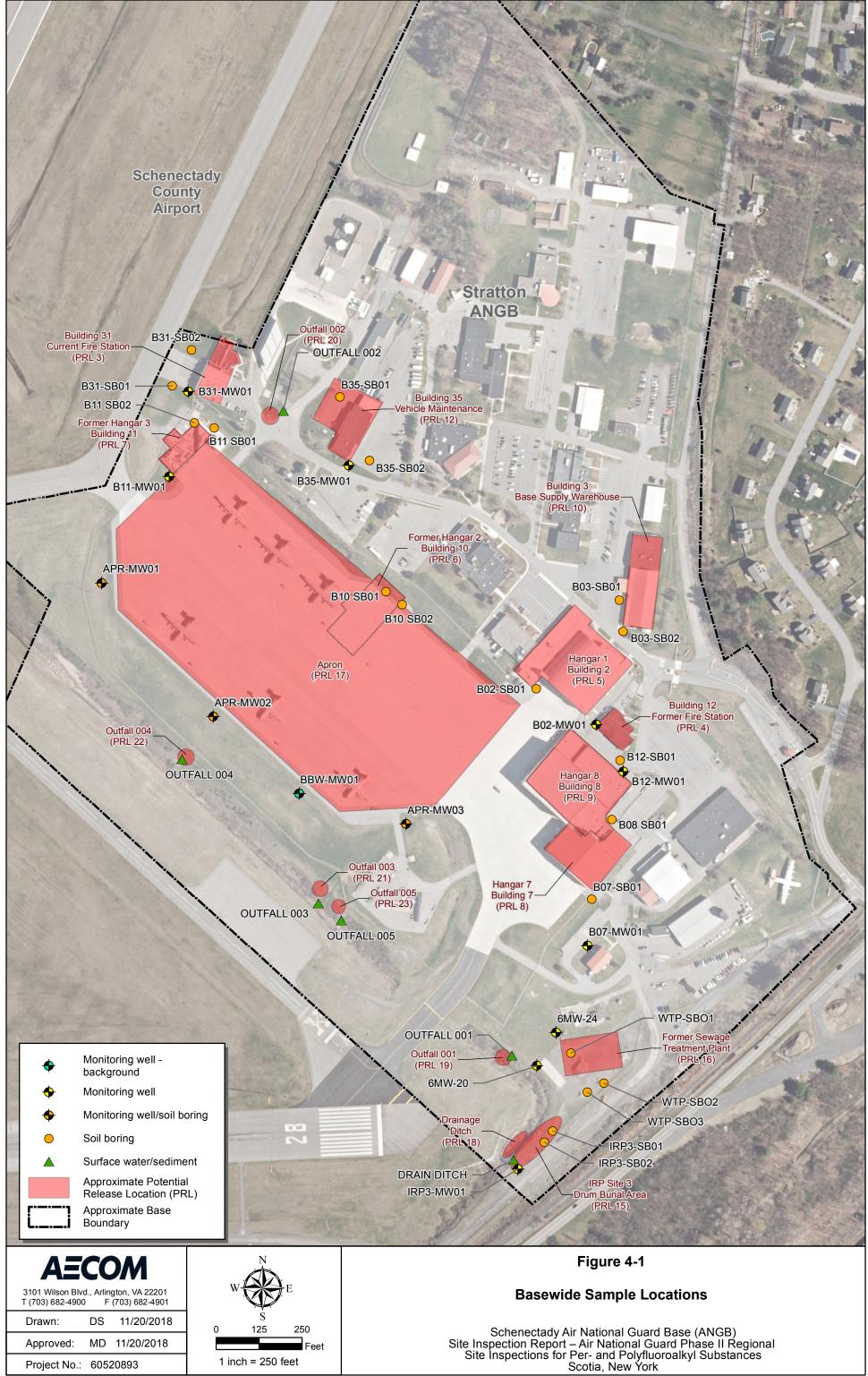


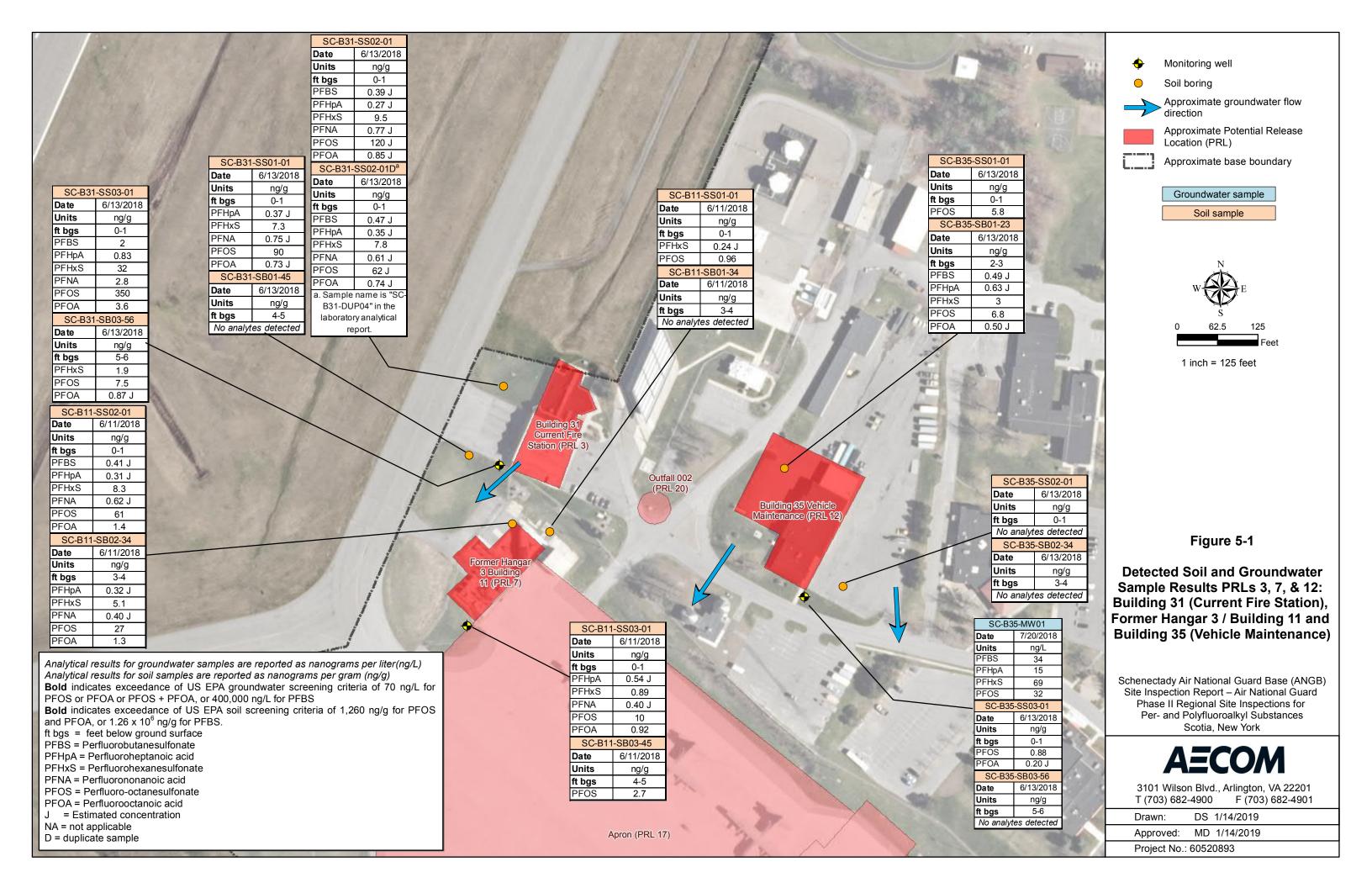
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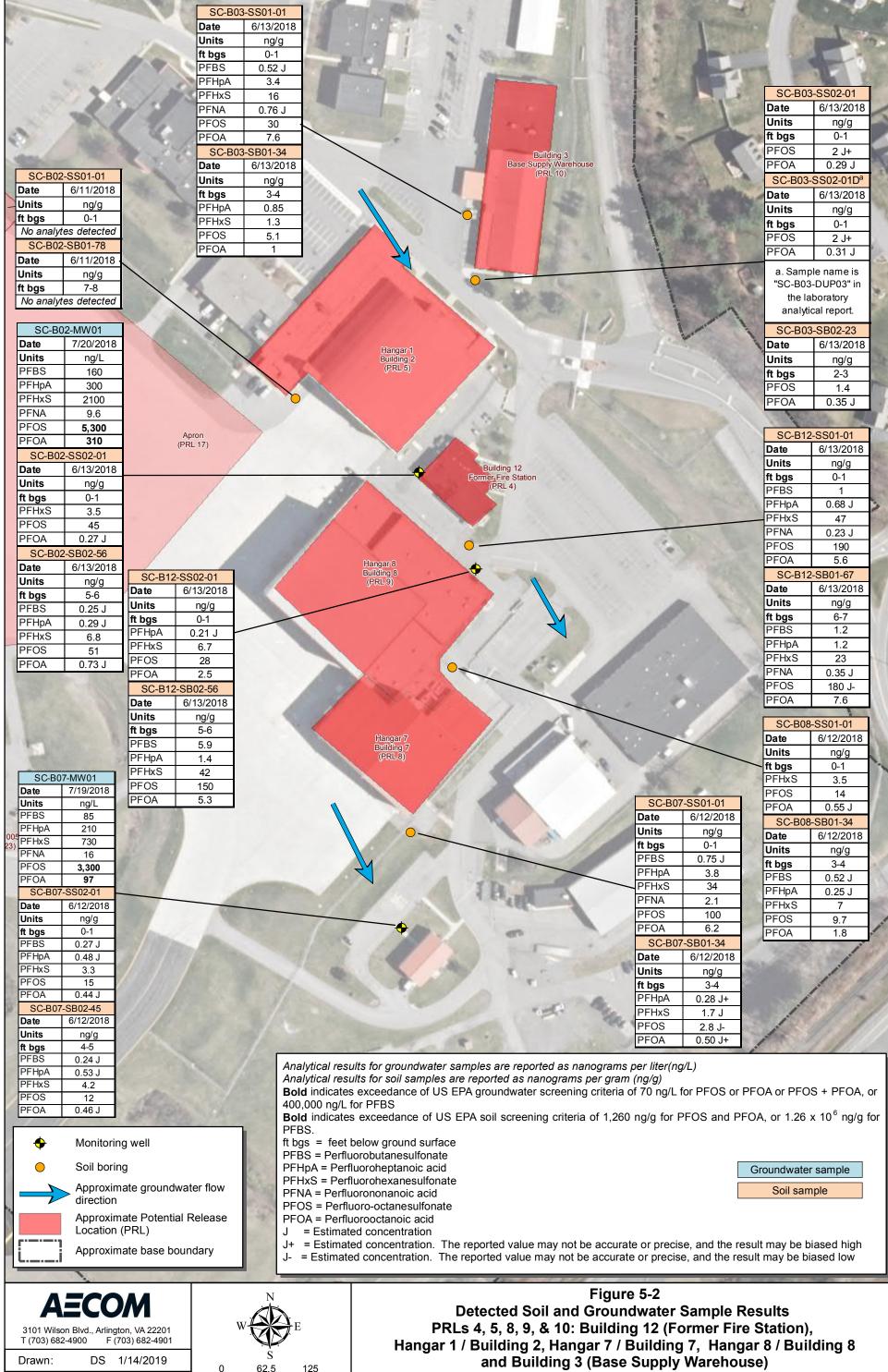
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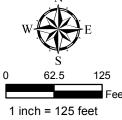
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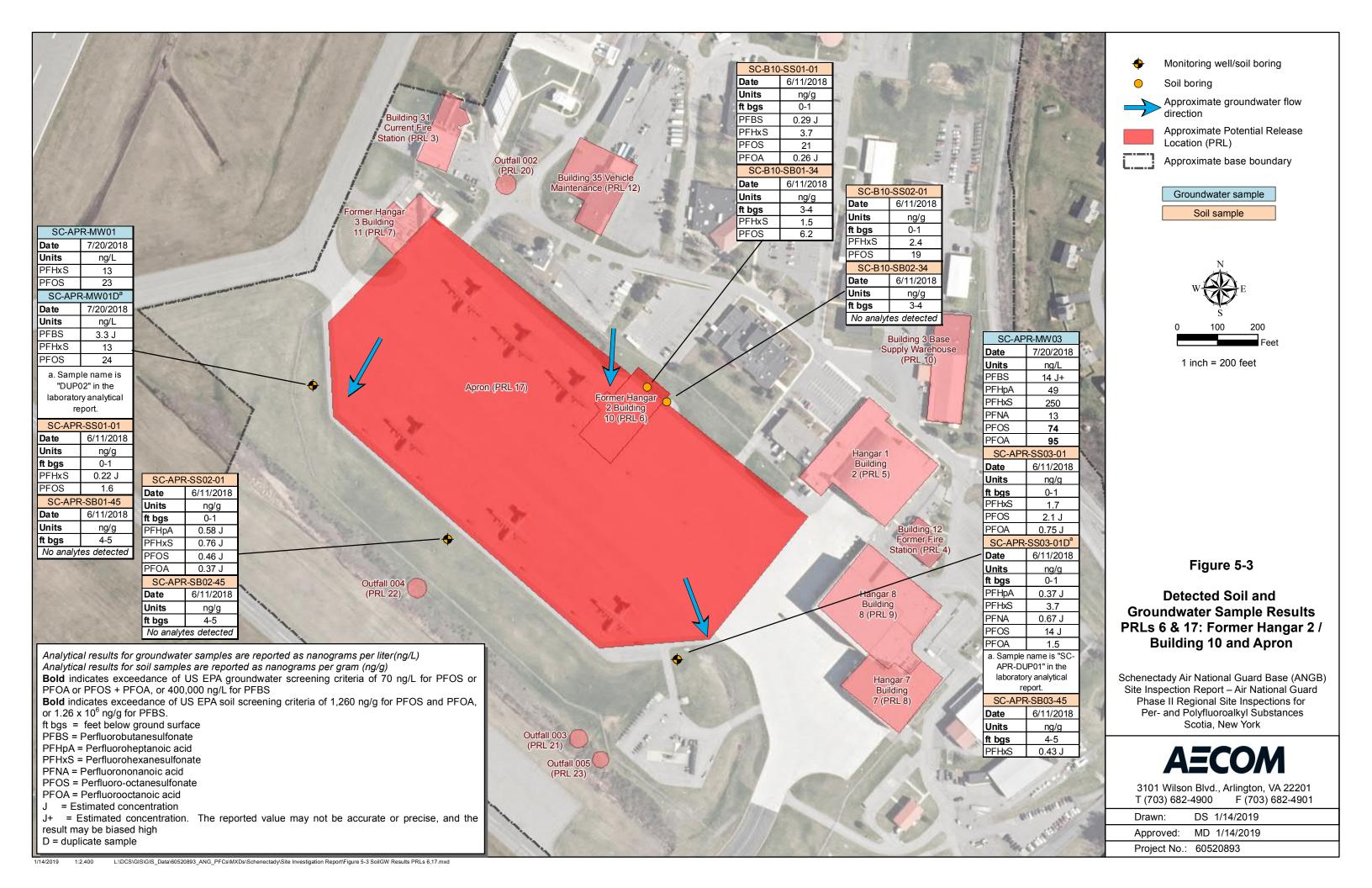


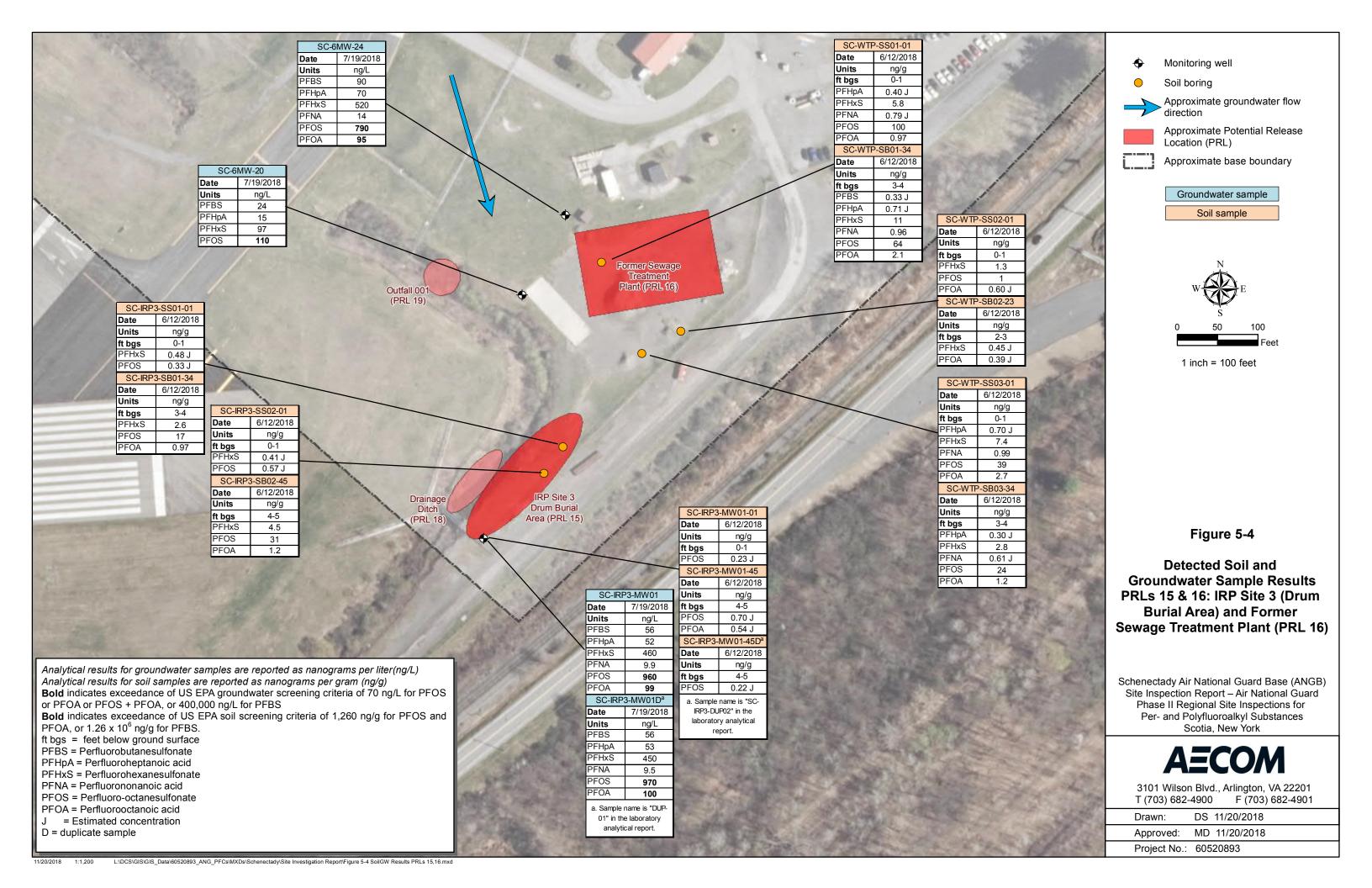


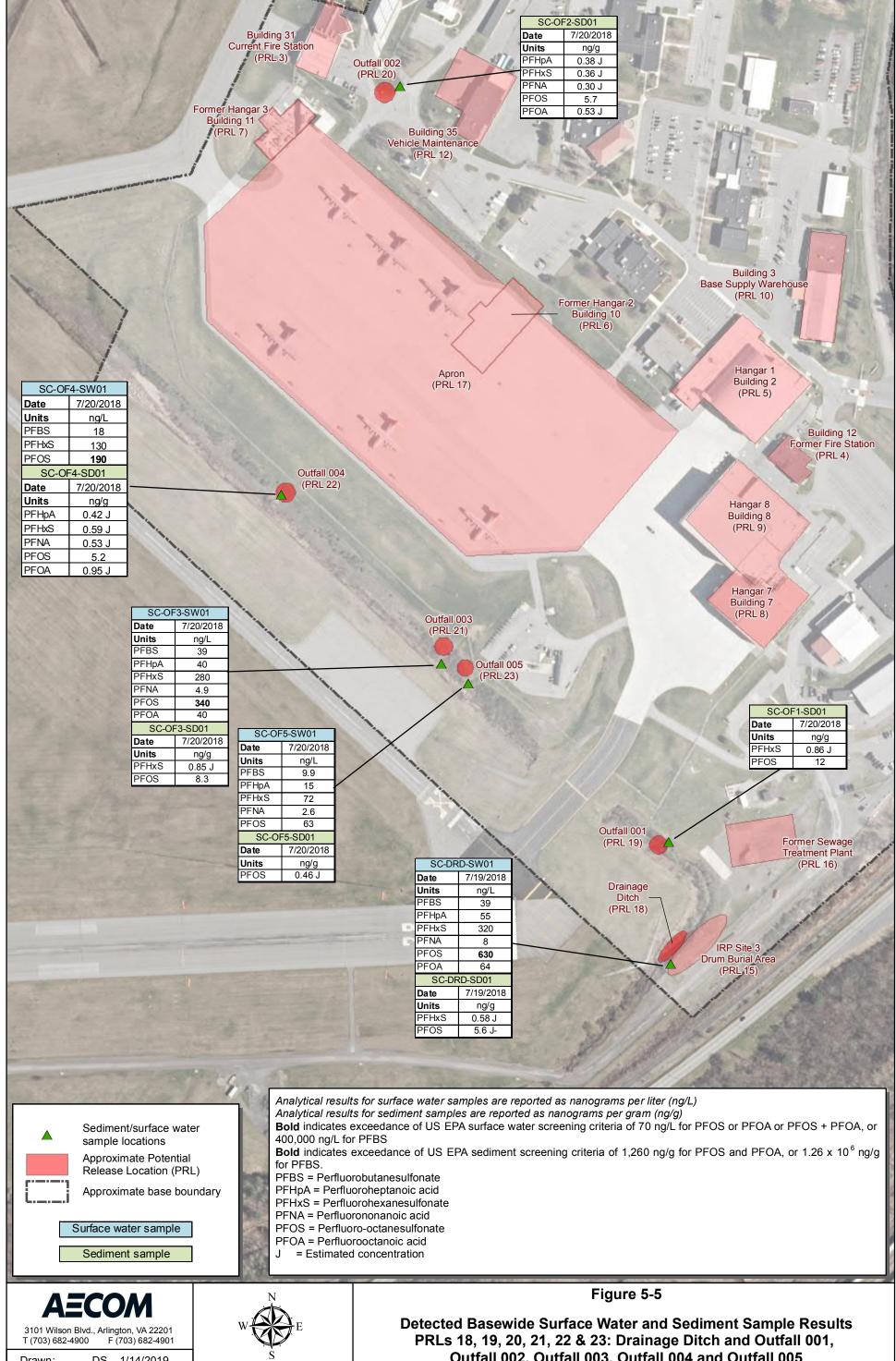


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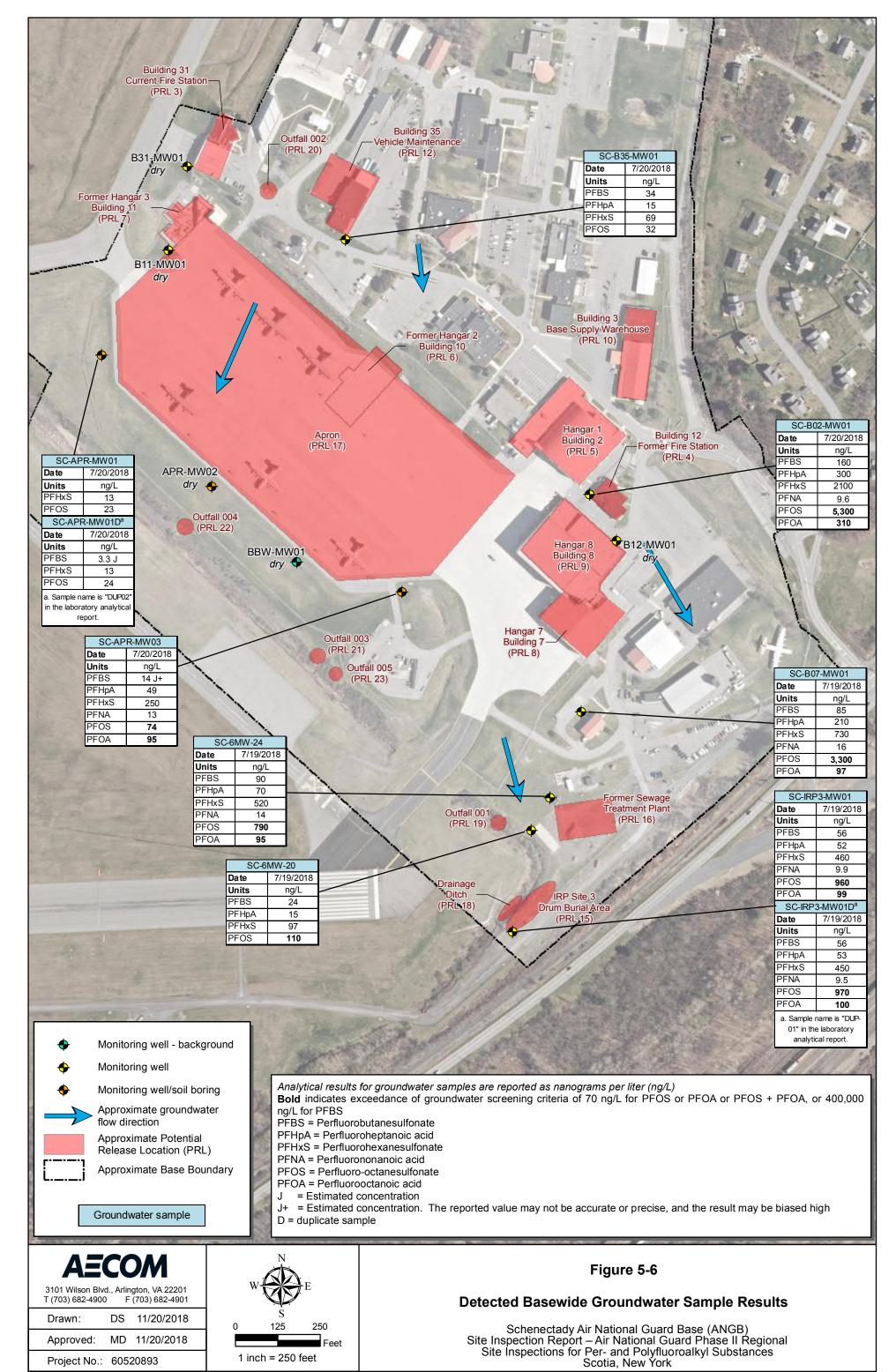


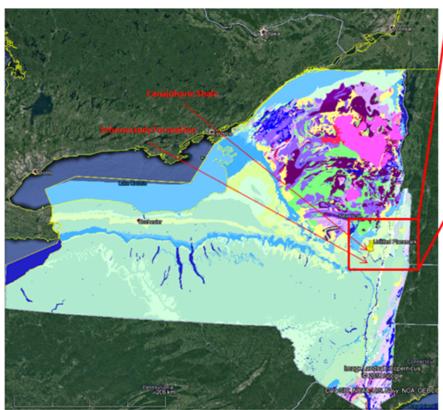


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1 inch = 220 feet

Outfall 002, Outfall 003, Outfall 004 and Outfall 005







Location of Schenectady ANGB in relation to the regional setting of basement geology in New York. Note that the composition of basement rock around the base consists of Canajoharie Shale and Schenectady Shale.

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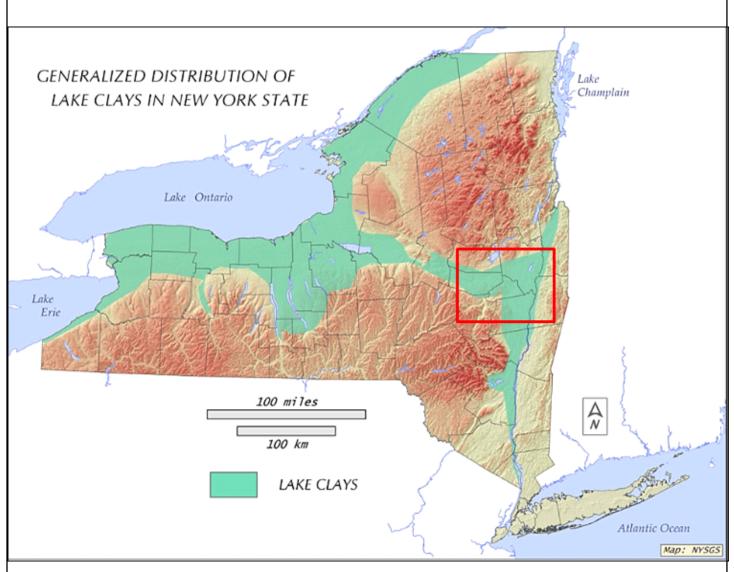
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Not to Scale

Figure 6-1

Regional Geologic Features Near Schenectady ANGB



Extent of glacial clay (shown in green) in the New York region. The red box shows the approximate location of the Schenectady ANGB.



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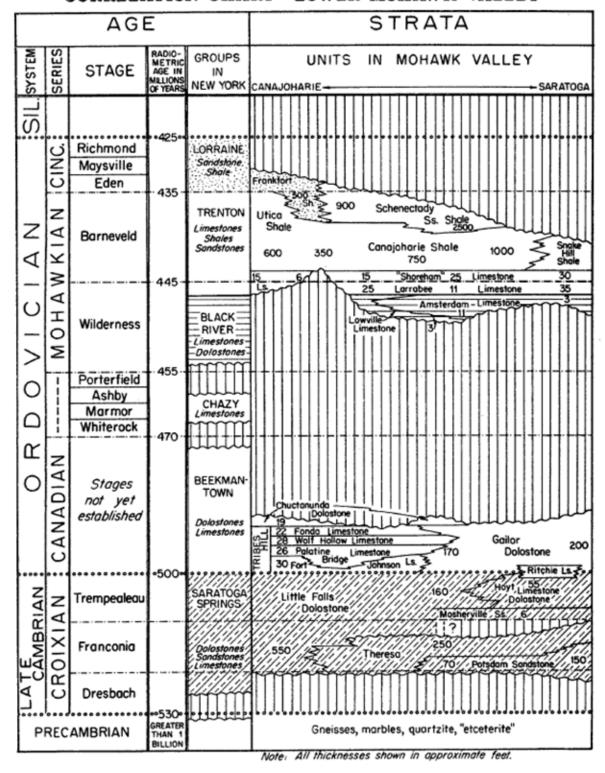


Scale As Shown

Figure 6-2

Glacial Clay Extent Near Schenectady ANGB

CORRELATION CHART - LOWER MOHAWK VALLEY



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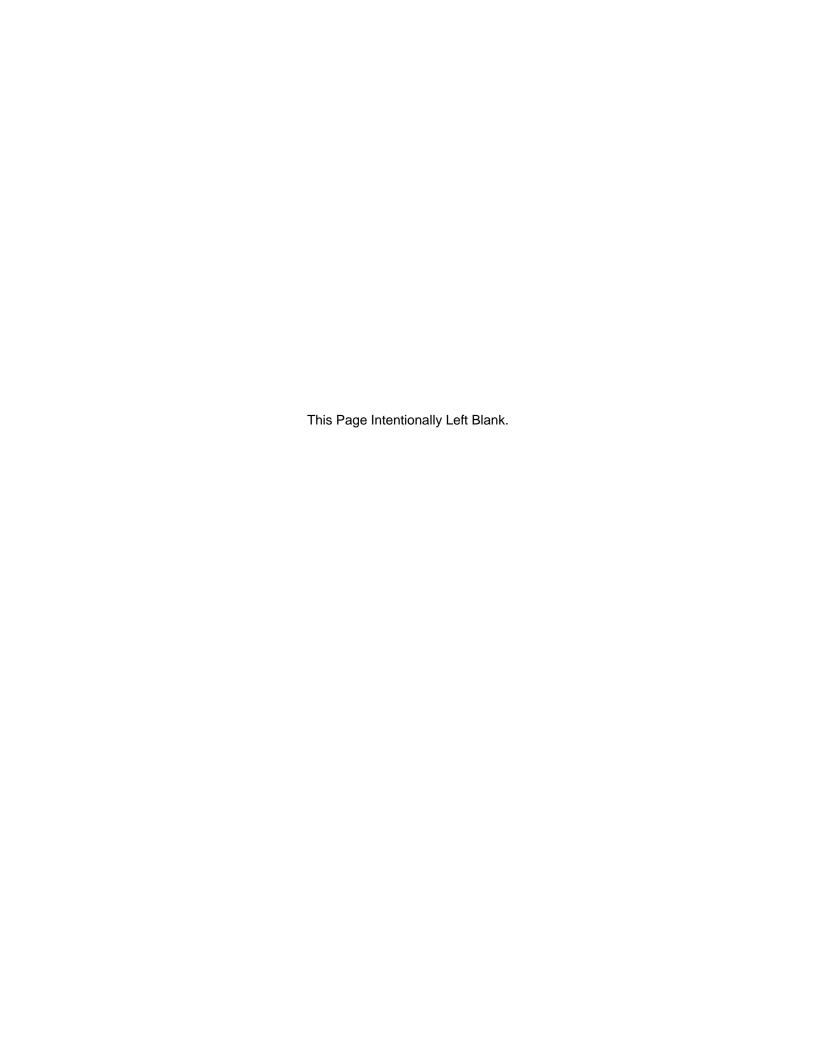
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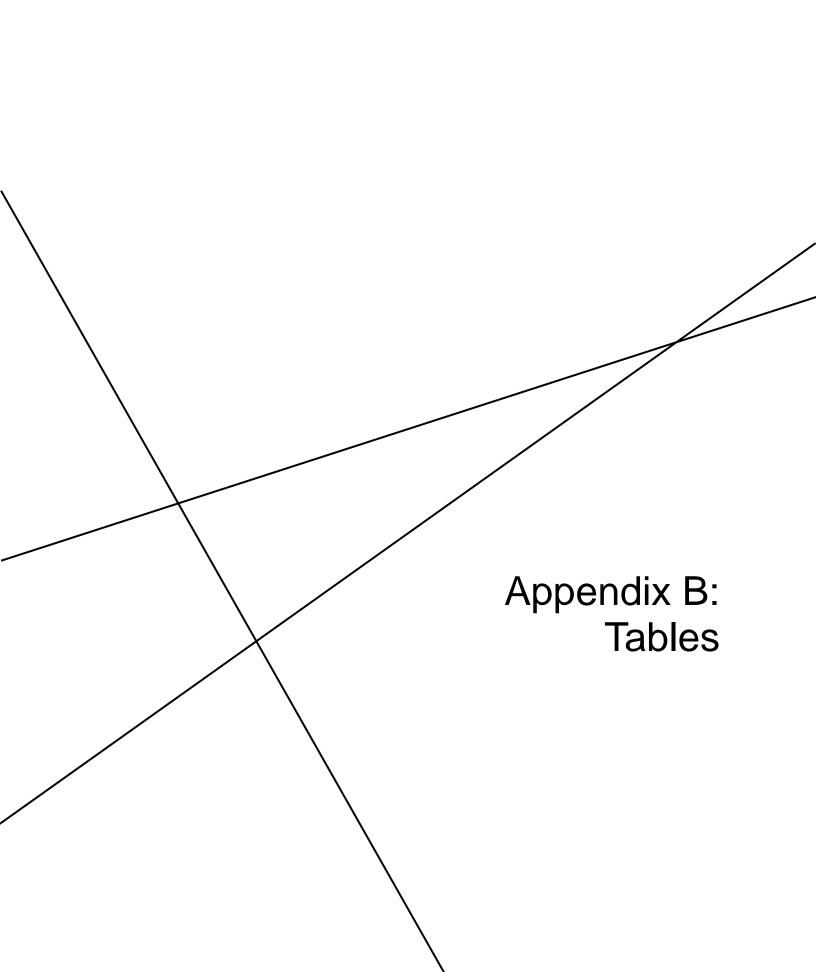
Figure 6-3

Stratigraphic Section Near Schenectady ANGB

Schenectady Air National Guard Base (ANGB)
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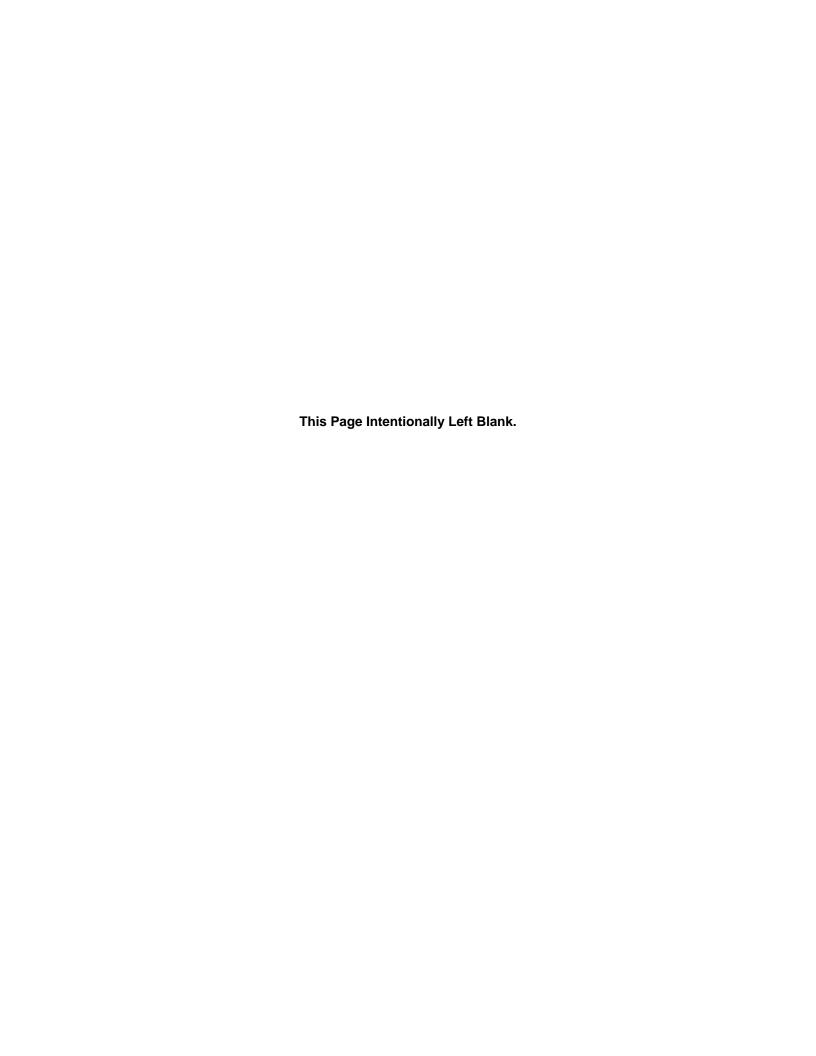


Table 3-1: Water Level Summary

| Monitoring Well | Top of Casing (ft amsl) | Water Level (ft btoc) | Water Elevation (ft amsl) |
|-----------------|----------------------------|--------------------------|------------------------------|
| B02-MW01 | 333.57 | 5.11 | 328.46 |
| B07-MW01 | 314.56 | 6.52 | 308.04 |
| B35-MW01 | 361.08 | 6.5 | 354.58 |
| IRP3-MW01 | 296.09 | 6.67 | 289.42 |
| 6MW-24 | 308.71 | 6.32 | 302.39 |
| 6MW-20 | 304.98 | 3.71 | 301.27 |
| APR-MW01 | 343.66 | 6.89 | 336.77 |
| APR-MW03 | 332.34 | 2.86 | 329.48 |

Notes:

ft amsl – feet above mean sea level

ft btoc – feet below top of casing

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Table 4-1: Monitoring Well Construction Summary

| Location | Northing | Easting | Well Type | Ground Surface Elevation (amsl) | Well (PVC) Elevation | Screen Interval (ft bgs) | Bottom of Exploration (ft bgs) | Well Diameter (inches) |
|-------------------------|---------------|--------------|------------------------|------------------------------------|-------------------------|-----------------------------|--------------------------------------|------------------------|
| B31-MW01 ^(a) | 1465566.9800' | 646373.1180' | New Monitoring Well | 355.22 | 355.02 | 6.5-9.5 | 9.5 | 2 |
| B12-MW01 ^(a) | 1464461.4550' | 647639.2030' | New Monitoring Well | 331.08 | 330.89 | 4-7 | 7 | 2 |
| B02-MW01 | 1464597.1690' | 647559.4360' | New Monitoring Well | 333.57 | 333.33 | 2.5-7.5 | 7.5 | 2 |
| B07-MW01 | 1463955.1030' | 647534.8630' | New Monitoring Well | 314.56 | 314.28 | 4-8 | 8 | 2 |
| B35-MW01 | 1465351.3160' | 646840.1500' | New Monitoring Well | 361.08 | 360.81 | 5-8 | 8 | 2 |
| IRP3-MW01 | 1463304.9360' | 647332.3240' | New Monitoring Well | 296.09 | 295.90 | 5-10 | 11 | 2 |
| APR-MW01 | 1465009.5150' | 646120.9740' | New Monitoring Well | 343.66 | 343.40 | 7-12 | 12 | 2 |
| APR-MW02 (a) | 1464621.4970' | 646445.8120' | New Monitoring Well | 342.15 | 341.93 | 4-7 | 7 | 2 |
| APR-MW03 | 1464309.2750' | 647006.4660' | New Monitoring Well | 332.34 | 332.16 | 2-5 | 5 | 2 |
| BBW-MW01 (a) | 1464397.3670' | 646695.3900' | New Monitoring Well | 338.83 | 338.60 | 2-4 | 4 | 2 |

Notes:

amsl - above mean sea level; ft bgs – feet below ground surface

(a) Well was installed, but was dry at the time of sampling.

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Table 5-1. Building 31 (Current Fire Station) Sample Results (PRL 3)

| | | Soil | | | | | | | |
|----------------------------------|---|----------------|----------------|----------------|----------------|----------------|------------------------------|--|--|
| Sample ID | _ | SC-B31-SS01-01 | SC-B31-SB01-45 | SC-B31-SS02-01 | SC-B31-SS03-01 | SC-B31-SB03-56 | SC-B31-SS02-01D ^b | | |
| Sample Date | PAL ^a (ng/g) | 6/13/2018 | 6/13/2018 | 6/13/2018 | 6/13/2018 | 6/13/2018 | 6/13/2018 | | |
| Depth (ft bgs) | (1.9/9) | 0-1 | 4-5 | 0-1 | 0-1 | 5-6 | NA | | |
| Perfluorinated Compounds US E | Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.66 U | 0.65 U | 0.39 J | 2 | 0.67 U | 0.47 J | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.37 J | 0.73 U | 0.27 J | 0.83 | 0.76 U | 0.35 J | | |
| Perfluorohexanesulfonate (PFHxS) | NA | 7.3 | 0.69 U | 9.5 | 32 | 1.9 | 7.8 | | |
| Perfluorononanoic acid (PFNA) | NA | 0.75 J | 0.73 U | 0.77 J | 2.8 | 0.76 U | 0.61 J | | |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 90 | 0.70 U | 120 J | 350 | 7.5 | 62 J | | |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.73 J | 0.73 U | 0.85 J | 3.6 | 0.87 J | 0.74 J | | |

PAL = project action level

ng/g = nanogram per gram

NA = Not applicable

D = Duplicate sample

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

a. United States Environmental Protection Agency (US EPA) Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.

b. Sample name is "SC-B31-DUP04" in the laboratory analytical report.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-2. Building 12 (Former Fire Station) Sample Results (PRL 4)

| | | Soil | | | | | | |
|---|----------------------------|----------------|----------------|----------------|----------------|--|--|--|
| Sample ID | 0 | SC-B12-SS01-01 | SC-B12-SB01-07 | SC-B12-SS02-01 | SC-B12-SB02-56 | | | |
| Sample Date | PAL ^a (ng/g) | 6/13/2018 | 6/13/2018 | 6/13/2018 | 6/13/2018 | | | |
| Depth (ft bgs) | (119/9) | 0-1 | 6-7 | 0-1 | 5-6 | | | |
| Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 1 | 1.2 | 0.62 U | 5.9 | | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.68 J | 1.2 | 0.21 J | 1.4 | | | |
| Perfluorohexanesulfonate (PFHxS | NA | 47 | 23 | 6.7 | 42 | | | |
| Perfluorononanoic acid (PFNA) | NA | 0.23 J | 0.35 J | 0.70 U | 0.69 U | | | |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 190 | 180 J- | 28 | 150 | | | |
| Perfluorooctanoic acid (PFOA) | 1,260 | 5.6 | 7.6 | 2.5 | 5.3 | | | |

PAL = project action level

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

a. United States Environmental Protection Agency (US EPA) Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

J- = Reported value may not be accurate or precise, but the result may be biased low.

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-3. Hangar 1/Building 2 Sample Results (PRL 5)

| | | Groundwater | | | |
|---|--------------------|-------------|--|--|--|
| Sample ID | PAL ^{a,b} | SC-B02-MW01 | | | |
| Sample Date | (ng/L) | 7/20/2018 | | | |
| Perfluorinated Compounds US EPA Method 537 Rev 1.1 modified | | | | | |
| Perfluorobutanesulfonate (PFBS) | 400,000 | 160 | | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 300 | | | |
| Perfluorohexanesulfonate (PFHxS) | NA | 2,100 | | | |
| Perfluorononanoic acid (PFNA) | NA | 9.6 | | | |
| Perfluoro-octanesulfonate (PFOS) | 70 | 5,300 | | | |
| Perfluorooctanoic acid (PFOA) | 70 | 310 | | | |

| | | Soil | | | | | | | |
|----------------------------------|---|----------------|----------------|----------------|----------------|--|--|--|--|
| Sample ID | h | SC-B02-SS01-01 | SC-B02-SB01-78 | SC-B02-SS02-01 | SC-B02-SB02-56 | | | | |
| Sample Date | PAL ^b (ng/g) | 6/11/2018 | 6/11/2018 | 6/13/2018 | 6/13/2018 | | | | |
| Depth (ft bgs) | (119/9) | 0-1 | 7-8 | 0-1 | 5-6 | | | | |
| Perfluorinated Compounds US E | Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.59 U | 0.63 U | 0.57 U | 0.25 J | | | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.67 U | 0.71 U | 0.65 U | 0.29 J | | | | |
| Perfluorohexanesulfonate (PFHxS) | NA | 0.63 U | 0.67 U | 3.5 | 6.8 | | | | |
| Perfluorononanoic acid (PFNA) | NA | 0.67 U | 0.71 U | 0.65 U | 0.73 U | | | | |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 0.64 U | 0.68 U | 45 | 51 | | | | |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.67 U | 0.71 U | 0.27 J | 0.73 J | | | | |

PAL = project action level

Italicized and bolded value indicates screening criterion used

a. United States Environmental Protection Agency (US EPA), May 2016. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004 and 822-R-16-005.

b. US EPA Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

ng/L = nanogram per liter

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-4. Former Hangar 2/Building 10 Sample Results (PRL 6)

| | | Soil | | | | | | | |
|----------------------------------|---|----------------|----------------|----------------|----------------|--|--|--|--|
| Sample ID | 0 | SC-B10-SS01-01 | SC-B10-SB01-34 | SC-B10-SS02-01 | SC-B10-SB02-34 | | | | |
| Sample Date | PAL ^a (ng/g) | 6/11/2018 | 6/11/2018 | 6/11/2018 | 6/11/2018 | | | | |
| Depth (ft bgs) | (119/9) | 0-1 | 3-4 | 0-1 | 3-4 | | | | |
| Perfluorinated Compounds US E | Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.29 J | 0.65 U | 0.72 U | 0.65 U | | | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.71 U | 0.74 U | 0.82 U | 0.74 U | | | | |
| Perfluorohexanesulfonate (PFHxS | NA | 3.7 | 1.5 | 2.4 | 0.69 U | | | | |
| Perfluorononanoic acid (PFNA) | NA | 0.71 U | 0.74 U | 0.82 U | 0.74 U | | | | |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 21 | 6.2 | 19 | 0.70 U | | | | |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.26 J | 0.74 U | 0.82 U | 0.74 U | | | | |

PAL = project action level

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

- a. United States Environmental Protection Agency (US EPA) Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.
- b. Data from monitoring well APR-MW03 were also used to evaluate potential groundwater impacts from Former Hangar 2/Building 10 (PRL 6). See Table 5-12.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-5. Former Hangar 3/Building 11 Sample Results (PRL 7)

| | | Soil | | | | | | | |
|----------------------------------|---|----------------|----------------|----------------|----------------|----------------|----------------|--|--|
| Sample ID | 0 | SC-B11-SS01-01 | SC-B11-SB01-34 | SC-B11-SS02-01 | SC-B11-SB02-34 | SC-B11-SS03-01 | SC-B11-SB03-45 | | |
| Sample Date | PAL ^a (ng/g) | 6/11/2018 | 6/11/2018 | 6/11/2018 | 6/11/2018 | 6/11/2018 | 6/11/2018 | | |
| Depth (ft bgs) | (119/9) | 0-1 | 3-4 | 0-1 | 3-4 | 0-1 | 4-5 | | |
| Perfluorinated Compounds US El | Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.65 U | 0.59 U | 0.41 J | 0.65 U | 0.61 U | 0.74 U | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.74 U | 0.67 U | 0.31 J | 0.32 J | 0.54 J | 0.84 U | | |
| Perfluorohexanesulfonate (PFHxS) | NA | 0.24 J | 0.63 U | 8.3 | 5.1 | 0.89 | 0.79 U | | |
| Perfluorononanoic acid (PFNA) | NA | 0.74 U | 0.67 U | 0.62 J | 0.40 J | 0.40 J | 0.84 U | | |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 0.96 | 0.64 U | 61 | 27 | 10 | 2.7 | | |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.74 U | 0.67 U | 1.4 | 1.3 | 0.92 | 0.84 U | | |

PAL = project action level

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

a. United States Environmental Protection Agency (US EPA) Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-6. Hangar 7/Building 7 Sample Results (PRL 8)

| | | Groundwater | | | |
|---|--------------------|-------------|--|--|--|
| Sample ID | PAL ^{a,b} | SC-B07-MW01 | | | |
| Sample Date | (ng/L) | 7/19/2018 | | | |
| Perfluorinated Compounds US EPA Method 537 Rev 1.1 modified | | | | | |
| Perfluorobutanesulfonate (PFBS) | 400,000 | 85 | | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 210 | | | |
| Perfluorohexanesulfonate (PFHxS | NA | 730 | | | |
| Perfluorononanoic acid (PFNA) | NA | 16 | | | |
| Perfluoro-octanesulfonate (PFOS) | 70 | 3,300 | | | |
| Perfluorooctanoic acid (PFOA) | 70 | 97 | | | |

| | | Soil ^c | | | | | | | | |
|----------------------------------|---|-------------------|----------------|----------------|----------------|--|--|--|--|--|
| Sample ID | h | SC-B07-SS01-01 | SC-B07-SB01-34 | SC-B07-SS02-01 | SC-B07-SB02-45 | | | | | |
| Sample Date | PAL ^b (ng/g) | 6/12/2018 | 6/12/2018 | 6/12/2018 | 6/12/2018 | | | | | |
| Depth (ft bgs) | (119/9) | 0-1 | 3-4 | 0-1 | 4-5 | | | | | |
| Perfluorinated Compounds US E | Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.75 J | 0.65 U | 0.27 J | 0.24 J | | | | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 3.8 | 0.28 J+ | 0.48 J | 0.53 J | | | | | |
| Perfluorohexanesulfonate (PFHxS | NA | 34 | 1.7 J | 3.3 | 4.2 | | | | | |
| Perfluorononanoic acid (PFNA) | NA | 2.1 | 0.74 U | 0.70 U | 0.64 U | | | | | |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 100 | 2.8 J- | 15 | 12 | | | | | |
| Perfluorooctanoic acid (PFOA) | 1,260 | 6.2 | 0.50 J+ | 0.44 J | 0.46 J | | | | | |

PAL = project action level

ng/L = nanogram per liter

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

- b. US EPA Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.
- c. Data from soil boring B08-SB01 were also used to evaluate potential soil impacts from Hangar 7/Building 7 (PRL 8). See Table 5-7.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

J+ = Reported value may not be accurate or precise, but the result may be biased high.

J- = Reported value may not be accurate or precise, but the result may be biased low.

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

a. United States Environmental Protection Agency (US EPA), May 2016. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004 and 822-R-16-005.

Table 5-7. Hangar 8/Building 8 Sample Results (PRL 9)

| | | Soil ^b | | | | |
|---|----------------------------|-------------------|----------------|--|--|--|
| Sample ID | 2 | SC-B08-SS01-01 | SC-B08-SB01-74 | | | |
| Sample Date | PAL ^a (ng/g) | 6/12/2018 | 6/12/2018 | | | |
| Depth (ft bgs) | (1.9/9) | 0-1 | 3-4 | | | |
| Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.59 U | 0.52 J | | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.67 U | 0.25 J | | | |
| Perfluorohexanesulfonate (PFHxS) | NA | 3.5 | 7 | | | |
| Perfluorononanoic acid (PFNA) | NA | 0.67 U | 0.72 U | | | |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 14 | 9.7 | | | |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.55 J | 1.8 | | | |

PAL = project action level

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

- a. United States Environmental Protection Agency (US EPA) Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.
- b. Data from soil boring B12-SB02 were used to evaluate potential soil impacts from Hangar 8/Building 8 (PRL 9). See Table 5-2.
- c. Data from monitoring wells B02-MW01 and B07-MW01 were used to evaluate potential groundwater impacts from Hangar 8/Building 8 (PRL 9). See Tables 5-3 and 5-6.

Data Qualifiers: J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-8. Building 3 (Base Supply Warehouse) Sample Results (PRL 10)

| | | - | | | | | | | |
|---|----------------------------|----------------|----------------|----------------|----------------|------------------------------|--|--|--|
| | | Soil | | | | | | | |
| Sample ID | 0 | SC-B03-SS01-01 | SC-B03-SB01-34 | SC-B03-SS02-01 | SC-B03-SB02-23 | SC-B03-SS02-01D ^b | | | |
| Sample Date | PAL ^a (ng/g) | 6/13/2018 | 6/13/2018 | 6/13/2018 | 6/13/2018 | 6/13/2018 | | | |
| Depth (ft bgs) | (119/9) | 0-1 | 3-4 | 0-1 | 2-3 | NA | | | |
| Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.52 J | 0.62 U | 0.57 U | 0.65 U | 0.63 U | | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 3.4 | 0.85 | 0.65 U | 0.74 U | 0.71 U | | | |
| Perfluorohexanesulfonate (PFHxS | NA | 16 | 1.3 | 0.61 U | 0.69 U | 0.67 U | | | |
| Perfluorononanoic acid (PFNA) | NA | 0.76 J | 0.71 U | 0.65 U | 0.74 U | 0.71 U | | | |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 30 | 5.1 | 2 J+ | 1.4 | 2 J+ | | | |
| Perfluorooctanoic acid (PFOA) | 1,260 | 7.6 | 1 | 0.29 J | 0.35 J | 0.31 J | | | |

PAL = project action level

ng/L = nanogram per liter

ng/g = nanogram per gram

NA = Not applicable

D = Duplicate sample

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

- a. United States Environmental Protection Agency (US EPA) Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.
- b. Sample name is "SC-B03-DUP03" in the laboratory analytical report.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

J+ = Reported value may not be accurate or precise, but the result may be biased high.

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-9. Building 35 (Vehicle Maintenance) Sample Results (PRL 12)

| | | Groundwater |
|----------------------------------|--------------------|--------------|
| Sample ID | PAL ^{a,b} | SC-B35-MW01 |
| Sample Date | (ng/L) | 7/20/2018 |
| Perfluorinated Compounds US E | PA Method 537 Rev | 1.1 modified |
| Perfluorobutanesulfonate (PFBS) | 400,000 | 34 |
| Perfluoroheptanoic acid (PFHpA) | NA | 15 |
| Perfluorohexanesulfonate (PFHxS) | NA | 69 |
| Perfluorononanoic acid (PFNA) | NA | 1.6 U* |
| Perfluoro-octanesulfonate (PFOS) | 70 | 32 |
| Perfluorooctanoic acid (PFOA) | 70 | 12 U* |

| | | Soil | | | | | |
|---|----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Sample ID | h | SC-B35-SS01-01 | SC-B35-SB01-23 | SC-B35-SS02-01 | SC-B35-SB02-34 | SC-B35-SS03-01 | SC-B35-SB03-56 |
| Sample Date | PAL ^b (ng/g) | 6/13/2018 | 6/13/2018 | 6/13/2018 | 6/13/2018 | 6/13/2018 | 6/13/2018 |
| Depth (ft bgs) | (119/9) | 0-1 | 2-3 | 0-1 | 3-4 | 0-1 | 5-6 |
| Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.61 U | 0.49 J | 0.66 U | 0.61 U | 0.60 U | 0.61 U |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.69 U | 0.63 J | 0.75 U | 0.70 U | 0.68 U | 0.69 U |
| Perfluorohexanesulfonate (PFHxS) | NA | 0.65 U | 3 | 0.70 U | 0.66 U | 0.64 U | 0.65 U |
| Perfluorononanoic acid (PFNA) | NA | 0.69 U | 0.71 U | 0.75 U | 0.70 U | 0.68 U | 0.69 U |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 5.8 | 6.8 | 0.71 U | 0.67 U | 0.88 | 0.66 U |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.69 U | 0.50 J | 0.75 U | 0.70 U | 0.20 J | 0.69 U |

PAL = project action level

ng/L = nanogram per liter

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

a. United States Environmental Protection Agency (US EPA), May 2016. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004 and 822-R-16-005.

b. US EPA Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-10. IRP Site 3 (Drum Burial Area) Sample Results (PRL 15)

| | | Groun | dwater | | |
|---|--------------------|----------------------------|--------------|--|--|
| Sample ID | PAL ^{a,b} | SC-IRP3-MW01D ^c | SC-IRP3-MW01 | | |
| Sample Date | (ng/L) | 7/19/2018 | 7/19/2018 | | |
| Perfluorinated Compounds US EPA Method 537 Rev 1.1 modified | | | | | |
| Perfluorobutanesulfonate (PFBS) | 400,000 | 56 | 56 | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 53 | 52 | | |
| Perfluorohexanesulfonate (PFHxS | NA | 450 | 460 | | |
| Perfluorononanoic acid (PFNA) | NA | 9.5 | 9.9 | | |
| Perfluoro-octanesulfonate (PFOS) | 70 | 970 | 960 | | |
| Perfluorooctanoic acid (PFOA) | 70 | 100 | 99 | | |

| | | Soil | | | | | | |
|----------------------------------|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|
| Sample ID | h | SC-IRP3-SS01-01 | SC-IRP3-SB01-34 | SC-IRP3-MW01-01 | SC-IRP3-MW01-45 | SC-IRP3-SS02-01 | SC-IRP3-SB02-45 | SC-IRP3-MW01-45Dd |
| Sample Date | PAL ^b (ng/g) | 6/12/2018 | 6/12/2018 | 6/12/2018 | 6/12/2018 | 6/12/2018 | 6/12/2018 | 6/12/2018 |
| Depth (ft bgs) | (1.9/9) | 0-1 | 3-4 | 0-1 | 4-5 | 0-1 | 4-5 | NA |
| Perfluorinated Compounds US E | Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.60 U | 0.63 U | 0.63 U | 0.69 U | 0.64 U | 0.65 U | 0.64 U |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.69 U | 0.71 U | 0.72 U | 0.78 U | 0.73 U | 0.74 U | 0.72 U |
| Perfluorohexanesulfonate (PFHxS | NA | 0.48 J | 2.6 | 0.67 U | 0.74 U | 0.41 J | 4.5 | 0.68 U |
| Perfluorononanoic acid (PFNA) | NA | 0.69 U | 0.71 U | 0.72 U | 0.78 U | 0.73 U | 0.74 U | 0.72 U |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 0.33 J | 17 | 0.23 J | 0.70 J | 0.57 J | 31 | 0.22 J |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.69 U | 0.97 | 0.72 U | 0.54 J | 0.73 U | 1.2 | 0.72 U |

PAL = project action level

ng/L = nanogram per liter

ng/g = nanogram per gram

NA = Not applicable

D = Duplicate sample

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

- a. United States Environmental Protection Agency (US EPA), May 2016. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004 and 822-R-16-005.
- b. US EPA Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.
- c. Sample name is "DUP-01" in the laboratory analytical report.
- d. Sample name is "SC-IRP3-DUP02" in the laboratory analytical report.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-11. Former Sewage Treatment Plant Sample Results (PRL 16)

| | | Groundwater | | | |
|---|--------------------|-------------|-----------|--|--|
| Sample ID | PAL ^{a,b} | SC-6MW-24 | SC-6MW-20 | | |
| Sample Date | (ng/L) | 7/19/2018 | 7/19/2018 | | |
| Perfluorinated Compounds US EPA Method 537 Rev 1.1 modified | | | | | |
| Perfluorobutanesulfonate (PFBS) | 400,000 | 90 | 24 | | |
| Perfluoroheptanoic acid (PFHpA) | NA | 70 | 15 | | |
| Perfluorohexanesulfonate (PFHxS | NA | 520 | 97 | | |
| Perfluorononanoic acid (PFNA) | NA | 14 | 1.5 U* | | |
| Perfluoro-octanesulfonate (PFOS) | 70 | 790 | 110 | | |
| Perfluorooctanoic acid (PFOA) | 70 | 95 | 17 U* | | |

| | | Soil | | | | | |
|---|----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Sample ID | b | SC-WTP-SS01-01 | SC-WTP-SB01-34 | SC-WTP-SS02-01 | SC-WTP-SB02-23 | SC-WTP-SS03-01 | SC-WTP-SB03-34 |
| Sample Date | PAL ^b (ng/g) | 6/12/2018 | 6/12/2018 | 6/12/2018 | 6/12/2018 | 6/12/2018 | 6/12/2018 |
| Depth (ft bgs) | (119/9) | 0-1 | 3-4 | 0-1 | 2-3 | 0-1 | 3-4 |
| Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.63 U | 0.33 J | 0.63 U | 0.67 U | 0.63 U | 0.69 U |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.40 J | 0.71 J | 0.71 U | 0.76 U | 0.70 J | 0.30 J |
| Perfluorohexanesulfonate (PFHxS | NA | 5.8 | 11 | 1.3 | 0.45 J | 7.4 | 2.8 |
| Perfluorononanoic acid (PFNA) | NA | 0.79 J | 0.96 | 0.71 U | 0.76 U | 0.99 | 0.61 J |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 100 | 64 | 1 | 0.72 U | 39 | 24 |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.97 | 2.1 | 0.60 J | 0.39 J | 2.7 | 1.2 |

PAL = project action level

ng/L = nanogram per liter

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

a. United States Environmental Protection Agency (US EPA), May 2016. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004 and 822-R-16-005.

b. US EPA Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-12. Apron Sample Results (PRL 17)

| | | Groundwater | | | |
|---|--------------------|-------------|-------------|---------------------------|--|
| Sample ID | PAL ^{a,b} | SC-APR-MW01 | SC-APR-MW03 | SC-APR-MW01D ^c | |
| Sample Date | (ng/L) | 7/20/2018 | 7/20/2018 | 7/20/2018 | |
| Perfluorinated Compounds US EPA Method 537 Rev 1.1 modified | | | | | |
| Perfluorobutanesulfonate (PFBS) | 400,000 | 3.3 U* | 14 J+ | 3.3 J | |
| Perfluoroheptanoic acid (PFHpA) | NA | 5.1 U* | 49 | 5.2 U* | |
| Perfluorohexanesulfonate (PFHxS) | NA | 13 | 250 | 13 | |
| Perfluorononanoic acid (PFNA) | NA | 2.0 U | 13 | 2.0 U | |
| Perfluoro-octanesulfonate (PFOS) | 70 | 23 | 74 | 24 | |
| Perfluorooctanoic acid (PFOA) | 70 | 7.7 U* | 95 | 7.6 U* | |

| | | | | | Soil ^e | | | |
|----------------------------------|----------------------------|----------------|----------------|----------------|-------------------|----------------|----------------|------------------|
| Sample ID | h | SC-APR-SS01-01 | SC-APR-SB01-45 | SC-APR-SS02-01 | SC-APR-SB02-45 | SC-APR-SS03-01 | SC-APR-SB03-45 | SC-APR-SS03-01Dd |
| Sample Date | PAL ^b (ng/g) | 6/11/2018 | 6/11/2018 | 6/11/2018 | 6/11/2018 | 6/11/2018 | 6/11/2018 | 6/11/2018 |
| Depth (ft bgs) | (119/9) | 0-1 | 4-5 | 0-1 | 4-5 | 0-1 | 4-5 | NA |
| Perfluorinated Compounds US EF | PA Method 537 Rev | 1.1 Modified | | | | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.62 U | 0.61 U | 0.62 U | 0.61 U | 0.67 U | 0.62 U | 0.70 U |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.70 U | 0.69 U | 0.58 J | 0.69 U | 0.76 U | 0.70 U | 0.37 J |
| Perfluorohexanesulfonate (PFHxS) | NA | 0.22 J | 0.65 U | 0.76 J | 0.65 U | 1.7 | 0.43 J | 3.7 |
| Perfluorononanoic acid (PFNA) | NA | 0.70 U | 0.69 U | 0.70 U | 0.69 U | 0.76 U | 0.70 U | 0.67 J |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 1.6 | 0.66 U | 0.46 J | 0.66 U | 2.1 J | 0.67 U | 14 J |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.70 U | 0.69 U | 0.37 J | 0.69 U | 0.75 J | 0.70 U | 1.5 |

PAL = project action level

ng/L = nanogram per liter

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

- * = Reported value changed to non-detect at elevated quantitation limit due to a blank detection
- a. United States Environmental Protection Agency (US EPA), May 2016. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004 and 822-R-16-005.
- b. US EPA Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.
- c. Sample name is "DUP02" in the laboratory analytical report.
- d. Sample name is "SC-APR-DUP01" in the laboratory analytical report.
- e. Data from soil borings B10-SB01, B10-SB02, and B11-SB03 were used to evaluate potential soil impacts from the Apron (PRL 17). See Tables 5-4 and 5-5.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

J+ = Reported value may not be accurate or precise, but the result may be biased high.

Table 5-13. Drainage Ditch Sample Results (PRL 18)

| | | Surface Water ^{c,d} |
|----------------------------------|--------------------|------------------------------|
| Sample ID | PAL ^{a,b} | SC-DRD-SW01 |
| Sample Date | (ng/L) | 7/19/2018 |
| Perfluorinated Compounds US | EPA Method 537 Rev | / 1.1 modified |
| Perfluorobutanesulfonate (PFBS) | 400,000 | 39 |
| Perfluoroheptanoic acid (PFHpA) | NA | 55 |
| Perfluorohexanesulfonate (PFHxS | NA | 320 |
| Perfluorononanoic acid (PFNA) | NA | 8 |
| Perfluoro-octanesulfonate (PFOS) | 70 | 630 |
| Perfluorooctanoic acid (PFOA) | 70 | 64 |

| | | Sediment ^{c,d} |
|----------------------------------|----------------------------|-------------------------|
| Sample ID | h | SC-DRD-SD01 |
| Sample Date | PAL ^b (ng/g) | 7/19/2018 |
| Depth (ft bgs) | (119/9) | NA |
| Perfluorinated Compounds US | EPA Method 537 Rev | / 1.1 Modified |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.72 U |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.81 U |
| Perfluorohexanesulfonate (PFHxS | NA | 0.58 J |
| Perfluorononanoic acid (PFNA) | NA | 0.81 U |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 5.6 J- |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.81 U |

PAL = project action level

ng/L = nanogram per liter

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

- * = Reported value changed to non-detect at elevated quantitation limit due to a blank detection
- a. United States Environmental Protection Agency (US EPA), May 2016. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004 and 822-R-16-005.
- b. US EPA Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.
- c. Since there are no PALs specific to surface water and sediment, those media were evaluated using soil (sediment) and groundwater (surface water) screening criteria.
- d. Data from sediment and surface water samples OF1-SD01, OF3-SD01, OF3-SW01, OF4-SD01, OF4-SW01, OF5-SD01, and OF5-SW01 were included to characterize potential impacts to the Drainage Ditch base drainage water (PRL 18). See Tables 5-14 and 5-16 through 5-18.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

J-= Reported value may not be accurate or precise, but the result may be biased low.

Table 5-14. Outfall 001 Sample Results (PRL 19)

| | | Sediment ^b |
|----------------------------------|----------------------------|-----------------------|
| Sample ID | 5.1.3 | SC-OF1-SD01 |
| Sample Date | PAL ^a (ng/g) | 7/20/2018 |
| Depth (ft bgs) | (1.9/9) | NA |
| Perfluorinated Compounds US El | .1 Modified | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.73 U |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.82 U |
| Perfluorohexanesulfonate (PFHxS) | NA | 0.86 J |
| Perfluorononanoic acid (PFNA) | NA | 0.82 U |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 12 |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.82 U |

PAL = project action level

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

a. United States Environmental Protection Agency (US EPA) Regional Screening Levels (RSLs), November 2018. Soil PALs were calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.

b. Since there are no PALs specific to sediment, this medum was evaluated using US EPA soil RSLs.

Data Qualifiers: J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-15. Outfall 002 Sample Results (PRL 20)

| | | Sediment ^b | |
|---|----------------------------|-----------------------|--|
| Sample ID | a | SC-OF2-SD01 | |
| Sample Date | PAL ^a (ng/g) | 7/20/2018 | |
| Depth (ft bgs) | (1.9/9) | NA | |
| Perfluorinated Compounds US EPA Method 537 Rev 1.1 Modified | | | |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.73 U | |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.38 J | |
| Perfluorohexanesulfonate (PFHxS) | NA | 0.36 J | |
| Perfluorononanoic acid (PFNA) | NA | 0.30 J | |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 5.7 | |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.53 J | |

PAL = project action level

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

a. United States Environmental Protection Agency (US EPA) Regional Screening Levels (RSLs), November 2018. Soil PALs were calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.

b. Since there are no PALs specific to sediment, this medum was evaluated using US EPA soil RSLs.

Data Qualifiers: J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-16. Outfall 003 Sample Results (PRL 21)

| | | Surface Water ^c |
|----------------------------------|--------------------|----------------------------|
| Sample ID | PAL ^{a,b} | SC-OF3-SW01 |
| Sample Date | (ng/L) | 7/20/2018 |
| Perfluorinated Compounds US E | EPA Method 537 Rev | 1.1 modified |
| Perfluorobutanesulfonate (PFBS) | 400,000 | 39 |
| Perfluoroheptanoic acid (PFHpA) | NA | 40 |
| Perfluorohexanesulfonate (PFHxS | NA | 280 |
| Perfluorononanoic acid (PFNA) | NA | 4.9 |
| Perfluoro-octanesulfonate (PFOS) | 70 | 340 |
| Perfluorooctanoic acid (PFOA) | 70 | 40 |

| | | Sediment ^c |
|----------------------------------|----------------------------|-----------------------|
| Sample ID | h | SC-OF3-SD01 |
| Sample Date | PAL ^b (ng/g) | 7/20/2018 |
| Depth (ft bgs) | (1.9/9/ | NA |
| Perfluorinated Compounds US I | EPA Method 537 Rev | 1.1 Modified |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 1.8 U |
| Perfluoroheptanoic acid (PFHpA) | NA | 2.0 U |
| Perfluorohexanesulfonate (PFHxS | NA | 0.85 J |
| Perfluorononanoic acid (PFNA) | NA | 2.0 U |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 8.3 |
| Perfluorooctanoic acid (PFOA) | 1,260 | 2.0 U |

PAL = project action level

ng/L = nanogram per liter

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

a. United States Environmental Protection Agency (US EPA), May 2016. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004 and 822-R-16-005.

b. US EPA Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.

c. Since there are no PALs specific to surface water and sediment, those media were evaluated using soil (sediment) and groundwater (surface water) screening criteria.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-17. Outfall 004 Sample Results (PRL 22)

| | | Surface Water ^c |
|----------------------------------|--------------------|----------------------------|
| Sample ID | PAL ^{a,b} | SC-OF4-SW01 |
| Sample Date | (ng/L) | 7/20/2018 |
| Perfluorinated Compounds US E | PA Method 537 Rev | 1.1 modified |
| Perfluorobutanesulfonate (PFBS) | 400,000 | 18 |
| Perfluoroheptanoic acid (PFHpA) | NA | 9.3 U* |
| Perfluorohexanesulfonate (PFHxS) | NA | 130 |
| Perfluorononanoic acid (PFNA) | NA | 1.7 U* |
| Perfluoro-octanesulfonate (PFOS) | 70 | 190 |
| Perfluorooctanoic acid (PFOA) | 70 | 10 U* |

| | | Sediment ^c |
|----------------------------------|----------------------------|-----------------------|
| Sample ID | h | SC-OF4-SD01 |
| Sample Date | PAL ^b (ng/g) | 7/20/2018 |
| Depth (ft bgs) | (1.9/9) | NA |
| Perfluorinated Compounds US E | PA Method 537 Rev | 1.1 Modified |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.73 U |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.42 J |
| Perfluorohexanesulfonate (PFHxS) | NA | 0.59 J |
| Perfluorononanoic acid (PFNA) | NA | 0.53 J |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 5.2 |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.95 J |

PAL = project action level

ng/L = nanogram per liter

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

a. United States Environmental Protection Agency (US EPA), May 2016. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004 and 822-R-16-005.

b. US EPA Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.

c. Since there are no PALs specific to surface water and sediment, those media were evaluated using soil (sediment) and groundwater (surface water) screening criteria.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 5-18. Outfall 005 Sample Results (PRL 23)

| | | Surface Water ^c |
|----------------------------------|--------------------|----------------------------|
| Sample ID | PAL ^{a,b} | SC-OF5-SW01 |
| Sample Date | (ng/L) | 7/20/2018 |
| Perfluorinated Compounds US E | PA Method 537 Rev | 1.1 modified |
| Perfluorobutanesulfonate (PFBS) | 400,000 | 9.9 |
| Perfluoroheptanoic acid (PFHpA) | NA | 15 |
| Perfluorohexanesulfonate (PFHxS) | NA | 72 |
| Perfluorononanoic acid (PFNA) | NA | 2.6 |
| Perfluoro-octanesulfonate (PFOS) | 70 | 63 |
| Perfluorooctanoic acid (PFOA) | 70 | 13 U* |

| | | Sediment ^c |
|----------------------------------|----------------------------|-----------------------|
| Sample ID | h | SC-OF5-SD01 |
| Sample Date | PAL ^b (ng/g) | 7/20/2018 |
| Depth (ft bgs) | (1.9/9) | NA |
| Perfluorinated Compounds US E | PA Method 537 Rev | 1.1 Modified |
| Perfluorobutanesulfonate (PFBS) | 1.26x10^6 | 0.70 U |
| Perfluoroheptanoic acid (PFHpA) | NA | 0.80 U |
| Perfluorohexanesulfonate (PFHxS) | NA | 0.75 U |
| Perfluorononanoic acid (PFNA) | NA | 0.80 U |
| Perfluoro-octanesulfonate (PFOS) | 1,260 | 0.46 J |
| Perfluorooctanoic acid (PFOA) | 1,260 | 0.80 U |

PAL = project action level

ng/L = nanogram per liter

ng/g = nanogram per gram

NA = Not applicable

Bold value indicates analyte detected above screening level

Italicized and bolded value indicates screening criterion used

- a. United States Environmental Protection Agency (US EPA), May 2016. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. EPA Document Number: 822-R-16-004 and 822-R-16-005.
- b. US EPA Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator. The RSLs are protective of a residential receptor and a target hazard quotient = 1.0.
- c. Since there are no PALs specific to surface water and sediment, those media were evaluated using soil (sediment) and groundwater (surface water) screening criteria.

Data Qualifiers:

J = Estimated concentration

U = Not detected at concentration shown

^{* =} Reported value changed to non-detect at elevated quantitation limit due to a blank detection

Table 6. Relevant Data Quality Objectives

| PRL | PRL | Compounds | | | | | |
|-----|--|----------------------------|--|--|--|--|--|
| No. | Description | Above PALs | Sampling Recommendation(s) and Objectives | | | | |
| 3 | Building 31 (Current Fire Station) | None | Soil: Although PALs were not exceeded, PFAS were detected in soil sample Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature a extent in the vertical and horizontal directions given the potential for soil to groundwater migration. | | | | |
| 4 | Building 12 (Former Fire Station) | | Groundwater: Since installed monitoring wells B31-MW01 (PRL 3), B12-MW01 (PRL 4) were dry at the time of sampling and PFAS were detected in soil samples, perform groundwater sampling to determine the presence or absence of PFAS in groundwater. | | | | |
| 5 | Hangar 1 / Building 2 | Groundwater: PFOS, PFOA | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. Groundwater: Determine the nature and extent both vertically and horizontally | | | | |
| | | | through the sampling of existing and additional new monitoring wells. | | | | |
| 6 | Former Hangar 2 / Building 10 | Groundwater: PFOS, PFOA | <u>Soil:</u> Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. | | | | |
| | , Dullulling 10 | | Groundwater: Groundwater results from SC-APR-MW03 (PRL 17) were also used to evaluate PRL 6. Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells. | | | | |
| 7 | Former Hangar 3 / Building 11 | None | <u>Soil:</u> Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. | | | | |
| | | | Groundwater: Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells. | | | | |
| 8 | Hangar 7 / Building 7 | Groundwater: PFOS, PFOA | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. | | | | |
| | | | Groundwater: Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells. | | | | |
| 9 | Hangar 8 / Building 8 | None | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. | | | | |
| 10 | Building 3 (Base Supply Warehouse) | <u>None</u> | Soil: Although PALs were not exceeded, PFAS were detected in soil sample. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature extent in the vertical and horizontal directions given the potential for soil to groundwater migration. Groundwater: Determine the nature and extent both vertically and horizontal through the sampling of existing and additional new monitoring wells. | | | | |
| 12 | Building 35 (Vehicle Maintenance) | None | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. Groundwater: Although PALs were not exceeded, PFAS were detected in groundwater; applied in proposed. | | | | |
| | | | groundwater samples. Therefore, additional groundwater sampling is proposed to better define potential groundwater impacts both vertically and horizontally through the sampling of existing and additional new monitoring wells. | | | | |

Table 6. Relevant Data Quality Objectives

| PRL | PRL | Compounds | Sampling Recommendation(s) and Objectives | | |
|-----|----------------------------------|----------------------------|--|--|--|
| No. | Description | Above PALs | Camping (Commonwell) | | |
| 15 | IRP Site 3 (Drum Burial Area) | 0 | Soil: Although PALs were not exceeded, PFAS were detected in soil samples. Therefore, additional surface and subsurface soil samples are proposed to | | |
| 16 | Former Sewage Treatment Plant | Groundwater: PFOS, PFOA | determine if an unidentified source exists and if so, to determine the nature and extent in the vertical and horizontal directions given the potential for soil to groundwater migration. | | |
| 17 | Apron | | Groundwater: Determine the nature and extent both vertically and horizontally through the sampling of existing and additional new monitoring wells. | | |
| 18 | Drainage Ditch | Surface Water: PFOS | Surface Water and Sediment: Although PALs were not exceeded in the sediment sample, PFAS were detected. Therefore, additional surface water and sediment sampling downstream beyond the base boundary is proposed to determine the extent of surface water and sediment impacts, and support the evaluation of whether there are unacceptable risks to ecological or human health receptors. | | |
| 19 | Outfall 001 | | Surface Water and Sediment: Conditions were dry at the time of sampling | | |
| 20 | Outfall 002 | None | therefore surface water sampling was not conducted during the SI. Although PALs were not exceeded, PFAS were detected in the sediment sample. Therefore, additional surface water and sediment sampling downstream beyond the base boundary is proposed to determine the extent of surface water and sediment impacts, and support the evaluation of whether there are unacceptable risks to ecological or human health receptors. | | |
| 21 | Outfall 003 | | Surface Water and Sediment: Although PALs were not exceeded in the | | |
| 22 | Outfall 004 | Surface Water: PFOS | sediment, PFAS were detected. Therefore, additional surface water and sediment sampling downstream beyond the base boundary is proposed to determine the extent of surface water and sediment impacts, and support the evaluation of whether there are unacceptable risks to ecological or human health receptors. | | |
| 23 | 23 Outfall 005 None | | Surface Water and Sediment: Although PALs were not exceeded, PFAS were detected in surface water and sediment samples. Therefore, additional surface water and sediment sampling downstream beyond the base boundary is proposed to determine the extent of surface water and sediment impacts, and support the evaluation of whether there are unacceptable risks to ecological or human health receptors. | | |
| | PRL 2 (Current FTA) | | Although the PA recommended this location for No Further Action, it should be included in further supplemental investigation, per New York State Department of Environmental Conservation Work Plan approval letter dated June 12, 2018. | | |
| | General | | Groundwater: (1) Collect additional groundwater samples in upgradient locations to quantify potential PFAS in upgradient sources; (2) collect additional groundwater samples off-base from a limited number of new monitoring wells to assess the nature and extent of PFAS impacts beyond the base boundary. | | |

Table 7-1. Summary of SI Maximum Sampling Results Exceeding PALs

| PRL | | | Result Exceeding PAL a,b,c | | |
|--------|------------------------------------|---------------|----------------------------|--------------|------|
| Number | PRL Name | Media | PFOS | PFOA | PFBS |
| 3 | Building 31 (Current Fire Station) | Soil | | | |
| 4 | Building 12 (Former Fire Station) | Soil | | | |
| 5 | Hangar 1 / Building 2 | Soil | | | |
| | 0 | Groundwater | 5, 300 ng/L | 310 ng/L | |
| 6 | Former Hangar 2 / Building 10 | Soil | | | |
| 7 | Former Hangar 3 / Building 11 | Soil | | | |
| 8 | Hongar 7 / Building 7 | Soil | | | |
| 0 | Hangar 7 / Building 7 | Groundwater | 3,300 ng/L | 97 ng/L | |
| 9 | Hangar 8 / Building 8 | Soil | | | |
| 10 | Building 3 (Base Supply Warehouse) | Soil | | | |
| | Building 35 (Vehicle | Soil | | | |
| 12 | Maintenance) | Groundwater | Combined total the F | | |
| 15 | IRP Site 3 (Drum Burial | Soil | | | |
| 10 | Area) ^d | Groundwater | 970 ng/L | 100 ng/L | |
| 16 | Former Sewage Treatment | Soil | | | |
| 10 | Plant | Groundwater | 790 ng/L | 95 ng/L | |
| 17 | Apron | Soil | | | |
| 17 | Аргоп | Groundwater | 74 ng/L | 95 ng/L | |
| 18 | Drainage Ditch | Sediment | | | |
| | - | Surface Water | 630 ng/L | | |
| 19 | Outfall 001e | Sediment | | | |
| 20 | Outfall 002e | Sediment | | | |
| 21 | Outfall 003 | Sediment | | | |
| | | Surface Water | 340 ng/L | | |
| 22 | Outfall 004 | Sediment | " | | |
| | | Surface Water | 190 ng/L | | |
| 23 | Outfall 005 | Sediment | | | |
| NΙΛ | Page Poundant Wallet | Surface Water | 070 ng/l | 100 pg/l | |
| NA | Base Boundary Wellsf | Groundwater | 970 ng/L | 100 ng/L | |

| | | | _ | | - h - |
|--------|----------|-------|---------------------------------------|------|-------|
| PRL | | | Result Exceeding PAL ^{a,b,c} | | |
| Number | PRL Name | Media | PFOS | PFOA | PFBS |

Note: IRP Site 1 (Fire Training Area 1) (PRL 1), Current FTA (PRL 2), Building 25 (Civil Engineering) (PRL 11), Building 46 (Hazmart Pharmacy) (PRL 13), and Building 53 (RRR Garage) (PRL 14) were recommended for NFA during the Preliminary Assessment (BB&E, 2016).

Table ES-1 lists the compounds that exceed the following PALs. Compounds without PALs are included in Tables in Appendix B.

| | Groundwater and Surface Water | Soil and Sediment |
|-------------|-------------------------------|------------------------|
| Compound | (ng/L) | (ng/g) |
| PFOS | 70 | 1,260 |
| PFOA | 70 | 1,260 |
| PFOS + PFOA | 70 | NA |
| PFBS | 400,000 | 1.26 x 10 ⁶ |

- (a) US EPA, 2016a,b. Drinking Water Health Advisory for PFOS and PFOA. Office of Water (4304T). Health and Ecological Criteria Division, Washington, DC 20460. US EPA Document Number: 822-R-16-005. May 2016.
- (b) US EPA, 2016c. Fact Sheet, PFOA & PFOS Drinking Water Health Advisories. November 2016. https://www.epa.gov/sites/production/files/2016-06/documents/drinkingwaterhealthadvisories pfoa pfos updated 5.31.16.pdf as accessed on 13 May 2018.
- (c) US EPA, 2018. Regional Screening Levels (RSLs), November 2018. PFBS groundwater PAL based on RSL for tap water. Soil PALs calculated using the RSL calculator that are protective of a residential receptor and a THQ = 1.0.
- (d) Monitoring wells associated with this PRL served as base boundary wells to characterize groundwater impacts at the base boundary.
- (e) A co-located sediment and surface water sample was to be collected at Outfall 001 (PRL 19) and Outfall 002 (PRL 20); however, a surface water sample was not collected at PRLs 19 and 20 because it was not present in the outfall at the time of sampling.
- (f) Monitoring well IRP3-MW01 is located at the base boundary and was used to characterize groundwater impacts at the base boundary and to evaluate off-base migration. Analytical results for this well are included in the PRL-specific

-- indicates the compound was not detected above the PAL

FTA = Fire Training Area

IRP = Installation Restoration Program

NA = Not Applicable

NFA = no further action

ng/g = nanograms per gram

ng/L = nanograms per liter

PAL = project action level

POL = petroleum, oil, and lubricant

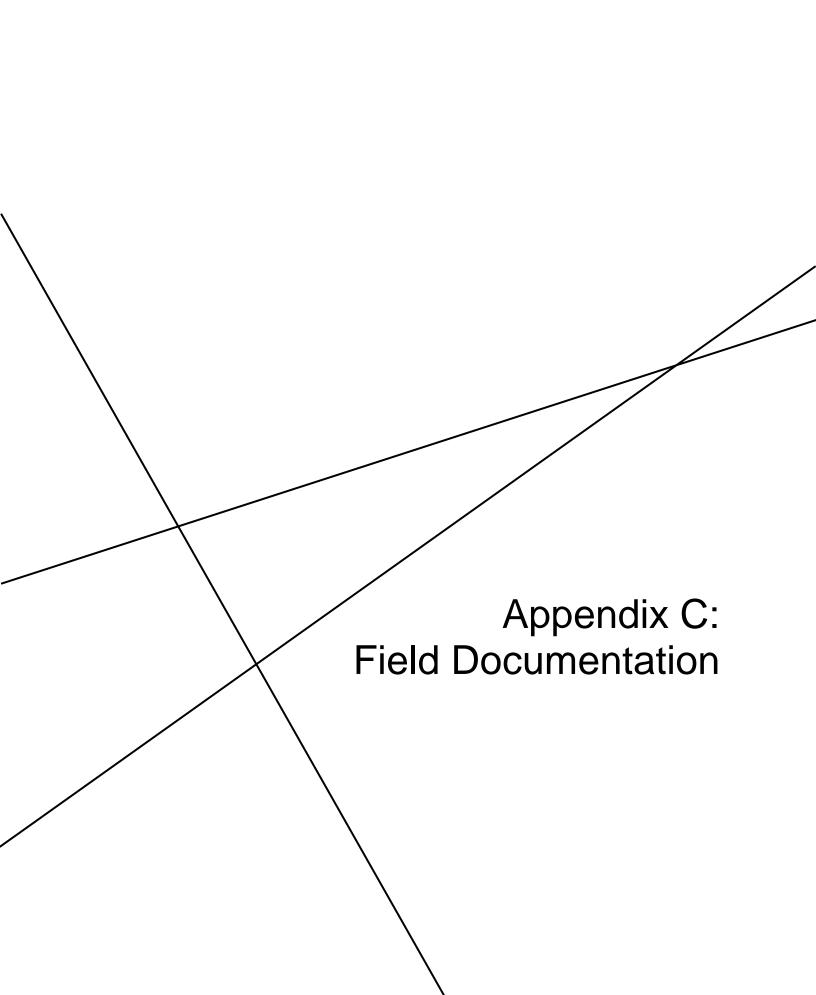
PFBS = Perfluorobutanesulfonate

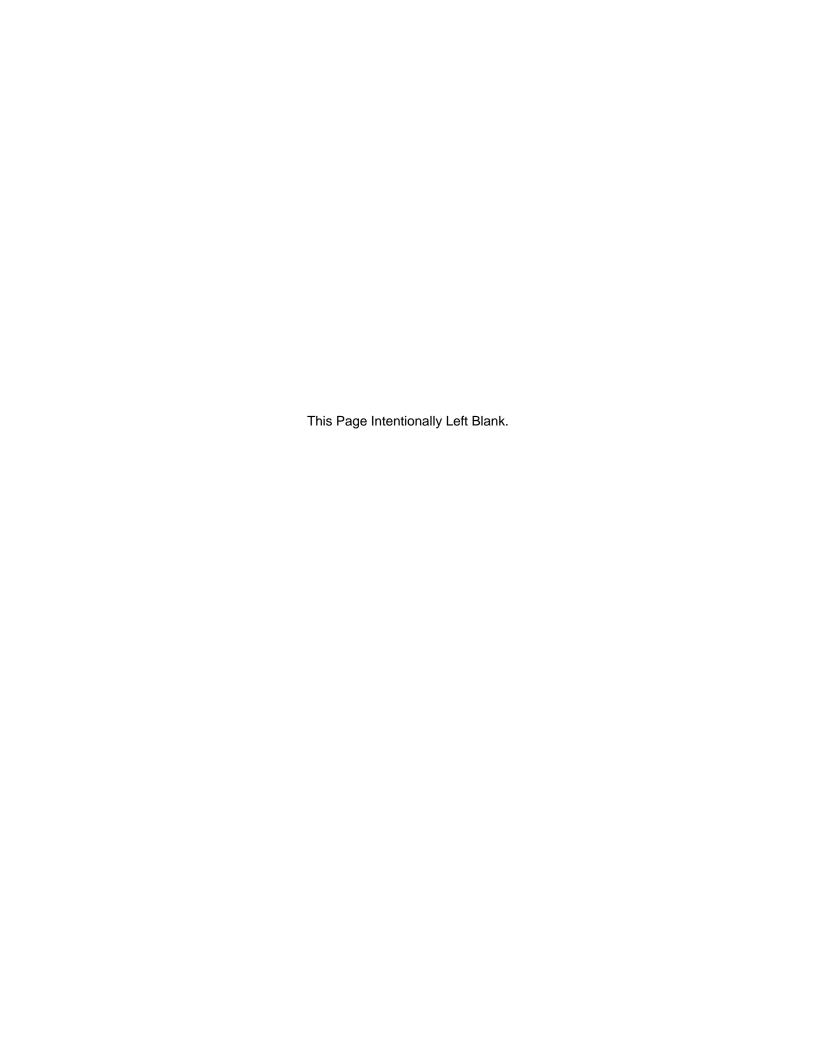
PFOA = Perfluorooctanoic acid

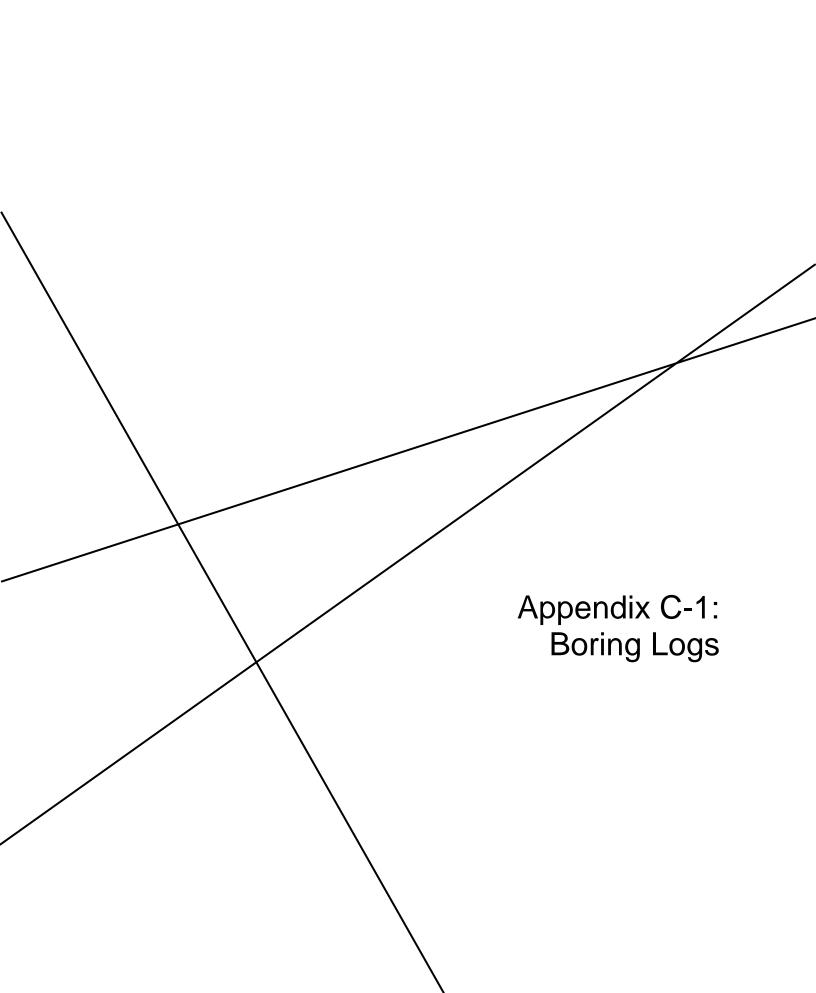
PFOS = Perfluoro-octanesulfonate

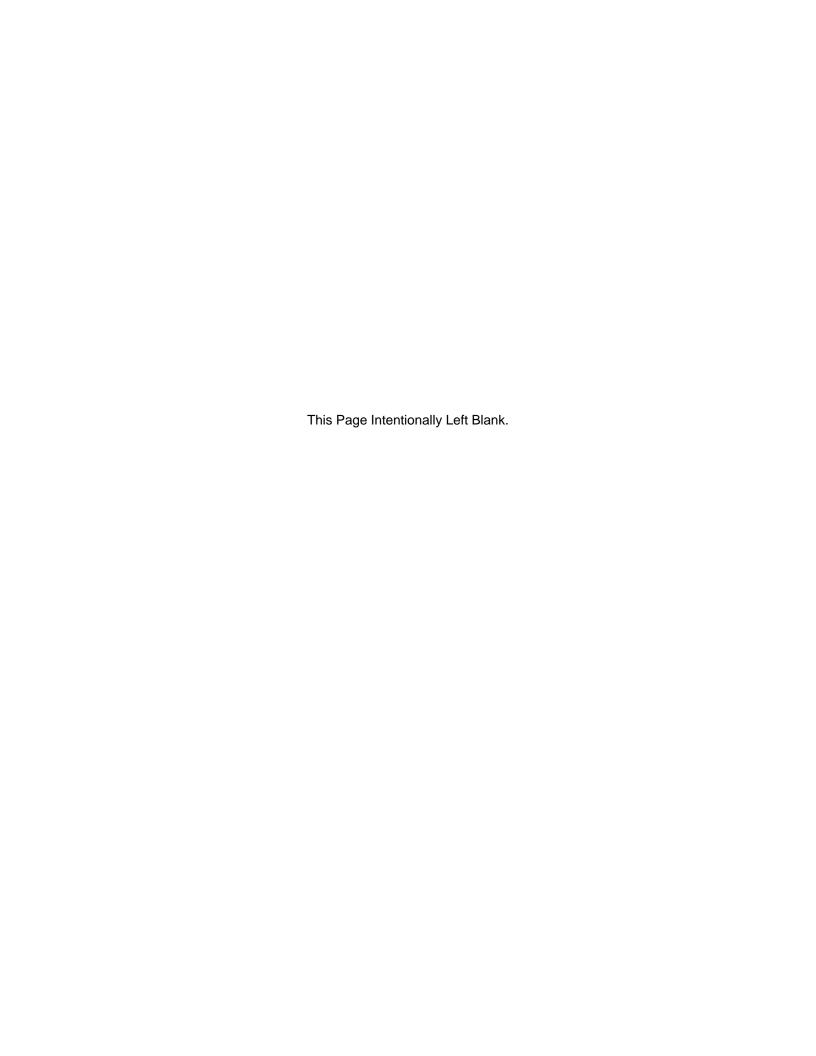
PRL = potential release location RRR = Rapid Runway Repair

THQ = target hazard quotient











| Proje | ect Name: ANGB PFAS Site | e: Building | g 12 (Fo | ormer | Fire S | Station | n) | | | Hole | ID: SC-B12-MW01 | |
|--|---|-------------|----------|----------------------|------------------------|---------|------------|-------------|---------|--------------|--|--|
| Proje | ect Number: 60520893 | Northing: | 1464 | 1461.4 | 46 | | | | | Total I | Total Depth (feet): 9.0 | |
| Drilli | ing Contractor: Cascade Drilling | Easting: | 64763 | 39.20 | | | | | | Date / T | Time Started: 6/13/2018 / 0815 | |
| Drille | er: J.Buley | Elevation | (feet M | SL): | G | Froun | d: | 331.08 | | Date / T | Fime Finished: 6/13/2018 / 0830 | |
| Drilli | ng Equipment: Geoprobe 8140LS | ▼ Water I | Depth I | During | g Drilli | ing (f | t bgs |): not ob | served | Date / 7 | Fime Completed: 6/15/2018 / | |
| Drilli | ng Method: Direct Push | Logged By | y: R.N | AcCre | eady | | | | | Checke | ed By: E.Larsen 8/14/2018 | |
| Boreh | nole Diameter (inches): 2 | Weather/Co | omments | : Lo | cated a | pprox | imate | ely 35 ft N | NW of t | he E corne | er of Bldg 8; | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | | Blow Count | Old (mdd) | Time | Well Diagram | Remarks (list sample numbers here) | |
| - | WELL GRADED SAND, loose, dry, fine to r grained sand, trace fine to medium grained, \gravel POORLY GRADED SAND, dense, dry, trac gravel not logged | angular/ | | SP | | DP | NA | 0.414 | 0815 | , A | Well completed with a flush mount 6-inch steel manhole in a concrete pad Soil sample SC-B12-SS02-01 was collected from 0 to 1ft bgs @ 0800 and analyzed for PFCs by EPA Method 537 Bentonite seal installed from 0.5 to 3 bgs Filterpack sand installed from 3 to 7 bgs | |
| 5 | SILTY SAND WITH GRAVEL, moist, orang trace fine, medium and coarse grained grav gravel, high plasticity not logged | | | SM | | DP | NA | 0.211 | 0830 | | Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 4 to 7ft bgs Soil sample SC-B12-SB02-56 was collected from 5 to 6ft bgs @ 0805 and analyzed for PFCs by EPA Method 537 No groundwater sample collected, w was dry | |
| - 10— - - - 15— - - - - | Total Depth 9ft bgs | | | | | | | | | | Refusal at 9ft bgs on Shale | |



| Proje | ct Name: ANGB PFAS Site: | Building | g 31 (Cu | ırrent | Fire S | tatio | n) | | | Hole ID: SC-B31-SB01 |
|----------------------------|---|----------------|----------|----------------------|------------------------|--------|--------------------------------|------------|---------------------------------------|--|
| Proje | ect Number: 60520893 | Northing: | 14655 | 82.92 | 2 | | | | Total Depth (feet): 5.0 | |
| Drilli | ng Contractor: Cascade Drilling | Easting: | 64632 | 26.68 | | | | | Date / Time Started: 6/13/2018 / 1145 | |
| Drille | er: J.Buley | Elevation | (feet M | SL): | G | roun | d: | 353.17 | | Date / Time Finished: 6/13/2018 / 1200 |
| Drilli | ng Equipment: Geoprobe 8140LS | ▼ Water | Depth I | During | g Drill | ing (f | ft bgs | s): not ob | served | Date / Time Completed: NA |
| Drilli | ng Method: Direct Push | Logged B | y: R.M | ЛсСrе | eady | | Checked By: E.Larsen 8/14/2018 | | | |
| Boreh | nole Diameter (inches): 2 | Weather/Co | omments | : Lo | cated a | pprox | western corner of Bldg 31; | | | |
| | | ' | Lo | g | | S | amp | oles | | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| - | WELL GRADED SAND, loose, dry, fine, med coarse grained sand not logged | ium and | | SW | | DP | NA | | 1145 | Soil sample SC-B31-SS01-01 was collected from 0 to 1ft bgs @ 1150 and analyzed for PFCs by EPA Method 537 |
| - - - - - 5 | WELL GRADED SAND WITH SILT AND GRadense, dry, >15% angular gravel | AVEL, | | SW-SM | | | | 0.0 | 1200 | Soil samples SC-B31-SB01-45 and SC-B31-SB01-45DUP were collected from 4 5ft bgs @ 1135 and analyzed for PFCs by E Method 537 |
| - | Total Depth 5ft bgs | | | | | | | | | Method 537 |
| 40 | | | | | | | | | | Form: 00 GENERIC SHALLOW BOREHOLE LOG NO W |



| | | | | | | | | | | | Sheet I of |
|-----------------|----------------------------------|-------------|-------------|---------|----------------------|------------------------|--------|--------------------------------|------------|---------------------------------------|---|
| Proje | ect Name: ANGB PFAS | Site: | Building | 31 (Cu | ırrent | Fire S | tatio | n) | | | Hole ID: SC-B31-SB02 |
| Proje | ect Number: 60520893 | Northing: | 14656 | 87.76 | 5 | | | Total Depth (feet): 2.5 | | | |
| Drilli | ing Contractor: Cascade Drilling | Easting: | 64638 | 32.68 | | | | | | Date / Time Started: 6/13/2018 / 1130 | |
| Drille | er: J.Buley | | Elevation (| feet M | SL): | G | roun | d: | 354.08 | | Date / Time Finished: 6/13/2018 / 1140 |
| Drilli | ng Equipment: Geoprobe 8140L | S | ▼ Water I | Depth I | Durin | g Drilli | ing (f | t bgs | s): not ob | served | Date / Time Completed: NA |
| Drilli | ng Method: Direct Push | | Logged By | | | | | Checked By: E.Larsen 8/14/2018 | | | |
| Borel | nole Diameter (inches): 2 | | Weather/Co | mments: | : Lo | cated ap | | | | W of the | e northernmost corner of Bldg 31; |
| | | | | Lo | g | | S | amp | oles | | |
| Depth (feet) | USCS Descrip | otion | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| | POORLY GRADED SAND, dry, <1 | 15% angular | r gravel | | SP | | DP | NA | 0.0 | 1130 | Soil sample SC-B31-SS02-01 was collected from 0 to 1ft bgs @ 1140 and analyzed for PFCs by EPA Method 537 |
| 5— | Total Depth 2.5ft bgs | | | | | | | | | | |
| | | | | | | | | | | | |



| | | | | | | | | | | | | Sheet I of | |
|---|---|-------------|-----------------------------------|---------|----------------------|------------------------|--------|------------|-------------------|--------------------------------|---------------------------------|--|--|
| Proje | ct Name: ANGB PFAS | Building | Building 12 (Former Fire Station) | | | | | | | | Hole ID: SC-B12-MW01 | | |
| Proje | ect Number: 60520893 | Northing: | 1464 | 461.4 | 46 | | | Total I | Depth (feet): 9.0 | | | | |
| Drilling Contractor: Cascade Drilling | | | | 64763 | 39.20 | | | | Date / 7 | Cime Started: 6/13/2018 / 0815 | | | |
| Drille | er: J.Buley | Elevation (| (feet M | SL): | G | roun | d: | 331.08 | | Date / T | Fime Finished: 6/13/2018 / 0830 | | |
| Drilli | ng Equipment: Geoprobe 8140LS | | ▼ Water I | Depth I | Ouring | g Drilli | ng (f | t bgs |): not ob | served | Date / T | Fime Completed: 6/15/2018 / | |
| Drilli | ng Method: Direct Push | | Logged By | y: R.N | AcCre | eady | | | | | Checke | ed By: E.Larsen 8/14/2018 | |
| Borel | nole Diameter (inches): 2 | | Weather/Co | mments | : Lo | cated a | pprox | imate | ly 35 ft N | NW of t | he E corne | er of Bldg 8; | |
| | | | | Lo | g | | S | amp | oles | 1 | ш | | |
| Depth (feet) | USCS Descript | tion | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Well Diagram | Remarks (list sample numbers here) | |
| | WELL GRADED SAND, loose, dry, grained sand, trace fine to medium of gravel POORLY GRADED SAND, dense, of gravel | grained, aı | ngular | | SP | | DP | NA | 0.414 | 0815 | | Well completed with a flush mount 6-inch steel manhole in a concrete pad Soil sample SC-B12-SS02-01 was collected from 0 to 1ft bgs @ 0800 and analyzed for PFCs by EPA Method 537 | |
| | not logged SILTY SAND WITH GRAVEL, mois trace fine, medium and coarse grain | | | | SM | | DP | NA | 0.044 | | | Bentonite seal installed from 0.5 to 3 bgs Filterpack sand installed from 3 to 7 bgs Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 4 to | |
| | gravel, high plasticity not logged | | | | | | | | 0.211 | 0830 | | 7ft bgs Soil sample SC-B12-SB02-56 was collected from 5 to 6ft bgs @ 0805 and analyzed for PFCs by EPA Method 537 No groundwater sample collected, v was dry | |
| 10————————————————————————————————————— | Total Depth 9ft bgs | | | | | | | | | | | | |



| Project Name: ANGB PFAS | Site: | Daalaana | 1 | | | | | | | Holo | Sheet <i>I</i> of <i>I</i> ID: SC-BBW-MW01 | | | |
|--|--|-----------------------|---------|----------------------|------------------------|--------|------------|------------|--------|-------------------------|---|--|--|--|
| Project Number: 60520893 | Background Northing: 1444207.27 | | | | | | | | | | | | | |
| | Northing: 1464397.37 Easting: 646695.39 | | | | | | | | | Total Depth (feet): 4.0 | | | | |
| Drilling Contractor: Cascade Drilling | | Easting: | | | | | , | 220.02 | | | Fime Started: 6/11/2018 / 1200 | | | |
| Driller: J.Buley | | Elevation (| - | | | roun | | 338.83 | | | Fime Finished: 6/11/2018 / 1220 | | | |
| Drilling Equipment: Geoprobe 8140LS | | ▼ Water I | | | | ng (f | t bgs |): not ob: | served | Date / T | Time Completed: 6/14/2018 / | | | |
| Drilling Method: Direct Push | | Logged By: R.McCready | | | | | | | | | Checked By: E.Larsen 8/14/2018 | | | |
| Borehole Diameter (inches): 2 | | Weather/Co | | | cated a | | | | WSW of | the W co | rner of Bldg 2; | | | |
| USCS Descripti | ion | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | Old (mdd) | Time | Well Diagram | Remarks (list sample numbers here) | | | |
| WELL GRADED SAND, dry, light brograined sand, trace fine to medium grained sand, trace | | | | SW | | DP | NA | 0.0 | 1220 | | Well completed with a flush mount 6-inch steel manhole in a concrete pad Bentonite seal installed from 0.5 to 1 bgs Filterpack sand installed from 1 to 4f bgs Initial refusal at 3ft bgs, repositioned boring 5ft to side and re-attempt; refusal at 4ft bgs Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 2 to 4ft bgs No groundwater sample collected, www.as dry | | | |



| Proje | ect Name: ANGB PFAS Site: | Hangar | 1 / Buil | ding | 2 | | | | | Hole | ID: SC-B02-MW01 |
|----------------------------------|--|------------|----------|----------------------|------------------------|--------|------------|------------|-----------|--------------|--|
| Proje | ect Number: 60520893 | Northing: | 1464 | 597.1 | 17 | | | | | Total D | Depth (feet): 7.5 |
| Drilli | ing Contractor: Cascade Drilling | Easting: | 64755 | 9.44 | | | | | | Date / T | Time Started: 6/13/2018 / 0830 |
| Drille | er: J.Buley | Elevation | (feet M | SL): | G | Froun | d: | 333.57 | | Date / T | Fime Finished: 6/13/2018 / 0840 |
| Drilli | ing Equipment: Geoprobe 8140LS | ▼ Water I | Depth I | Ouring | g Drilli | ng (f | t bgs |): not ob | served | Date / T | Fime Completed: 6/13/2018 / 0845 |
| Drilli | ing Method: Direct Push | Logged By | - | | | | | | | | ed By: E.Larsen 8/14/2018 |
| Borel | hole Diameter (inches): 2 | Weather/Co | | | cated a | | | | SE of the | e S corner | of Bldg 2; |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | Oles (mdd) | Time | Well Diagram | Remarks (list sample numbers here) |
| - - - - - - 5- | CONCRETE not logged | | | NA | | | NA | 0.0 | 0830 | | Well completed with a flush mount 6-inch steel manhole in a concrete pad Soil sample SC-B02-SS02-01 was collected from 0 to 1ft bgs @ 0840 and analyzed for PFCs by EPA Method 537 Bentonite seal installed from 0.5 to 1.5ft bgs Filterpack sand installed from 1.5 to 7.5ft bgs Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 2.5 |
| - - - - - | POORLY GRADED SAND WITH SILT, wet, medium and coarse grained gravel, medium prot logged Total Depth 7.5ft bgs | | | SP- SM | | DP | NA | 0.022 | 0845 | | 7.5ft bgs Soil sample SC-B02-SB02-56 was collected from 5 to 6ft bgs @ 0845 and analyzed for PFCs by EPA Method 537 Groundwater sample SC-B02-MW 072018 was collected on 20-Jul-20 @ 1120 and analyzed for PFCs by EPA Method 537, screen interval shown |
| | | | | | | | | | | | |



| | ect Name: ANGB PFAS Site: | Hangar | | | | | | | | Hole ID: SC-B02-SB01 |
|-----------------|--|------------|-------------------|----------------------|------------------------|------------------|------------|------------|----------|---|
| | ect Number: 60520893 | Northing: | | | 0 | | | | | Total Depth (feet): 8.0 |
| Drilli | ing Contractor: Cascade Drilling | Easting: | 64738 | | | | | | | Date / Time Started: 6/11/2018 / 1330 |
| Drille | er: J.Buley | Elevation | (feet M | SL): | (| iroun | ıd: | 335.71 | | Date / Time Finished: 6/11/2018 / 1345 |
| Drilli | ing Equipment: Geoprobe 8140LS | ▼ Water | Depth I | Durin | g Dril | ling (| ft bgs | s): not ob | served | Date / Time Completed: NA |
| Drilli | ing Method: Direct Push | Logged By | | | | | | | | Checked By: E.Larsen 8/14/2018 |
| Borel | hole Diameter (inches): 2 | Weather/Co | mments | : Lo | cated a | • • | | | SW of th | e W corner of Bldg 2; |
| | | | Lo | g | | $\frac{S}{\Box}$ | Samj | ples | 1 | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (bpm) | Time | Remarks (list sample numbers here) |
| | CONCRETE | | | NA | | DP | NA | | 1330 | |
| _ | POORLY GRADED SAND, brown, fine to me grained sand | edium | **** | SP | | | | | | Soil sample SC-B02-SS01-01 was collected from 0 to 1ft bgs @ 1335 and analyzed for |
| _ | WELL GRADED SAND WITH GRAVEL, sor medium and coarse grained gravel | ne fine, | 0 0 0 0 0 0 | SW | | | | 0.062 | | PFCs by EPA Method 537 |
| _ | POORLY GRADED SAND, brown, fine grain | ed sand | <u> </u> | SP | | | | | | |
| _ | not logged | | | | | | | 0.114 | | |
| 5 | POORLY GRADED SAND, brown, mostly fir | o grained | | SP | | DP | NA | | 1345 | |
| - - | sand sand, brown, mostly fir | e grained | | 58 | | DP | NA . | 0.0 | | |
| - | Total Depth 8ft bgs | | | | | | | 0.0 | 1345 | Soil sample SC-B02-SB01-78 was collected from 7 to 8ft bgs @ 1340 and analyzed for PFCs by EPA Method 537 |
| _ | Total Deptil Oit bys | | | | | | | | | |



| Proie | ect Name: ANGB PFAS Site: | Former 1 | Hangar | 2/Bu | ilding | 10 | | | | Hole ID: SC-B10-SB01 |
|-----------------|---|---------------------|--------|----------------------|------------------------|--------|------------|--------------|----------|--|
| | ect Number: 60520893 | Northing: | | | | | | | | Total Depth (feet): 4.0 |
| | ing Contractor: Cascade Drilling | Easting: | 64694 | | - | | | | | Date / Time Started: 6/11/2018 / 1315 |
| Drille | | Elevation | | | | Groun | d· | 343.79 | | Date / Time Finished: 6/11/2018 / 1330 |
| | ing Equipment: Geoprobe 8140LS | | | | | | | | 1 | Date / Time Completed: NA |
| | ing Method: Direct Push | ▼ Water | | | | ing (1 | n ogs | s): not ob | served | _ |
| | | Logged B | | | | pprox | imate | elv 410 ft 5 | SSE of t | Checked By: E.Larsen 8/14/2018 ne S corner of Bldg 35; |
| Bore | hole Diameter (inches): 2 | | Lo | | <u> </u> | | amj | | | |
| Depth (feet) | USCS Description | | | USCS or Rock Type | Attempted Recovered | | Blow Count | (mdd) | Time | Remarks (list sample numbers here) |
| 5— | WELL GRADED SAND SAND, loose, dry, lig fine to medium grained sand, trace fine to m grained gravel grading to trace silt and trace angular gravel Total Depth 4ft bgs | ght brown, edium | | SW | | DP | NA | 0.025 | 1315 | Soil sample SC-B10-SS01-01 was collected from 0 to 1ft bgs @ 1315 and analyzed for PFCs by EPA Method 537 Soil sample SC-B10-SB01-34 was collected from 3 to 4ft bgs @ 1320 and analyzed for PFCs by EPA Method 537 |



| Drilling Drilling Drilling Drilling Orilling Orilling Wm | Number: 60520893 g Contractor: Cascade Drilling | | 14649 64699 (feet Mi Depth I y: R.N omments | 946.60 95.98 SL): During McCree | 0 g Drill | rounding (f | | 343.85 s): not ob: | served | Hole ID: SC-B10-SB02 Total Depth (feet): 5.0 Date / Time Started: 6/11/2018 / 1253 Date / Time Finished: 6/11/2018 / 1315 Date / Time Completed: NA | | | | | | | |
|--|--|---------------------------------|---|---|------------------------|-------------|-----------------------|-----------------------|-----------|---|--|--|--|--|--|--|--|
| Drilling Drilling Drilling Drilling Orilling Orilling Wm | J.Buley g. Equipment: Geoprobe 8140LS g. Method: Direct Push le Diameter (inches): 2 USCS Description | Elevation (Water I Logged By | 64699 (feet M) Depth I y: R.M Domments | 95.98 SL): Ouring McCree | g Drill | ing (f | | | served | Date / Time Started: 6/11/2018 / 1253 Date / Time Finished: 6/11/2018 / 1315 | | | | | | | |
| Drilling Drilling Borehole (table) | J.Buley g Equipment: Geoprobe 8140LS g Method: Direct Push le Diameter (inches): 2 USCS Description | Elevation (| Depth I y: R.M pmments | SL): Ouring McCre : Lo | g Drill eady | ing (f | | | served | Date / Time Finished: 6/11/2018 / 1315 | | | | | | | |
| Drilling Drilling Borehole (table) | g Equipment: Geoprobe 8140LS g Method: Direct Push le Diameter (inches): 2 USCS Description | ▼ Water I | Depth I y: R.N omments Lo | Ourin McCre | g Drill eady | ing (f | | | served | | | | | | | | |
| Drilling Borehold Tribay W m | Method: Direct Push le Diameter (inches): 2 USCS Description | Logged By | y: R.N. | AcCre | eady | | t bgs | s): not ob | served | Date / Time Completed: NA | | | | | | | |
| Borehold (teet) W m | USCS Description | | Lo | : Lo | | | Logged By: R.McCready | | | | | | | | | | |
| (teet) | USCS Description | Weather/Co | Lo | | cated a | | | | | Checked By: E.Larsen 8/14/2018 | | | | | | | |
| W | | | | ~ | | oproxi | mate | ly 460 ft S | SE of the | e S corner of Bldg 35; | | | | | | | |
| W | | | | <u>g</u> | | S | amp | oles | | | | | | | | | |
| m | VELL CRADED CAND Jacob dry light brown | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (ppm) | Time | Remarks (list sample numbers here) | | | | | | | |
| 5 | ot logged Total Depth 5ft bgs | n, fine to rained | | SW | | DP | NA | 0.0 | 1253 | Soil sample SC-B10-SS02-01 was collected from 0 to 1ft bgs @ 1258 and analyzed for PFCs by EPA Method 537 Soil sample SC-B10-SB02-34 was collected from 3 to 4ft bgs @ 1305 and analyzed for PFCs by EPA Method 537 | | | | | | | |



| Project Name: | ANGB PFAS Si | ite: Former | Hangar | 3 /B | uilding | ;11 | | | | Hole | Sheet <i>I</i> of ID: SC-B11-MW01 |
|--|---|--|---------|----------------------|------------------------|--------|------------|-------------|--------|--------------|--|
| Project Number: | 60520893 | Northing: | 1465 | 5319.4 | 45 | | | | | Total I | Depth (feet): 7.0 |
| Drilling Contracto | or: Cascade Drilling | Easting: | 6463 | 17.02 | | | | | | Date / 7 | Γime Started: 6/11/2018 / 0800 |
| Driller: J.Buley | | Elevation | (feet M | (SL): | G | Froun | d: | 346.72 | | Date / T | Time Finished: 6/11/2018 / 0845 |
| Drilling Equipmen | nt: Geoprobe 8140LS | ▼ Water | Depth I | During | g Drilli | ng (f | t bgs |): not ob | served | Date / | Time Completed: 6/14/2018 / 1415 |
| Drilling Method: | Direct Push | Logged B | y: R.N | McCre | eady | | | | | Check | ed By: E.Larsen 8/14/2018 |
| Borehole Diamete | r (inches): 2 | Weather/Co | omments | : Lo | cated a | pprox | imate | ly 255 ft : | SSW of | the wester | rn corner of Bldg 31; |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | DIO (mdd) | Time | Well Diagram | Remarks (list sample numbers here) |
| grained san WELL GRA grained san grading to n grading to to grained, and WELL GRA gray, fine to | race fine, brown gray, medium gular gravel DED SAND WITH GRAVEL, o medium grained sand, >15% f grained gravel | el o medium d gravel and coarse dense, moist, | | SW | | | NA | 0.0 | 0800 | | Well completed with a flush mount 6-inch steel manhole in a concrete pad Soil sample SC-B11-SS03-01 was collected from 0 to 1ft bgs @ 0835 and analyzed for PFCs by EPA Method 537 Bentonite seal installed from 0.5 to bgs Filterpack sand installed from 2 to 6 bgs Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 3 to 6ft bgs Soil sample SC-B11-SB03-45 was collected from 4 to 5ft bgs @ 0845 and analyzed for PFCs by EPA Method 537 No groundwater sample collected, was dry |



| Proje | ct Name: ANGB PFAS | Site: | Former I | Hangar | 3 /Bı | uilding | 11 | | | | Sheet 1 of Hole ID: SC-B11-SB01 |
|-----------------|--|----------------------------|-------------------------|--|----------------------|------------------------|--------|------------|------------|----------|---|
| Proje | ect Number: 60520893 | | Northing: | 14654 | 61.84 | 4 | | | | | Total Depth (feet): 4.0 |
| Drilli | ng Contractor: Cascade Drilling | | Easting: | 64644 | 18.44 | | | | | | Date / Time Started: 6/11/2018 / 0855 |
| Drille | er: J.Buley | | Elevation (| (feet M | SL): | G | roun | d: | 347.98 | | Date / Time Finished: 6/11/2018 / 0915 |
| Drilli | ng Equipment: Geoprobe 8140L | S | ▼ Water | Depth I | Durin | g Drill | ing (f | t bgs | s): not ob | served | Date / Time Completed: NA |
| Drilli | ng Method: Direct Push | | Logged By | y: R.N | /lcCre | eady | | | | | Checked By: E.Larsen 8/14/2018 |
| Boreh | nole Diameter (inches): 2 | | Weather/Co | mments | : Lo | cated a | pprox | imate | ly 70 ft S | of the S | corner of Bldg 31; |
| | | | | Lo | g | | S | amp | oles | | |
| Depth (feet) | USCS Descrip | otion | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| - | SAND with CONCRETE CHUNKS | | | | NA | | DP | NA | 0.0 | 0855 | Soil sample SC-B11-SS01-01 was collected from 0 to 1ft bgs @ 0905 and analyzed for PFCs by EPA Method 537 |
| - | SILTY SAND WITH GRAVEL, dry, and coarse grained sand, >15% fir grained, angular gravel | , brown (fine ne medium | e, medium and coarse | | SM | | | | 0.0 | | PPCs by EPA Method 537 |
| 5 | Total Depth 4ft bgs | | | 14000000000000000000000000000000000000 | | | | | | 0915 | Soil sample SC-B11-SB01-34 was collected from 3 to 4ft bgs @ 0915 and analyzed for PFCs by EPA Method 537 |
| 10 | | | | | | | | | | | Form: 00 GENERIC SHALLOW BOREHOLE LOG NO W |



| Proje | ect Name: ANGB PFAS Site: | Former 1 | Hangar | 3 /Bı | uilding | 11 | | | | Hole ID: SC-B11-SB02 |
|------------------|---|-------------------|---------|----------------------|------------------------|----------|------------|-------------|----------|--|
| Proje | ect Number: 60520893 | Northing: | 14654 | 75.7 | 4 | | | | | Total Depth (feet): 5.0 |
| Drilli | ing Contractor: Cascade Drilling | Easting: | 64639 | 1.01 | | | | | | Date / Time Started: 6/11/2018 / 0955 |
| Drille | er: J.Buley | Elevation | (feet M | SL): | (| Froun | d: | 347.76 | | Date / Time Finished: 6/11/2018 / 1030 |
| Drilli | ing Equipment: Geoprobe 8140LS | ▼ Water | Depth I | Durin | g Drill | ing (1 | ft bgs | s): not ob | served | Date / Time Completed: NA |
| Drilli | ing Method: Direct Push | Logged B | y: R.N | 1cCre | eady | | | | | Checked By: E.Larsen 8/14/2018 |
| Borel | nole Diameter (inches): 2 | Weather/Co | omments | : Lo | cated a | pprox | imate | ely 88 ft S | of the w | estern corner of Bldg 31; |
| | | | Lo | g | | S | amı | oles | I | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| - - - - | WELL GRADED SAND, dry, light brown, fine grained sand, trace fine to medium grained , vrounded gravel | to medium well | | SW | | DP HA | NA | 0.0 | 0955 | Soil sample SC-B11-SS02-01 was collected from 0 to 1ft bgs @ 1000 and analyzed for PFCs by EPA Method 537 Soil sample SC-B11-SB02-34 was collected from 3 to 4ft bgs @ 1020 and analyzed for PFCs by EPA Method 537 |
| 5— | Total Depth 5ft bgs | | | | | | | | | |



| | | | | | | | | | | | | Sheet I of I |
|------------------------|--|-------------------|-------------|--|----------------------|------------------------|--------|------------|-------------|------------|---|--|
| Proje | ect Name: ANGB PFAS | Site: | Hangar ' | 7 / Buil | ding | 7 | | | | | Hole | ID: SC-B07-MW01 |
| Proje | ect Number: 60520893 | | Northing: | 1463 | 955. | 10 | | | | | Total E | Depth (feet): 8.0 |
| Drilli | ing Contractor: Cascade Drilling | | Easting: | 64753 | 34.86 | | | | | | Date / T | Time Started: / 1350 |
| Drille | er: J.Buley | | Elevation (| feet M | SL): | G | roun | d: | 314.56 | | Date / T | Time Finished: / 1355 |
| Drilli | ing Equipment: Geoprobe 8140LS | | ▼ Water I | Depth I | Ouring | g Drilli | ng (f | t bgs |): not ob | served | Date / 7 | Time Completed: 6/15/2018 / |
| Drilli | ing Method: Direct Push | | Logged By | y: R.N | ЛсСr | eady | | | | | Checke | ed By: E.Larsen 8/14/2018 |
| Borel | hole Diameter (inches): 2 | | Weather/Co | mments | : Lo | cated a | pprox | imate | ly 165 ft S | S of the S | S corner o | f Bldg 7; |
| | | | | Lo | g | | S | amp | oles | | am | |
| Depth (feet) | USCS Descript | tion | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Well Diagram | Remarks (list sample numbers here) |
| | WELL GRADED SAND WITH GRA fine, medium and coarse grained grant fine, medium and coarse grant fine, medium and coars | VELloose, avel | dry, some | 6.0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0: | | | DP | NA | 0.016 | 1350 | 4 · · · · · · · · · · · · · · · · · · · | Well completed with a flush mount 6-inch steel manhole in a concrete pad, concrete extended to top of seal at 1ft bgs Soil sample SC-B07-SS02-01 was collected from 0 to 1ft bgs @ 1350 and analyzed for PFCs by EPA Method 537 Bentonite seal installed from 1 to 3ft bgs Filterpack sand installed from 3 to 8ft bgs |
| 5— — — — — | WELL GRADED SAND WITH GRA some fine, medium and coarse grain not logged | | | 0.0.0 0.0.0 0.0.0 0.0.0 | SW | | DP | NA | 0.0 | 1355 | | Soil sample SC-B07-SB02-45 was collected from 4 to 5ft bgs @ 1352 and analyzed for PFCs by EPA Method 537 Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 4 to 8ft bgs Groundwater samples SC-B07-MW0 |
| | Total Depth 8ft bgs | | | | | | | | | | | 071918, SC-B07-MW01 071918 MS and SC-B07-MW01 071918 MSD were collected on 19-Jul-2018 @ 1035 and analyzed for PFCs by EPA Method 537, screen interval shown |



| Proje | ect Name: ANGB PFAS | Site: | Hangar 7 | 7 / Buil | ding ' | 7 | | | | | Hole ID: SC-B07-SB01 |
|-----------------|--|------------|-------------|----------|----------------------|------------------------|--------|------------|------------|-----------|---|
| Proje | ect Number: 60520893 | | Northing: | 14640 |)89.5 | 3 | | | | | Total Depth (feet): 4.0 |
| Drill | ing Contractor: Cascade Drilling | | Easting: | 64754 | 17.35 | | | | | | Date / Time Started: 6/12/2018 / 1230 |
| Drill | er: J.Buley | | Elevation (| feet M | SL): | G | roun | d: | 327.57 | | Date / Time Finished: 6/12/2018 / 1305 |
| Drilli | ing Equipment: Geoprobe 8140L | S | ▼ Water | Depth I | Durin | g Drill | ing (1 | ft bgs | s): not ob | served | Date / Time Completed: NA |
| Drilli | ing Method: Direct Push | | Logged By | y: R.N | AcCre | eady | | | | | Checked By: E.Larsen 8/14/2018 |
| Borel | hole Diameter (inches): 2 | | Weather/Co | mments | : Lo | cated a | pprox | imate | ly 30 ft S | SE of the | e S corner of Bldg 7; |
| | | | | Lo | g | | S | amp | oles | | |
| Depth (feet) | USCS Descrip | otion | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| | WELL GRADED SAND WITH GR brown, some fine to medium grain | | | | SW | | DP | NA | 0.0 | 1230 | Soil sample SC-B07-SS01-01 was collected from 0 to 1ft bgs @ 1300 and analyzed for PFCs by EPA Method 537 |
| _ | POORLY GRADED SAND WITH a medium plasticity grading to moist | SILT, >15% | ∕₀ gravel, | | SP- SM | | | | 0.0 | 1305 | Soil samples SC-B07-SB01-34, SC-B07-SB01-34MS and |
| 5 | Total Depth 4ft bgs | | | | | | | | | 1305 | SC-B07-SB01-34MSD were collected from 3 to 4ft bgs @ 1305 and analyzed for PFCs by EPA Method 537 |



| Projec | ct Name: ANGB PFAS Site: | Hangar | 8 / Buil | ding 8 | 3 | | | | | Hole ID: SC-B08-SB01 |
|-----------------|--|------------|----------|----------------------|------------------------|--------|------------|--------------|----------|--|
| Proje | ct Number: 60520893 | Northing: | 14643 | 322.07 | 7 | | | | | Total Depth (feet): 4.0 |
| Drilli | ng Contractor: Cascade Drilling | Easting: | 64760 |)5.99 | | | | | | Date / Time Started: / 1420 |
| Drille | r: J.Buley | Elevation | (feet M | SL): | G | roun | d: | 330.86 | | Date / Time Finished: / 1425 |
| Drillin | ng Equipment: Geoprobe 8140LS | ▼ Water | Depth I | Durin | g Drill | ing (1 | ft bgs | s): not ob | served | Date / Time Completed: NA |
| Drillin | ng Method: Direct Push | Logged B | y: R.N | ЛсСre | ady | | | | | Checked By: E.Larsen 8/14/2018 |
| Boreh | ole Diameter (inches): 2 | Weather/Co | omments | : Lo | cated a | pprox | imate | ely 115 ft S | SSW of 1 | the W corner of Bldg 8; |
| | | | Lo | g | | S | amj | oles | ı | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| 5 | WELL GRADED SAND WITH GRAVEL, loos >15% subangular gravel Total Depth 4ft bgs | e, dry, | | | | DP | NA NA | 0.006 | 1425 | Soil sample SC-B08-SS01-01 was collected from 0 to 1ft bgs @ 1420 and analyzed for PFCs by EPA Method 537 Soil sample SC-B08-SB01-74 was collected from 3 to 4ft bgs @ 1425 and analyzed for PFCs by EPA Method 537 |
| _ _ | | | | | | | | | | Form: 00 GENERIC SHALLOW BOREHOLE LOG NO W |



| | | | | | | | | | | Sheet I of |
|----------------------------------|---|----------------|---|----------------------|------------------------|--------|------------|-------------|---------|---|
| Proje | ect Name: ANGB PFAS Site: | Building | g 3 (Bas | se Sup | oply W | areho | ouse) |) | | Hole ID: SC-B03-SB01 |
| Proje | ect Number: 60520893 | Northing: | 14649 | 960.0 | 6 | | | | | Total Depth (feet): 5.0 |
| Drill | ing Contractor: Cascade Drilling | Easting: | 64762 | 27.01 | | | | | | Date / Time Started: 6/13/2018 / 1009 |
| Drille | er: J.Buley | Elevation | (feet M | SL): | G | Fround | d: | 334.83 | | Date / Time Finished: 6/13/2018 / 1020 |
| Drilli | ing Equipment: Geoprobe 8140LS | ▼ Water | Depth 1 | Durin | g Drill | ing (f | ft bgs | s): not ob | served | Date / Time Completed: NA |
| Drilli | ing Method: Direct Push | Logged B | y: R.N | AcCre | eady | | | | | Checked By: E.Larsen 8/14/2018 |
| Borel | hole Diameter (inches): 2 | Weather/C | omments | : Lo | cated a | pprox | imate | ely 70 ft N | NW of t | he SW corner of Bldg 3; |
| | | | Lo | g | | S | amı | oles | | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| | CONCRETE | | | NA | | DP | NA | | 1009 | |
| - - - - - - 5- | WELL GRADED SAND WITH GRAVEL, loos brown grading to white/gray with depth, some gravel Total Depth 5ft bgs | | 0 . 0 0 . 0 0 . 0 0 . 0 0 . 0 0 . 0 0 . 0 0 . 0 | SW | | | | 0.0 | 1020 | Soil sample SC-B03-SS01-01 was collected from 0 to 1ft bgs @ 1005 and analyzed for PFCs by EPA Method 537 Soil samples SC-B03-SB01-34 and SC-B03-SB01-34DUP were collected from 3 4ft bgs @ 1010 and analyzed for PFCs by E Method 537 |
| - - - - | | | | | | | | | | |



| | 1 | | | | | | | | | Sneet I of |
|-----------------|--|----------------|--|----------------------|------------------------|--------|------------|-------------|----------|---|
| Proje | ct Name: ANGB PFAS Site: | Building | 3 (Bas | e Sup | ply W | areh | ouse) |) | | Hole ID: SC-B03-SB02 |
| Proje | ect Number: 60520893 | Northing: | 14648 | 868.0 | 1 | | | | | Total Depth (feet): 4.0 |
| Drilli | ng Contractor: Cascade Drilling | Easting: | 64763 | 88.42 | | | | | | Date / Time Started: 6/13/2018 / |
| Drille | er: J.Buley | Elevation | (feet M | SL): | G | Froun | d: | 335.13 | | Date / Time Finished: 6/13/2018 / |
| Drilli | ng Equipment: Geoprobe 8140LS | ▼ Water | Depth I | Ourin | g Drill | ing (1 | ft bgs | s): not ob: | served | Date / Time Completed: NA |
| Drilli | ng Method: Direct Push | Logged By | y: R.N | ЛсСrе | eady | | | | | Checked By: E.Larsen 8/14/2018 |
| Boreh | nole Diameter (inches): 2 | Weather/Co | mments | : Lo | cated a | pprox | imate | ly 20 ft S | of the S | W corner of Bldg 3; |
| | | | Lo | g | | S | amj | oles | | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (ppm) | Time | Remarks (list sample numbers here) |
| - | WELL GRADED SAND WITH GRAVEL, som medium and coarse grained, subangular grav | | | SW | | DP | NA | 0.0 | | Soil sample SC-B03-SS02-01 was collected from 0 to 1ft bgs @ 0940 and analyzed for PFCs by EPA Method 537 |
| - | not logged | |):::U:::(O:::0 :::0 :::0 | | | | | 0.0 | | Soil sample SC-B03-SB02-23 was collected from 2 to 3ft bgs @ 0945 and analyzed for PFCs by EPA Method 537 |
| | Total Depth 4ft bgs | | | | | | | | | |
| 5- | | | | | | | | | | |
| - | | | | | | | | | | |
| - | | | | | | | | | | |
| - | | | | | | | | | | |
| - | | | | | | | | | | |



| | | | | | | | | | | | Sheet 1 of |
|-----------------|---|------------|---------|----------------------|------------------------|--------|------------|-----------|----------|--------------|--|
| Proje | ect Name: ANGB PFAS Site: | Building | g 35 (V | ehicle | Main Main | tenan | ice) | | | Hole | ID: SC-B35-MW01 |
| Proje | eet Number: 60520893 | Northing: | 1465 | 351.3 | 32 | | | | | Total I | Depth (feet): 9.0 |
| Drilli | ing Contractor: Cascade Drilling | Easting: | 64684 | 10.15 | | | | | | Date / T | Time Started: 6/13/2018 / 1100 |
| Drille | er: J.Buley | Elevation | (feet M | SL): | G | Froun | d: | 361.08 | | Date / 7 | Time Finished: 6/13/2018 / 1115 |
| Drilli | ng Equipment: Geoprobe 8140LS | ▼ Water | Depth I | Ouring | g Drilli | ng (f | t bgs |): not ob | served | Date / 7 | Time Completed: 6/15/2018 / 1015 |
| Drilli | ng Method: Direct Push | Logged B | y: R.N | /lcCre | eady | | | | | Checke | ed By: E.Larsen 8/14/2018 |
| Borel | nole Diameter (inches): 2 | Weather/Co | omments | : Lo | cated a | | | | of the S | corner of | Bldg 35; |
| | | | Lo | g | | S | amp | oles | | am | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (bpm) | Time | Well Diagram | Remarks (list sample numbers here) |
| | POORLY GRADED SAND, loose, dry, <15% POORLY GRADED SAND WITH SILT, mois dark brown with depth | | | SP- SM | _ | DP | NA | 0.0 | 1100 | | Well completed with a flush mount 6-inch steel manhole in a concrete pad, concrete extended to top of se at 2ft bgs Soil sample SC-B35-SS03-01 was collected from 0 to 1ft bgs @ 1110 and analyzed for PFCs by EPA |
| 5 | not logged WELL GRADED SAND WITH SILT, moist, b dark brown with depth, increasing gravel | rown to | | SW- | | DP | NA | 0.0 | | | Method 537 Bentonite seal installed from 2 to 4 bgs Filterpack sand installed from 4 to bgs Soil sample SC-B35-SB03-56 was collected from 5 to 6ft bgs @ 1115 and analyzed for PFCs by EPA |
| | not logged Total Depth 9ft bgs | | | | | | | | 1115 | | Method 537 Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 5 to 8ft bgs Groundwater sample SC-B35-MW 072018 was collected on 20-Jul-20 @ 1055 and analyzed for PFCs by |
| 10— | | | | | | | | | | | EPA Method 537, screen interval shown |
| 15— | | | | | | | | | | | |



| | | | | | Maint | CIIGII | | | | Hole ID: SC-B35-SB01 | | |
|-----------------|--|----------------|---------|----------------------|------------------------|--------|-------------|------------|--------|---|--|--|
| Proje | ect Number: 60520893 | Northing: | 14655 | 50.44 | 4 | | | | | Total Depth (feet): 5.0 | | |
| Drilli | ing Contractor: Cascade Drilling | Easting: | 64681 | 4.17 | | | | | | Date / Time Started: 6/13/2018 / 1120 | | |
| Drille | er: J.Buley | Elevation | (feet M | SL): | C | iroun | d: | 360.56 | | Date / Time Finished: 6/13/2018 / 1130 | | |
| Drilli | ing Equipment: Geoprobe 8140LS | ▼ Water | Depth I | Durin | g Drill | ing (1 | ft bgs | s): not ob | served | Date / Time Completed: NA | | |
| Drilli | ing Method: Direct Push | Logged B | - | | | | | | | Checked By: E.Larsen 8/14/2018 | | |
| Borel | nole Diameter (inches): 2 | Weather/Co | omments | Lo | cated a | | | | NW of | the N corner of Bldg 35; | | |
| | | | Lo | | | | amı | oles | | | | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) | | |
| | CONCRETE | | | NA | | DP | NA | | 1120 | | | |
| _ | POORLY GRADED SAND WITH GRAVEL, I >15% angular gravel | oose, dry, | | SP | | | | 0.0 | | Soil sample SC-B35-SS01-01 was collected from 0 to 1ft bgs @ 1120 and analyzed for PFCs by EPA Method 537 | | |
| _ | not logged | | 0.0.0 | | | | | | | Soil sample SC-B35-SB01-23 was collected from 2 to 3ft bgs @ 1125 and analyzed for PFCs by EPA Method 537 | | |
| | | | | | | | | | 1130 | | | |
| 5— | Total Depth 5ft bgs | | | | | | | | | | | |
| | | | | | | | | | | | | |
| _ | | | | | | | | | | | | |



| Proj | ect Name: ANGB PFAS Site: | Building | 35 (Ve | ehicle | Main | tenan | ice) | | | Hole ID: SC-B35-SB02 |
|-----------------|---|----------------|---------|----------------------|------------------------|-------|------------|----------------------|-----------|--|
| Proj | ect Number: 60520893 | Northing: | 14653 | 365.5 | 8 | | | | | Total Depth (feet): 5.0 |
| Drill | ing Contractor: Cascade Drilling | Easting: | 64690 | 00.23 | | | | | | Date / Time Started: 6/13/2018 / 1045 |
| Drill | er: J.Buley | Elevation | (feet M | SL): | (| iroun | d: | 359.85 | | Date / Time Finished: 6/13/2018 / 1100 |
| Drill | ing Equipment: Geoprobe 8140LS | ▼ Water | Depth 1 | Durin | g Drill | ing (| ft bgs | s): not ob | served | Date / Time Completed: NA |
| Drill | ing Method: Direct Push | Logged B | | | | | | | | Checked By: E.Larsen 8/14/2018 |
| Bore | hole Diameter (inches): 2 | Weather/Co | mments | : Lo | cated a | | | | SE of the | e S corner of Bldg 35; |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | | Blow Count | oles Old (mdd) | Time | Remarks (list sample numbers here) |
| 5 | CONCRETE WELL GRADED SAND AND SILT, medium of increasing with depth, dry, <15% angular grave and logged not logged Total Depth 5ft bgs | | | SW-SM | | DP | NA | 0.0 | 1100 | Soil sample SC-B35-SS02-01 was collected from 0 to 1ft bgs @ 1055 and analyzed for PFCs by EPA Method 537 Soil sample SC-B35-SB02-34 was collected from 3 to 4ft bgs @ 1100 and analyzed for PFCs by EPA Method 537 |



| | | | | | | | | | | | | Sheet I of I | | |
|-----------------------|---|-------------|-------------|---|----------------------|------------------------|--------|------------|-------------|----------|---|---|--|--|
| Proje | ect Name: ANGB PFAS | Site: | IRP Site | 3(Drui | n Bu | rial Ar | ea) | | | | Hole | ID: SC-IRP3-MW01 | | |
| Proje | ect Number: 60520893 | | Northing: | 1463 | 304.9 | 94 | | | | | Total I | Depth (feet): 11.0 | | |
| Drilli | ing Contractor: Cascade Drilling | | Easting: | 64733 | 2.32 | | | | | | Date / T | Fime Started: 6/12/2018 / 1005 | | |
| Drille | er: J.Buley | | Elevation (| feet M | SL): | G | roun | d: | 296.09 | | Date / Time Finished: 6/12/2018 / 1040 | | | |
| Drilli | ing Equipment: Geoprobe 8140LS | | ▼ Water I | Depth E | Ouring | g Drilli | ng (f | t bgs |): not ob | served | Date / Time Completed: 6/12/2018 / 1100 | | | |
| Drilli | ing Method: Direct Push | | Logged By | y: R.N | 1cCre | eady | | | | | Checke | Checked By: E.Larsen 8/14/2018 | | |
| Borel | nole Diameter (inches): 2 | | Weather/Co | mments | Lo | cated ap | pprox | imate | ly 845 ft S | SSW of t | the S corn | er of Bldg 7; | | |
| | | | | Lo | g | | S | amp | oles | | В | | | |
| Depth (feet) | USCS Descript | ion | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Well Diagram | Remarks (list sample numbers here) | | |
| - - - - - | WELL GRADED SAND, loose, dry, fine grained sand, some fine to med | ium graine | | 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | SW | | DP | NA | 0.016 | 1005 | | Well completed with a flush mount 6-inch steel manhole in a concrete pad Soil samples SC-IRP3-MW01-01 and SC-IRP3-MW01-DUP were collected from 0 to 1ft bgs @ 1015 and analyzed for PFCs by EPA Method 537 Bentonite seal installed from 0.5 to 46 bgs | | |
| 5— | SILTY SAND WITH GRAVEL, dens medium to coarse grained gravel | e, wet, sor | me fine, | | SM | | DP | NA | 7.79 | | | Soil sample SC-IRP3-MW01-45 was collected from 4 to 5ft bgs @ 1020 and analyzed for PFCs by EPA Method 537 Filterpack sand installed from 4 to 10 bgs Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 5 to 10ft bgs Groundwater samples SC-IPR3-MW01 071918 and | | |
| 10 | Total Depth 11ft bgs | | | | | | DP | NA | | 1045 | | SC-IPR3-MW01 071918DUP were collected on 19-Jul-2018 @ 1350 an analyzed for PFCs by EPA Method 537, screen interval shown | | |
| 15— | | | | | | | | | | | | | | |



| Proj | ect Name: ANGB PFAS Site: | IRP Site | 3(Drur | n Buı | ial Ar | ea) | | | | Hole ID: SC-IRP3-SB01 |
|-----------------|---|----------------|---------|----------------------|------------------------|--------|------------|--------------|----------|--|
| Proj | ect Number: 60520893 | Northing: | 14634 | 16.10 | 5 | | | | | Total Depth (feet): 5.0 |
| Drill | ing Contractor: Cascade Drilling | Easting: | 64743 | 3.24 | | | | | | Date / Time Started: 6/12/2018 / 0938 |
| Drill | er: J.Buley | Elevation | (feet M | SL): | G | Froun | d: | 295.76 | | Date / Time Finished: 6/12/2018 / 0950 |
| Drill | ing Equipment: Geoprobe 8140LS | ▼ Water | Depth I | Durin | g Drill | ing (1 | ft bg: | s): not ob | served | Date / Time Completed: NA |
| Drill | ing Method: Direct Push | Logged B | y: R.N | 1cCre | ady | | | | | Checked By: E.Larsen 8/14/2018 |
| Bore | hole Diameter (inches): 2 | Weather/Co | omments | Lo | cated a | pprox | imate | ely 714 ft s | SSW of t | the S corner of Bldg 7; |
| | | | Lo | g | | S | amj | oles | | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| 5 | SILTY SAND WITH GRAVEL, medium dens dense with depth, moist, light brown grading brown, some fine to medium grained, angula not logged Total Depth 5ft bgs | to dark | | SM | | DP | NA | 0.02 | 0938 | Soil sample SC-IRP3-SS01-01 was collecte from 0 to 1ft bgs @ 0945 and analyzed for PFCs by EPA Method 537 Soil sample SC-IRP3-SB01-34 was collecte from 3 to 4ft bgs @ 0950 and analyzed for PFCs by EPA Method 537 |



| Proje | ect Name: ANGB PFAS | Site: | IRP Site | 3(Drur | n Bu | rial Are | ea) | | | | Hole ID: SC-IRP3-SB02 |
|------------------|---|--------------|--------------|---------|----------------------|------------------------|--------|------------|------------|----------|---|
| Proje | ect Number: 60520893 | | Northing: | 14633 | 83.5 | 9 | | | | | Total Depth (feet): 5.0 |
| Drill | ing Contractor: Cascade Drilling | | Easting: | 64740 |)8.92 | | | | | | Date / Time Started: 6/12/2018 / 0950 |
| Drille | er: J.Buley | | Elevation (| feet M | SL): | G | roun | d: | 296.11 | | Date / Time Finished: 6/12/2018 / 1010 |
| Drilli | ing Equipment: Geoprobe 8140L | S | ▼ Water I | Depth I | Durin | g Drill | ing (f | t bgs | s): not ob | served | Date / Time Completed: NA |
| Drilli | ing Method: Direct Push | | Logged By | /: R.N | AcCre | eady | | | | | Checked By: E.Larsen 8/14/2018 |
| Borel | hole Diameter (inches): 2 | | Weather/Co | mments | : Lo | cated a | | | | SSW of t | he S corner of Bldg 7; |
| | | | | Lo | g | | S | amp | oles | | |
| Depth (feet) | USCS Descrip | otion | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| - - | WELL GRADED SAND WITH GR some fine to medium grained, sub | angular grav | | | SW | | DP | NA | 0.016 | 0950 | Soil sample SC-IRP3-SS02-01 was collecte from 0 to 1ft bgs @ 0955 and analyzed for PFCs by EPA Method 537 |
| - - - | SILTY SAND WITH GRAVEL, der medium grained gravel | | race fine to | | SM | | | | 3.7 | | |
| 5- | SILTY SAND, moist, brown, cohes | sive | | | SM | | | | | 1010 | Soil sample SC-IRP3-SB02-45 was collecte from 4 to 5ft bgs @ 1000 and analyzed for PFCs by EPA Method 537 |
| - - - - | Total Depth 5ft bgs | | | | | | | | | | TOO BY EL ATRICUIOU SOL |



| Project Name: ANGB PFAS Si | te: Former | Sewage | Trea | tment | Plant | | | | Hole ID: SC-WTP-SB01 |
|--|----------------|---------|----------------------|------------------------|--------|------------|-------------|----------|--|
| Project Number: 60520893 | Northing: | 14636 | 642.74 | 4 | | | | | Total Depth (feet): 5.0 |
| Drilling Contractor: Cascade Drilling | Easting: | 64748 | 36.53 | | | | | | Date / Time Started: 6/12/2018 / 0905 |
| Driller: J.Buley | Elevation | (feet M | SL): | G | Fround | d: | 305.89 | | Date / Time Finished: 6/12/2018 / 0915 |
| Drilling Equipment: Geoprobe 8140LS | ▼ Water | Depth l | Durin | g Drill | ing (f | ft bgs | s): not ob | served | Date / Time Completed: NA |
| Drilling Method: Direct Push | Logged B | y: R.N | AcCre | ady | | | | | Checked By: E.Larsen 8/14/2018 |
| Borehole Diameter (inches): 2 | Weather/C | omments | : Lo | cated a | pprox | imate | ly 485 ft S | SSW of 1 | the S corner of Bldg 7; |
| | <u> </u> | Lo | g | | S | amı | oles | | |
| USCS Description USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| SAND, light brown, fine to medium graine fine grained, subangular gravel WELL GRADED SAND, trace silt, trace f grained gravel | | | SP | | DP | NA | 0.111 | 0905 | Soil sample SC-WTP-SS01-01 was collecte from 0 to 1ft bgs @ 0910 and analyzed for PFCs by EPA Method 537 |
| not logged | | | | | | | | 0915 | Soil sample SC-WTP-SB01-34 was collecte from 3 to 4ft bgs @ 0915 and analyzed for PFCs by EPA Method 537 |
| Total Depth 5ft bgs | | | | | | | | | |



| Proje | ct Name: ANGB PFAS Site: | Former S | Sewage | Trea | tment | Plant | | | | Hole ID: SC-WTP-SB02 |
|-----------------|--|----------------|---------------------------------|----------------------|------------------------|--------|------------|-------------|-----------|--|
| Proje | ect Number: 60520893 | Northing: | 14635 | 555.19 | 9 | | | | | Total Depth (feet): 2.5 |
| Drilli | ng Contractor: Cascade Drilling | Easting: | 64758 | 32.65 | | | | | | Date / Time Started: 6/12/2018 / 0855 |
| Drille | er: J.Buley | Elevation | (feet M | SL): | G | Froun | d: | 301.60 | | Date / Time Finished: 6/12/2018 / 0900 |
| Drilli | ng Equipment: Geoprobe 8140LS | ▼ Water | Depth 1 | Durin | g Drill | ing (1 | ft bgs | s): not ob | served | Date / Time Completed: NA |
| Drilli | ng Method: Direct Push | Logged B | y: R.N | /lcCre | eady | | | | | Checked By: E.Larsen 8/14/2018 |
| Boreh | nole Diameter (inches): 2 | Weather/Co | omments | : Lo | cated a | pprox | imate | ly 570 ft s | SSE of tl | ne S corner of Bldg 7; |
| | | | Lo | g | | S | amı | oles | | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| _ | WELL GRADED SAND WITH GRAVEL, loos medium and coarse grained sand, some fine, and coarse grained gravel CLAYEY SILT, orange red, high plasticity POORLY GRADED SAND, trace fine to med | medium | 6 0 0 0 0 0 0 0 0 0 | | | DP | NA | 0.42 | 0855 | Soil sample SC-WTP-SS02-01 was collecte from 0 to 1ft bgs @ 0855 and analyzed for PFCs by EPA Method 537 |
| _ | grained, angular gravel Total Depth 2.5ft bgs | lum | | 38 | | | | | 0900 | Soil sample SC-WTP-SB02-23 was collecte from 2 to 2.5ft bgs @ 0900 and analyzed fo |
| 5— | | | | | | | | | | PFCs by EPA Method 537 |
| - | | | | | | | | | | Form: 00 GENERIC SHALLOW BOREHOLE LOG NO V |



| Project Name: ANGB PFAS | Site: Former | Sewage | Trea | tment | Plant | | | | Hole ID: SC-WTP-SB03 |
|--|---------------------|----------|----------------------|------------------------|--------|------------|-------------|----------|--|
| Project Number: 60520893 | Northing | 14635 | 528.92 | 2 | | | | | Total Depth (feet): 5.0 |
| Drilling Contractor: Cascade Drilling | Easting: | 64753 | 33.60 | | | | | | Date / Time Started: 6/12/2018 / 0920 |
| Driller: J.Buley | Elevation | (feet M | SL): | G | roun | d: | 301.81 | | Date / Time Finished: 6/12/2018 / 0930 |
| Drilling Equipment: Geoprobe 8140LS | ▼ Water | Depth l | Durin | g Drill | ing (1 | ft bgs | s): not ob | served | Date / Time Completed: NA |
| Drilling Method: Direct Push | Logged I | By: R.N | ЛсСrе | ady | | | | | Checked By: E.Larsen 8/14/2018 |
| Borehole Diameter (inches): 2 | Weather/C | Comments | : Lo | cated a | pprox | imate | ly 595 ft S | S of the | S corner of Bldg 7; |
| | · | Lo | g | | S | amı | oles | | |
| (Geet) USCS Descript | ion | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Remarks (list sample numbers here) |
| WELL GRADED SAND WITH GRA medium to coarse grained sand, sor coarse grained, angular gravel SILTY SAND, moist, <15% gravel, or not logged Total Depth 5ft bgs | ne fine, medium and | | SM | | DP | NA | 0.018 | 0920 | Soil sample SC-WTP-SS03-01 was collecte from 0 to 1ft bgs @ 0925 and analyzed for PFCs by EPA Method 537 Soil sample SC-WTP-SB03-34 was collecte from 3 to 4ft bgs @ 0930 and analyzed for PFCs by EPA Method 537 |
| | | | | | | | | | |



| | | | | | | | | | | | | Sheet 1 of 1 |
|-----------------|--|----------|-------------|----------|----------------------|------------------------|--------|------------|-----------|-----------|--------------|--|
| Project Na | ame: ANGB PFAS | Site: | Apron | | | | | | | | Hole | ID: SC-APR-MW01 |
| Project Nu | umber: 60520893 | | Northing: | 1465 | 009. | 52 | | | | | Total I | Depth (feet): 12.0 |
| Drilling Co | ontractor: Cascade Drilling | | Easting: | 64612 | 20.97 | | | | | | Date / 7 | Time Started: 6/11/2018 / 1100 |
| Driller: | J.Buley | | Elevation (| (feet M | SL): | G | roun | d: | 343.66 | | Date / T | Fime Finished: 6/11/2018 / 1100 |
| Drilling Eq | quipment: Geoprobe 8140LS | | ▼ Water I | Depth E | Ouring | g Drilli | ng (f | t bgs |): 9.0 | | Date / | Time Completed: 6/11/2018 / 1125 |
| Drilling Me | fethod: Direct Push | | Logged By | y: R.N | /lcCre | eady | | | | | Check | ed By: E.Larsen 8/14/2018 |
| Borehole D | Diameter (inches): 2 | | Weather/Co | mments | : Lo | cated w | est of | the F | Parking A | pron, app | proximate | ly 625 ft SW of the S corner of Bldg 31; |
| | | | | Lo | g | | S | amp | oles | | H | |
| Depth (feet) | USCS Descript | ion | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (mdd) | Time | Well Diagram | Remarks (list sample numbers here) |
| med suba | LL GRADED SAND, loose, dry, dium grained sand, some fine to angular gravel ding to fine, medium and coarse | medium g | rained, | | | | DP | NA | 0.0 | 1100 | | Well completed with a flush mount 6-inch steel manhole in a concrete pad Soil sample SC-APR-SS01-01 was collected from 0 to 1ft bgs @ 1106 and analyzed for PFCs by EPA Method 537 |
| 5 | logged | | | | | | | | | | | Bentonite seal installed from 0.5 to 5 bgs Soil samples SC-APR-SB01-45 and SC-APR-SB01-45DUP were collecte |
| SILT | TY SAND, dense, moist, black bi dium and coarse, subangular gra | | | | SM | | DP | NA | 0.0 | | | from 4 to 5ft bgs @ 1120 and analyzed for PFCs by EPA Method 537 Filterpack sand installed from 5 to 12 bgs |
| 10 | logged | | | ¥ | | | | | | | | Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 7 to 12ft bgs |
| med silt, o | ILL GRADED SAND, wet, brown dium and fine grained sand, <150 cohesive | | | | SW | | DP | NA | 0.0 | 1125 | | Groundwater samples SC-APR-MW01 072018 and SC-APR-MW01 072018DUP were collected on 20-Jul-2018 @ 0830 an analyzed for PFCs by EPA Method |
| Tota | al Depth 12ft bgs | | | | | | | | | | | 537, screen interval shown |



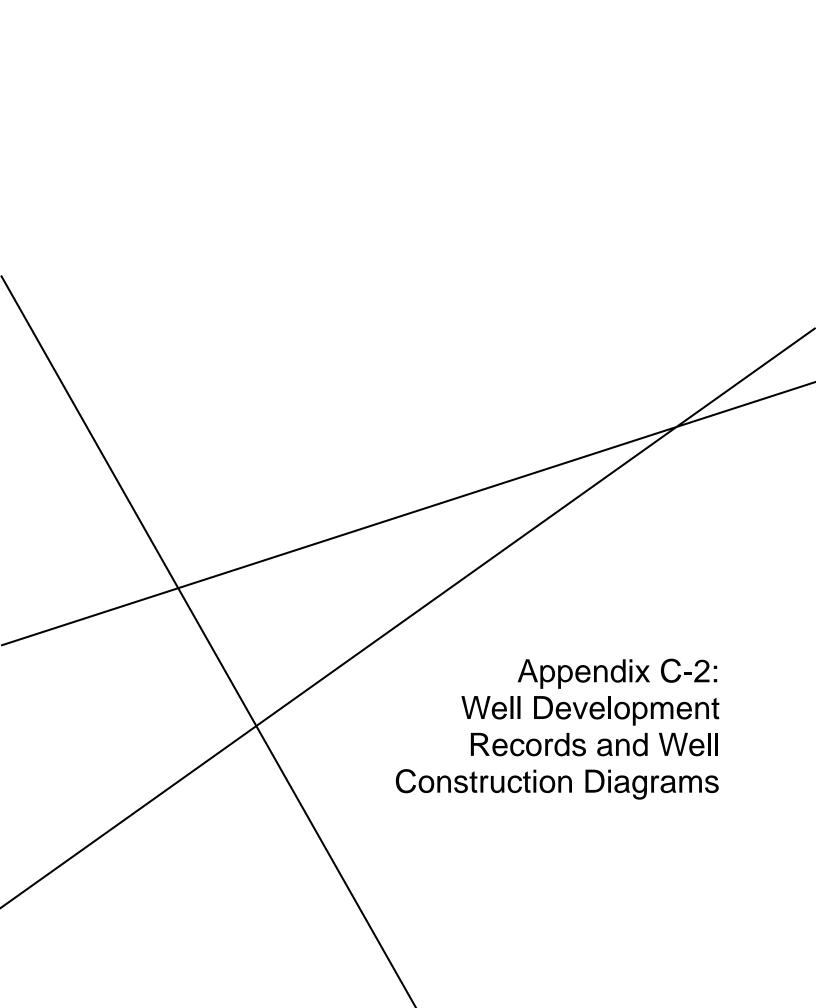
| | | | | | | | | | | | | Sheet I of | | |
|-------------------|--|-------|-------------|---------|----------------------|------------------------|--------|------------|------------|----------|---|---|--|--|
| Proje | ect Name: ANGB PFAS | Site: | Apron | | | | | | | | Hole | ID: SC-APR-MW02 | | |
| Proje | ect Number: 60520893 | | Northing: | 1464 | 621. | 50 | | | | | Total I | Depth (feet): 7.0 | | |
| Drilli | ing Contractor: Cascade Drilling | | Easting: | 64644 | 15.81 | | | | | | Date / T | Cime Started: 6/11/2018 / 1137 | | |
| Drille | er: J.Buley | | Elevation (| feet M | SL): | G | roun | d: | 342.15 | | Date / Time Finished: 6/11/2018 / 1130 | | | |
| Drilli | ng Equipment: Geoprobe 8140LS | | ▼ Water I | Depth I | Ouring | g Drilli | ng (f | t bgs |): not ob: | served | Date / Time Completed: 6/11/2018 / 1150 | | | |
| Drilli | ng Method: Direct Push | | Logged By | /: R.N | ЛсСrе | eady | | | | | Checke | ed By: E.Larsen 8/14/2018 | | |
| Borel | nole Diameter (inches): 2 | | Weather/Co | mments | : Lo | | outhw | est of | the Parki | ng Aproi | n approxi | nately 850 ft SSW of the S corner of Bldg | | |
| | | | | Lo | g | | S | amp | oles | ı | E E | | | |
| Depth (feet) | USCS Descript | tion | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | PID (ppm) | Time | Well Diagram | Remarks (list sample numbers here) | | |
| | WELL GRADED SAND, loose, light medium grained sand, trace fine to gravel | | | | SW | | DP | NA | 0.0 | 1137 | | Well completed with a flush mount 6-inch steel manhole in a concrete pad Soil sample SC-APR-SS02-01 was collected from 0 to 1ft bgs @ 1140 and analyzed for PFCs by EPA Method 537 Bentonite seal installed from 0.5 to 3 bgs | | |
| 5— — — — | grading to dense Total Depth 7ft bgs | | | | | | DP | NA | 0.002 | 1150 | | Soil sample SC-APR-SB02-45 was collected from 4 to 5ft bgs @ 1150 and analyzed for PFCs by EPA Method 537 Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 4 to 7ft bgs | | |
| 110 | | | | | | | | | | | | No groundwater sample collected, w was dry | | |

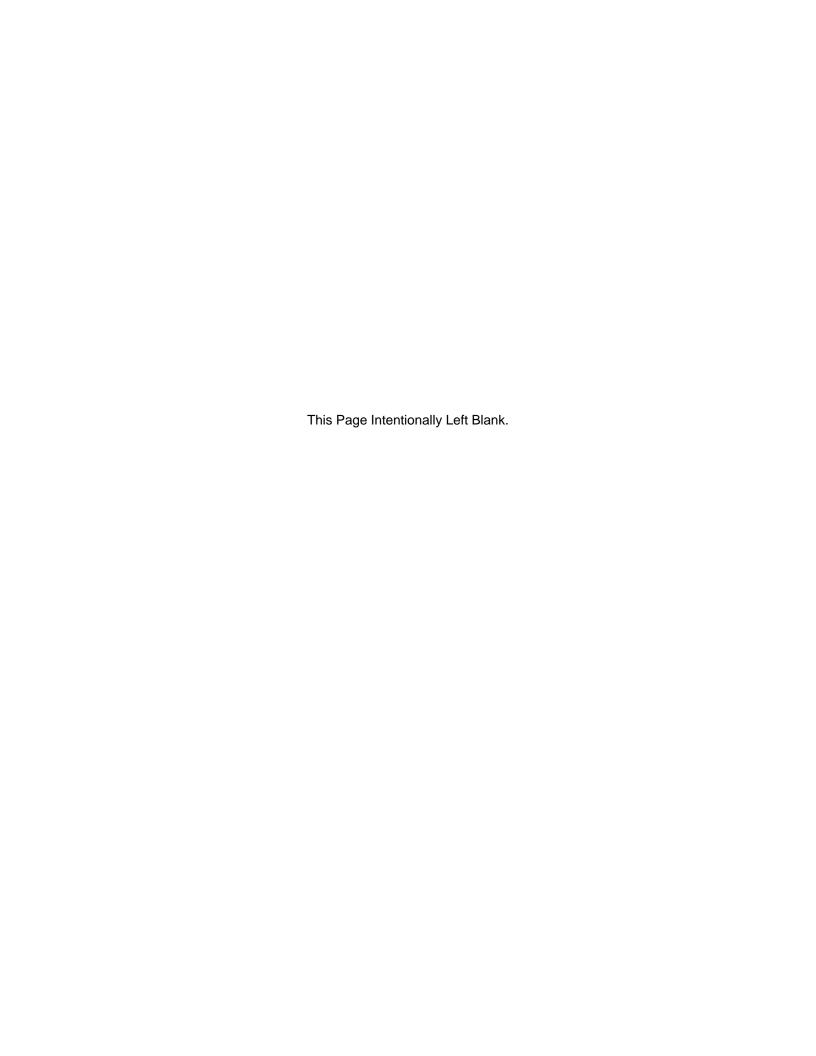


| Proje | ect Name: ANGB PFAS S | ite: Apron | | | | | | | | Hole | ID: SC-APR-MW03 | | |
|-----------------|---|---------------------------------------|---------|----------------------|------------------------|--------|------------|-----------|--------|------------------------------------|--|--|--|
| Proj | ect Number: 60520893 | Northing: | 1464 | 1309.2 | 28 | | | | | Total I | Depth (feet): 5.0 | | |
| Drill | ling Contractor: Cascade Drilling | Easting: | 6470 | 06.47 | | | | | | Date / T | Fime Started: 6/11/2018 / | | |
| Drill | ler: J.Buley | Elevation | (feet M | (SL): | G | roun | d: | 332.34 | | Date / T | Fime Finished: 6/11/2018 / | | |
| Drill | ling Equipment: Geoprobe 8140LS | ▼ Water I | Depth I | During | g Drilli | ng (f | t bgs |): not ob | served | Date / Time Completed: 6/11/2018 / | | | |
| Drill | ling Method: Direct Push | Logged B | y: R.1 | McCre | eady | | | | | Checked By: E.Larsen 8/14/2018 | | | |
| Bore | shole Diameter (inches): 2 | Weather/Co | omments | s: Lo | cated a | | | - | WSW of | the W co | orner of Bldg 8; | | |
| Depth (feet) | USCS Description | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | DIS (wdd) | Time | Well Diagram | Remarks (list sample numbers here) | | |
| | WELL GRADED SAND, light brown, fine grained sand, trace fine to medium grained gravel POORLY GRADED SAND, dry, fine to me sand, trace silt, slightly cohesive POORLY GRADED SAND, dry, medium trace silt, yellow orange layers, slightly cohent logged Total Depth 5ft bgs | d, angular dium grained grained sand, | | SP | | DP | NA | 0.0 | | | Well completed with a flush mount 6-inch steel manhole in a concrete pad Soil sample SC-APR-SS03-01 was collected from 0 to 1ft bgs @ 1230 and analyzed for PFCs by EPA Method 537 Bentonite seal installed from 0.5 to bgs Filterpack sand installed from 1 to 5 bgs Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 2 to 5ft bgs Groundwater sample SC-APR-MW 072018 was collected on 20-Jul-20 @ 0938 and analyzed for PFCs by EPA Method 537, screen interval shown Soil sample SC-APR-SB03-45 was collected from 4 to 5ft bgs @ 1236 and analyzed for PFCs by EPA Method 537 | | |



| Proje | ect Name: ANGB PFAS | Site: | Backgro | und | | | | | | | Hole | ID: SC-BBW-MW01 |
|--|--|--------------|------------------|---------|----------------------|--------------------------------|--------|------------|------------|--------|--------------|---|
| Proje | ect Number: 60520893 | | Northing: | 1464 | 397.3 | 37 | | | | | Total I | Depth (feet): 4.0 |
| Drilling Contractor: Cascade Drilling Easting: 646695.39 | | | | | Date / T | Time Started: 6/11/2018 / 1200 | | | | | | |
| Drill | er: J.Buley | | Elevation (| feet M | SL): | G | roun | d: | 338.83 | | Date / 7 | Γime Finished: 6/11/2018 / 1220 |
| Drilli | ing Equipment: Geoprobe 8140LS | | ▼ Water I | Depth I | Ouring | g Drilli | ng (f | t bgs |): not ob | served | Date / | Time Completed: 6/14/2018 / |
| Drilli | ing Method: Direct Push | | Logged By | y: R.N | ЛсСre | eady | | | | | Checke | ed By: E.Larsen 8/14/2018 |
| Borel | hole Diameter (inches): 2 | | Weather/Co | mments | : Lo | cated a | pprox | imate | ly 800 ft | WSW of | the W co | orner of Bldg 2; |
| Depth (feet) | USCS Descript | ion | | Graphic | USCS or Rock Type | Attempted Recovered | Method | Blow Count | oles (mdd) | Time | Well Diagram | Remarks (list sample numbers here) |
| | WELL GRADED SAND, dry, light br grained sand, trace fine to medium of the sand | rown fine to | o medium avel | | SW | | DP | NA | 0.0 | 1220 | | Well completed with a flush mount 6-inch steel manhole in a concrete pad Bentonite seal installed from 0.5 to bgs Filterpack sand installed from 1 to 4 bgs Ten slot 2-inch Schedule 40 PVC Pre-Pack Screen installed from 2 to 4ft bgs No groundwater sample collected, was dry |





| Site: Strat | the PFAS | LocID: B31-MW01 | | Date/Time Started: 6/13/18 | |
|--------------------|--|--|--|---|--|
| Project Name: | | Project Number: 60720893 | 3 | Date/Time Completed: 6 (17/18 | |
| Drilling Contracto | | Drilling Equipment: Geoprol | Logged By: | | |
| Driller: 3 | | Borehole Diameter (in.): 2 | | Checked By: | |
| FILTER PACK | Type & Size of Filter Pack: Amount of Filter Pack Used (lbs): | The state of the s | Filter Pack Man | ufacturer: U.S. Silicon Co. | |
| BENTONITE SEAL | Type & Size of Bentonite: | | Bentonite Manut | facturer: | |
| GROUT | Cement Manufacturer:Qv | | Bentonite Powde | er Type:er Manufacturer: | |
| | Amount of Cement Used (lbs): | 100 165 | Amount of Bento | onite Powder Used (lbs): | |
| WELL DETAILS | Depth to Water (ft): | | Type of Well Ca Type of End Cap Dimensions of S | 7 | |
| 2 · s | WELL CAP CONDITIONS and draw) SCREEN LENGTH SAND CELLAR LENGTH | | DEPTH TO DEP | LEGEND GROUT BENTONITE SEAL FILTER PACK TO TOP OF FILTER PACK TO TOP OF SCREEN TO TOP OF SCREEN GROUT BENTONITE SEAL SO TO TOP OF SCREEN GROUT GROUT BENTONITE SEAL SO TO TOP OF FILTER PACK TO TOP OF SCREEN GROUT SO TOP OF SCREEN GROUT GROUT BENTONITE SEAL SO TO TOP OF SCREEN GROUT SO TOP OF SCREEN | |
| | | | | NOT TO SCALE | |

| Site: St. | atter PFAS | LocID: B12 - MWOI | | Date/Time Started: 6/15/8 | |
|-------------------|--|----------------------------|--|---|--|
| Project Name: | Schenestery No/ | Project Number: 6052089 | Date/Time Completed: 6//5//8 | | |
| | | Drilling Equipment: Gerra | Logged By: 72~ | | |
| Driller: 3.6 | 2 | Borehole Diameter (in.): 2 | | Checked By: | |
| FILTER PACK | | E.IPIO | Filter Pack Man | nufacturer: VS S:1. Co. | |
| BENTONITE SEAL | | Sentpro | Bentonite Manu | ufacturer: PD3 | |
| GROUT | Cement Manufacturer:Q | vie krete | Bentonite Powd | der Type:der Manufacturer:der Manufacturer:denite Powder Used (lbs): | |
| WELL DETAILS | Screen Material/Manufactuer: Screened Interval (ft): | PUC -7 | Casing Material/Manufactuer: Type of Well Cap/Manufactuer: Type of End Cap/Manufactuer: Dimensions of Security Box: | | |
| SPECIAL | WELL CAP CONDITIONS and draw) | | CASING GROUN | LEGEND GROUT BENTONITE SEAL FILTER PACK TO TOP OF BENTONITE SEAL 3' | |
| | SCREEN LENGTH | | — END CAP LE | TO TOP OF FILTER PACK TO TOP OF SCREEN INGTH | |
| | | | | NOT TO SCALE | |

| Site: StreetIOA | | LociD: BO2-MWO1 | | Date/Time Started: 6/15/18 840 | |
|-----------------------------|--|----------------------------|-----------------------------------|---|--|
| Project Name: Strattor PFAS | | Project Number: 60740993 | | Date/Time Completed: 6/13/18 | |
| Drilling Contract | or: Cascade | Drilling Equipment: Googen | ٤ | Logged By: Zw | |
| Driller: TP | | Borehole Diameter (in.): 2 | | Checked By: | |
| FILTER PACK | Type & Size of Filter Pack: Amount of Filter Pack Used (lbs): | Filpro 50 | Filter Pack Man | ufacturer: U.S. S:1 CO | |
| BENTONITE SEAL | Type & Size of Bentonite: Amount of Bentonite Used (lbs): _ | Bentpro 25 | Bentonite Manu | facturer: PDS | |
| No. | Type of Cement: | chrete | Bentonite Powd | er Type: | |
| GROUT | | Ruicknete | | er Manufacturer: | |
| | Amount of Cement Used (lbs): | 100 | Amount of Bento | onite Powder Used (lbs): | |
| | Screen/Casing Diameter (in): | 2" | Casing Material | /Manufactuer: | |
| | Screen Material/Manufactuer: | pre | Type of Well Ca | p/Manufactuer: Fishmont | |
| WELL DETAILS | | | | p/Manufactuer: | |
| | | | Dimensions of Security Box: 6 × 6 | | |
| | Water Added During Construction | (gal): 1/2 | | | |
| | WELL CAR CONDITIONS and draw) | | GROUN | LEGEND GROUT BENTONITE SEAL FILTER PACK TO TOP OF BENTONITE SEAL O.5 | |
| | SCREEN LENGTH | | | TO TOP OF FILTER PACK 7. 5 TO TOP OF SCREEN 2.5 | |
| | SAND CELLAR LENGTH | | | NGTH 0.25' O BASE OF WELL 7.5 DLE DEPTH 7.5 | |
| | | | | NOT TO SCALE | |

| Site: Stchementaly NY | LocID: B11-MW01 | | Date/Time Started: 6/14/18 1315 | | |
|---|-----------------------------|--|---|--|--|
| Project Name: Stratton Auto | Project Number: 60520893 | 3 | Date/Time Completed: 6/14/18 1415 | | |
| Drilling Contractor: Cascade | Drilling Equipment: Geopral | | Logged By: KM | | |
| Driller: Jp | Borehole Diameter (in.): 2" | | Checked By: | | |
| PACK Amount of Filter Pack Used (lbs | | | | | |
| BENTONITE SEAL Type & Size of Bentonite: Amount of Bentonite Used (lbs) | Beatpro | Bentonite Manu | facturer: | | |
| GROUT Cement Manufacturer: | | Bentonite Powd | ler Type: ler Manufacturer: onite Powder Used (lbs): | | |
| DETAILS Screened Interval (ft): Depth to Water (ft): | Ne | Type of Well Ca Type of End Ca Dimensions of S | /Manufactuer: A PVC ap/Manufactuer: Flushment p/Manufactuer: 5 7/01 Security Box: 6 × 6 | | |
| SPECIAL CONDITIONS (describe and draw) SCREEN LENGTH SAND CELLAR | | DEPTH TO DEP | LEGEND GROUT BENTONITE SEAL FILTER PACK TO TOP OF BENTONITE SEAL TO TOP OF FILTER PACK TO TOP OF SCREEN TO TOP OF SCREEN TO TOP OF SCREEN TO TOP OF SCREEN | | |
| LENGTH | | BOREHO | NOT TO SCALE | | |

| Site: Schenectedy | | LOCID: BOT-MWOL | | Date/Time Started: 6/11/18 745 | |
|---------------------|--|--|--|---|--|
| | Grotton TFAS | Project Number: 6052 0893 | 3 | Date/Time Completed: | |
| Drilling Contractor | " Cascada | Drilling Equipment: (700)2506 | : | Logged By: RM | |
| Driller: JP | | Borehole Diameter (in.): 2 " | | Checked By: | |
| B 4 617 | Type & Size of Filter Pack: | -ilpro | Filter Pack Man | ufacturer: Vs. Sil Co. | |
| SEAL | Amount of Bentonite Used (lbs): _ | | Bentonite Manu | facturer: PDS | |
| GROUT | Cement Manufacturer: | of Cement: Best Ovick rete | | er Type:er Manufacturer:eonite Powder Used (lbs): | |
| WELL DETAILS | Screened Interval (ft): | Pvc -8 | Type of Well Cap/Manufactuer: Type of End Cap/Manufactuer: Dimensions of Security Box: | | |
| 2 × | WELL CAP CONDITIONS and draw) SCREEN LENGTH | | DEPTH 1 DEPTH 1 DEPTH 1 | | |
| | SAND CELLAR LENGTH | ************************************** | | O BASE OF WELL 8. | |

| Site: Stratter PEAR | LOCID: B3T-MWD1 | | Date/Time Started: 6/13/18 |
|--|----------------------------|--------------------------------|--|
| Project Name: Somectedy Ny | Project Number: 60>20893 | 3 | Date/Time Completed: 6/15 /18 1015 |
| Drilling Contractor: Casaale | Drilling Equipment: Green | مادو | Logged By: |
| Driller: 32 | Borehole Diameter (in.): 2 | | Checked By: |
| PACK Amount of Filter Pack Used (II | | Filter Pack Man | ufacturer: V.S. Sill Co. |
| BENTONITE Type & Size of Bentonite: SEAL Amount of Bentonite Used (lb: | Benīfil s): 25 lbs | Bentonite Manu | facturer: |
| GROUT Cement Manufacturer: Amount of Cement Used (lbs) | 50 lbs | Bentonite Powd | er Type: er Manufacturer: onite Powder Used (lbs): |
| DETAILS Screened Interval (ft): | PVC | Type of Well Ca | /Manufactuer: Fluthmosat p/Manufactuer: 3 - plv9 Security Box: 6 > 6 |
| DIMENSION OF CONCRETE PAD 2' × 2' WELL SPECIAL CONDITIONS (describe and draw) | CAP | SECURITOR CASING | TY VAULT G LENGTH BELOW O.7 * LEGEND |
| | | DEPTH | GROUT BENTONITE SEAL FILTER PACK TO TOP OF BENTONITE SEAL |
| SCRE LENG SAND CELLAR LENGTH | | DEPTH 1 END CAP LET DEPTH TO | TO TOP OF FILTER PACK TO TOP OF SCREEN S NGTH O BASE OF WELL B LE DEPTH |
| | | | NOT TO SCALE |

| Site: Scheacetedy ANGB | LOCID: IRP3 - MWOI | /5303 | Date/Time Started: 6/12/18 /040 |
|---|----------------------------|---|--|
| Project Name: Stretter PRAS | Project Number: 6052 0893 | } | Date/Time Completed: 1100 |
| Drilling Contractor: Cascal | Drilling Equipment: Google | 1. | Logged By: 22 |
| Driller: 3P | Borehole Diameter (in.): 2 | | Checked By: |
| B401/ | Filpro | Filter Pack Manu | ufacturer: US Silicon Co. |
| 0541 | ratorite Phy | Bentonite Manuf | facturer: PDS |
| GROUT Cement Manufacturer: | icknete | Bentonite Powde | er Type:er Manufacturer:enite Powder Used (Ibs): |
| WELL DETAILS Screen Material/Manufactuer: Screened Interval (ft): Depth to Water (ft): | Pre-park | Type of Well Cap Type of End Cap Dimensions of So | Manufactuer: p/Manufactuer: |
| WELL CAP SPECIAL CONDITIONS (describe and draw) | | SECURIT CASING | LEGEND GROUT BENTONITE SEAL FILTER PACK |
| SCREEN LENGTH SAND CELLAR LENGTH | | DEPTH TO DEPTH TO END CAP LEN DEPTH TO | TO TOP OF BENTONITE SEAL TO TOP OF FILTER PACK TO TOP OF SCREEN DISTRIBUTION DISTR |

| Site: Schen | rectedy ANGB | LOCID: APR-MNOI | | Date/Time Started: 6(n/18 1100 | |
|--------------------|--|----------------------------|---|--|--|
| | Straffin PFAS | Project Number: 6052089 | \$. | Date/Time Completed: | |
| Drilling Contracto | or: Cascade | Drilling Equipment: Geopal | • | Logged By: RM | |
| Driller: JP | | Borehole Diameter (in.): | | Checked By: | |
| FILTER PACK | Type & Size of Filter Pack: | | Filter Pack Man | ufacturer: U.S. Silicon Co. | |
| BENTONITE SEAL | Type & Size of Bentonite: | s Draton, k pag | Bentonite Manu | facturer: PDS | |
| \$C | Type of Cement: | kreta | Bentonite Powd | er Type: | |
| GROUT | Cement Manufacturer:Q | vickate | Bentonite Powd | er Manufacturer: | |
| | Amount of Cement Used (lbs): | | Amount of Bent | onite Powder Used (lbs): | |
| | /0i Di/i-\ | 7" | Oneine Meterial | B. Carrella China | |
| | Screen/Casing Diameter (in): | | • | /Manufactuer: | |
| WELL | Screen Material/Manufactuer: | 1 | | ap/Manufactuer: Flushment | |
| DETAILS | | | Type of End Cap/Manufactuer: Dimensions of Security Box: | | |
| | | (gal): | | Security Box: | |
| | WELL CAP CONDITIONS and draw) SCREEN LENGTH LENGTH LENGTH | | GROUN DEPTH DEPTH DEPTH DEPTH SEND CAP LEI | LEGEND GROUT BENTONITE SEAL FILTER PACK TO TOP OF BENTONITE SEAL TO TOP OF SCREEN | |
| | LENGTH | | BOREHO | LE DEPTH 12' | |
| | | | | NOT TO SCALE | |

| Site: Sch | enectedy NY | LOCID: APE-MNUZ | | Date/Time Started: 6/14/(8 1130 | |
|-------------------|--|------------------------------|---|--|--|
| Project Name: | Stratton PFAS | Project Number: 6052089. | | Date/Time Completed: | |
| | rilling Contractor: | | | Logged By: 🍞 🏎 | |
| Driller: | | Borehole Diameter (in.): 2 ` | Checked By: | | |
| FILTER PACK | Type & Size of Filter Pack: Amount of Filter Pack Used (lbs): | Filpro | Filter Pack Man | ufacturer: US Sil Co. | |
| BENTONITE SEAL | | bent-pro | Bentonite Manu | facturer: TDS | |
| GROUT | | | Bentonite Powd | ler Type: ler Manufacturer: onite Powder Used (lbs): | |
| WELL DETAILS | Screen Material/Manufactuer: Screened Interval (ft): | 1′ | Type of Well Cap/Manufactuer: Flushmout Type of End Cap/Manufactuer: T - plug Dimensions of Security Box: G × G | | |
| SPECIAL | WELL CAP and draw) | | SECURI CASING GROUN DEPTH | UND SURFACE (REFERENCE POINT) TY VAULT G LENGTH BELOW O. 5 LEGEND GROUT BENTONITE SEAL FILTER PACK TO TOP OF BENTONITE SEAL 3 | |
| | SCREEN LENGTHS | | ——— DEPTH T | O BASE OF WELL 7' | |
| | | | | NOT TO SCALE | |

WELL CONSTRUCTION LOG (FLUSH MOUNT COMPLETION)

| Site: Straff | on schenodadu | LocID: APR-MWU3 | | Date/Time Started: 6/14//8 |
|-------------------|--|----------------------------|-----------------|---|
| Project Name: | Straffer PEAS | Project Number: 60720893 |) | Date/Time Completed: |
| Drilling Contract | ior: Caseade | Drilling Equipment: Geopol | ٤ | Logged By: Pm |
| Driller: उ | | Borehole Diameter (in.): | | Checked By: |
| FILTER PACK | | Fillro 1 Beg (50 161) | Filter Pack Man | nufacturer: <u>VS</u> , <u>Co</u> , |
| BENTONITE SEAL | Type & Size of Bentonite: Amount of Bentonite Used (lbs): _ | Bentpro 1/2 may (25 165) | Bentonite Manu | ufacturer: PDS |
| | Type of Cement: | krete | Bentonite Powd | der Type:NA |
| GROUT | Cement Manufacturer: | vickate | Bentonite Powd | der Manufacturer: |
| | Amount of Cement Used (lbs): | 100 165 | Amount of Bent | tonite Powder Used (lbs): |
| | Screen/Casing Diameter (in): | | - | I/Manufactuer:Stee (|
| WELL | | _ | | ap/Manufactuer: Flushmount |
| DETAILS | Screened Interval (ft): 2 | | | ap/Manufactuer: <u>3 Plus</u> |
| | Depth to Water (ft): | | Dimensions of S | Security Box: 6 × 6 |
| | Water Added During Construction | (gal): | | |
| 2' SPECIAL | WELL CAP CONDITIONS and draw) | | DEPTH DEPTH | LEGEND GROUT BENTONITE SEAL FILTER PACK TO TOP OF FILTER PACK |
| | SCREEN LENGTH | | END CAP LE | NGTH |
| | | | | NOT TO SCALE |

WELL CONSTRUCTION LOG (FLUSH MOUNT COMPLETION)

| Site: Schenected! NY | LocID: BBW-MW01 | Date/Time Started: 6/14/18 /050 | | | | |
|---|-----------------------------|--|--|--|--|--|
| Project Name: Stratton PFAS | Project Number: 6-520873 | Date/Time Completed: 6/14/18 | | | | |
| Drilling Contractor: Cascale | Drilling Equipment: Gapouse | Logged By: 72 ^ | | | | |
| Driller: 3P | Borehole Diameter (in.): 2" | Checked By: | | | | |
| FILTER Type & Size of Filter Pack: PACK Amount of Filter Pack Used (lbs): | | Filter Pack Manufacturer: U.S. Silicon Co | | | | |
| BENTONITE SEAL Type & Size of Bentonite: Amount of Bentonite Used (lbs): | _ | Bentonite Manufacturer: PDS | | | | |
| GROUT Type of Cement:C Cement Manufacturer:C Amount of Cement Used (lbs): | dickrete | Bentonite Powder Type: Bentonite Powder Manufacturer: Amount of Bentonite Powder Used (lbs): | | | | |
| WELL DETAILS Screened Interval (ft): 2 Depth to Water (ft): | PVC | Casing Material/Manufactuer: Type of Well Cap/Manufactuer: Type of End Cap/Manufactuer: Dimensions of Security Box: | | | | |
| WELL CAP SPECIAL CONDITIONS (describe and draw) SCREEN LENGTH 2: | | GROUND SURFACE (REFERENCE POINT) SECURITY VAULT CASING LENGTH BELOW GROUND SURFACE LEGEND GROUT BENTONITE SEAL FILTER PACK DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF SCREEN LEGEND C.5 LEGEND DEPTH TO TOP OF BENTONITE SEAL DEPTH TO TOP OF SCREEN LEGEND DEPTH TO TOP OF SCREEN LEGEND LEGEND DEPTH TO TOP OF SCREEN LEGEND DEPTH TO TOP OF SCREEN LEGEND LEGEND DEPTH TO TOP OF SCREEN LEGEND LEGEND DEPTH TO TOP OF SCREEN LEGEND LEGEND | | | | |
| SAND CELLAR LENGTH | | BOREHOLE DEPTH | | | | |

| | Monit | oring Well | Purging | / Sampli | ng Form | | | | |
|---|--------------------|-----------------------------|-------------|----------|------------|------------|----------|-----|--|
| Project Name and Number: | | Stratton ANG | G, 60520890 | task 8.2 | | | | | |
| Monitoring Well Number: | | B31-M | WOI | Date: | | 6/-/2018 | 7/20 | 118 | |
| Samplers: | | Alex Golde | Alex Golden | | | | | | |
| Sample Number: | | | | QA/QC | Collected? | | | | |
| Purging / Sampling Method: | | Bladder pum | p/Dedicated | Tubing | | | | | |
| 1. L = Well Depth: | | | | | feet | D (inches) | D (feet) | 1 | |
| 2. D = Riser Diameter (I.D.): | | | | | feet | 1-inch | 0.08 | 1 | |
| 3. W = Depth to Water: | | | | | feet | 2-inch | 0.17 | 1 | |
| 4. C = Column of Water in Well: | | | | | feet | 3-inch | 0.25 | 1 | |
| 5. V = Volume of Water in Well | | 9)(n 5D) ² (7 48 | 3) | | gal | 4-inch | 0.33 | | |
| 6. 3(V) = Target Purge Volume | - 0(3.1413. | 5)(0.5 <i>5</i>) (7.40 | -1 | 411 | gal | 6-inch | 0.50 | • | |
| o. s(v) = raigeer arge volume | | | | | Bui | O IIICII | 0.50 | 1 | |
| Conversion factors to determine V given C | | | | | | | | | |
| | | D (inches) | 1-inch | 2-inch | 3-inch | 4-inch | 6-inch | 1 | |
| | | V (gal / ft) | 0.041 | 0.163 | 0.37 | 0.65 | 1.5 | 1 | |
| Water Quality Readings Collecto | _ | | | | | - | | | |
| Parameter | Units | | | | Readings | | | | |
| Time | 24 hr | | | | | | | | |
| Water Level (0.33) | feet | | | | | | | | |
| Volume Purged | gal | | | | | | | | |
| Flow Rate | mL/min | | | | | | | | |
| Turbidity (+/- 10%) | NTU | | | | | 1 | | | |
| Dissolved Oxygen (+/- 10%) | % | ļ | | | | | | | |
| Dissolved Oxygen (+/- 10%) | mg/L | | | | | | | | |
| Eh / ORP (+/- 10) | MeV | | | | | | | | |
| Specific Conductivity (+/- 3%) | mS/cm ^c | | | | | | | | |
| Conductivity (+/- 3%) | mS/cm | | | | | | | | |
| pH (+/- 0.1) | pH unit | | | | | | | | |
| Temp (+/- 0.5) | C. | | | | | | | | |
| Color | Visual | | | - | | | | | |
| Odor | Olfactory | | | | | | | | |
| Comments: 1430 | 4 | | | | | | | | |

| | Monit | oring Well | Purging | / Samplii | ng Form | | | |
|---|--------------------|----------------------------|------------------|------------------------------------|--|--|---------------|---|
| Project Name and Number: | | Stratton ANO | G, 60520890 | task 8.2 | | | | |
| Monitoring Well Number: | | B12-11/1 | 101 | Date: | | 3/19 2018 | | |
| Samplers: | | Alex Golder | n | | | | | |
| Sample Number: | | | QA/QC Collected? | | | | | |
| Purging / Sampling Method: | | Bladder pum | p/Dedicated | Tubing | | | | _ |
| 1. L = Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well: 5. V = Volume of Water in Well: 6. 3(V) = Target Purge Volume | feefee | | | feet feet feet gal gal | Teet 1-inch 0.08 Geet 2-inch 0.17 Geet 3-inch 0.25 gal 4-inch 0.33 gal 6-inch 0.50 | | | |
| | | D (inches) V (gal / ft) | 1-inch 0.041 | 2-inch 0.163 | 3-inch 0.37 | 4-inch 0.65 | 6-inch 1.5 | |
| Water Quality Readings Collecte | | | | | | | | |
| Parameter Times | Units | 120251 | | | Readings | 1 | 1 | |
| Time | 24 hr | 0920 | | | | 17 | | |
| Water Level (0.33) | feet | DRY | | | | - 6 | | |
| Volume Purged | gal | · ' | | | | | | |
| Flow Rate | mL/min | | | | | | | |
| Turbidity (+/- 10%) | NTU | - | | | | 8 | | |
| Dissolved Oxygen (+/- 10%) | % | | | | | | | |
| Dissolved Oxygen (+/- 10%) | mg/L | | | - | | | | |
| Eh / ORP (+/- 10) | MeV | - | | | - | | | |
| Specific Conductivity (+/- 3%) | mS/cm ^c |] | | | | | | |
| Conductivity (+/- 3%) | mS/cm | | | | | | | |
| pH (+/- 0.1) | pH unit | | | | | | | |
| Temp (+/- 0.5) | C. | ļ | | | | | | |
| Color | Visual | - | | | | | | |
| Odor | Olfactory | <u> </u> | | | | THE STATE OF THE S | l l | |
| Comments: DLY @ | 09 | 30 | | | | | | |
| | | | | | | | Page 1 of | 1 |

| | Monite | oring Wel | l Purging | / Samplii | ng Form | | | | |
|--|---|-------------|--------------|------------|------------|-----------|------|-------|--|
| Project Name and Number: | | Stratton AN | G, 60520890 |) task 8.2 | | | | | |
| Monitoring Well Number: | | B02-M | MOI | Date: | | 7/19/2018 | - 07 | 61/02 | |
| Samplers: | | Alex Golde | o 72 | 200 | | | | | |
| Sample Number: | Sc | -B07-MW | | ₩ QA/QC | Collected? | | | | |
| Purging / Sampling Method: | | Bladder pun | np/Dedicated | l Tubing | | | | | |
| 1. L = Well Depth: 7.01 feet D (inches) D (feet) 2. D = Riser Diameter (I.D.): feet 1-inch 0.08 3. W = Depth to Water: 5.11 feet 2-inch 0.17 4. C = Column of Water in Well: feet 3-inch 0.25 5. V = Volume of Water in Well = C(3.14159)(0.5D)²(7.48) gal 4-inch 0.33 6. 3(V) = Target Purge Volume gal 6-inch 0.50 | | | | | | | | | |
| Conversion factors to determine V given C | | | | | | | | | |
| D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch V (gal / ft) 0.041 0.163 0.37 0.65 1.5 | | | | | | | | | |
| Water Quality Readings Collecte | ed Using | | SI +NT | ù | | _ | | | |
| Parameter | Units | 1.4 | | | Readings | | | | |
| Time | 24 hr | 0920 | 0925 | 1115 | | | | | |
| Water Level (0.33) | feet | 5.11 | Pry | 5.35 | | | | | |
| Volume Purged | gal | -10 | , | .10 | | | | | |
| Flow Rate | mL/min | 150 | | 150 | | | | | |
| Turbidity (+/- 10%) | NTU | 240 | OR | 857 | | | | | |
| Dissolved Oxygen (+/- 10%) | % | 25.4 | | 36.7 | | | | | |
| Dissolved Oxygen (+/- 10%) | mg/L | | | _ | | | | | |
| Eh / ORP (+/- 10) | MeV | -1.1 | | 28.1 | | | | | |
| Specific Conductivity (+/- 3%) | mS/cm ^c | 593 | | -Le90 | | | | | |
| Conductivity (+/- 3%) | mS/cm | .554 | | .676 | | | | | |
| pH (+/- 0.1) | pH unit | 7.82 | | 6.87 | | | | | |
| Temp (+/- 0.5) | C. | 21.57 | | 23.94 | | | | | |
| Color | Visual | Murky | | LBrown | | | | | |
| Odor | Olfactory | None | | nine | | | | | |
| comments: PM @ C | comments: PM@ 0925 sampled @ 1/20 on 07/20/18 | | | | | | | | |

N

| | Monit | oring Well | Purging | / Sampli | ng Form | | | |
|--|--------------------|----------------------------|-----------------|-----------------|---|-----------------------------------|---------------|----------|
| Project Name and Number: | | Stratton ANC | G, 60520890 | task 8.2 | | | | |
| Monitoring Well Number: | | B11-M | 1001 | Date: | | 6 / /2018 | 07/2 | 20118 |
| Samplers: | | Alex Golder | n | | | | | |
| Sample Number: | | | - | QA/QC | Collected? | | | |
| Purging / Sampling Method: | | Bladder pump | p/Dedicated | Tubing | | | | |
| 1. L = Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well: 5. V = Volume of Water in Well 6. 3(V) = Target Purge Volume | | feet feet | | | D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch | D (feet) 0.08 0.17 0.25 0.33 0.50 | | |
| | | | Conversior | n factors to | determine \ | V given C | | |
| ~ | | D (inches) V (gal / ft) | 1-inch 0.041 | 2-inch 0.163 | 3-inch 0.37 | 4-inch 0.65 | 6-inch 1.5 | |
| Water Quality Readings Collecte | | | | | | | | |
| Parameter | Units | | | ı | Readings | 1 | | T |
| Time | 24 hr | | | | | | | |
| Water Level (0.33) | feet | <u> </u> | | | | | | |
| Volume Purged | gal | - | | | | | | |
| Flow Rate | mL/min | 1 | | | | | | |
| Turbidity (+/- 10%) | NTU | - | | | | | | |
| Dissolved Oxygen (+/- 10%) | % | | | | | | | |
| Dissolved Oxygen (+/- 10%) | mg/L | | | | | <u> </u> | | |
| Eh / ORP (+/- 10) | MeV | | | | | | | |
| Specific Conductivity (+/- 3%) | mS/cm ^c | | | | | | | |
| Conductivity (+/- 3%) | mS/cm | | | | | | | |
| pH (+/- 0.1) | pH unit | | | | | | | |
| Temp (+/- 0.5) | C* | | | | | | | |
| Color | Visual | | | | | | | |
| Odor | Olfactory | , ii | | | | | | <u> </u> |
| Comments: DRY | @ | 0750 | > | | | | | |
| 7 | | | | | | | | |
| | | | | | | | Page 1 of | 1 |

| | Monit | oring Wel | l Purging | / Sampli | ng Form | | | | 1 |
|---|--------------------|----------------------------|-----------------|-----------------|--|---|--|-------|-------|
| Project Name and Number: | | Stratton AN | G, 60520890 |) task 8.2 | 11211 | | | | |
| Monitoring Well Number: | | B07- | MWOI | Date: | Add to the second | 4 7 2018 | 3 | | |
| Samplers: | | Alex Golde | en | | m . | | | | |
| Sample Number: | SC- | 307 - MV | VOI 671 | 118 QA/QC | Collected? | MS/ | MSD | | |
| Purging / Sampling Method: | | Bladder pun | np/Dedicated | Tubing | | | | | |
| L = Well Depth: D = Riser Diameter (I.D.): W = Depth to Water: C = Column of Water in Well: V = Volume of Water in Well = 3(V) = Target Purge Volume | = C(3.14159 | 9)(0.5D) ² (7.4 | 8) | 4.52 | feet feet feet feet gal gal | D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch | D (feet) 0.08 0.17 0.25 0.33 0.50 | > | |
| | | | Conversion | n factors to | determine ' | V given C | | | |
| | | D (inches) V (gal / ft) | 1-inch 0.041 | 2-inch 0.163 | 3-inch 0.37 | 4-inch 0.65 | 6-inch 1.5 | | |
| Water Quality Readings Collecte | d Using | 1 | 514 | NYU | | | | | |
| Parameter | Units | | | | Readings | | | | 1 |
| Time / | 24 hr | 1955 | 1006 | 1005 | 1010 | 1015 | 1020 | 1025 | 1030 |
| Water Level (0.33) | feet | 6.52 | | 6.89 | 4.77 | | | 4.85 | 6.8 |
| Volume Purged | gal | .15 | . 35 | .49 | .65 | 6.73 | 2.15 | 2.35 | 2.61 |
| Flow Rate | mL/min | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| Turbidity (+/- 10%) | NTU | 1000 | 720 | 188 | 65.5 | | 20.8 | 17.7 | 170 |
| Dissolved Oxygen (+/- 10%) | % | 35.5 | 28.4 | 26.8 | 29.1 | 29.4 | 29.3 | 30.1 | 29.8 |
| Dissolved Oxygen (+/- 10%) | mg/L | _ | -0.14 | - | | 211 | 211.3 | 30.1 | |
| Eh / ORP (+/- 10) | MeV | 60.7 | 52.8 | 56.8 | 1.86 | 60.0 | 60.0 | 57.0 | 58 |
| Specific Conductivity (+/- 3%) | mS/cm ^c | 1.443 | | 2.127 | 2.178 | | O I Gia | | 10. |
| DECEMBER COMMUNITY IT (#7 - 3 70) | | | 1.896 | 1972 | 1.903 | 1,991 | 2.196 | 2,190 | 1.97 |
| | m S/am | | | 11 1/2 | רשוד. וו | IFATMI | 11101 | 1.170 | |
| Conductivity (+/- 3%) | mS/cm | 1,403 | 7.20 | 7 411 | () | | | 7 211 | - |
| Conductivity (+/- 3%) pH (+/- 0.1) | pH unit | 7.44 | 7.30 | 7.24 | 7.28 | 7.26 | 7.24 | 7.24 | 7.25 |
| Conductivity (+/- 3%) pH (+/- 0.1) Temp (+/- 0.5) | pH unit C* | 744 23.53 | 7.30 | 1997 | 7.28 | 7.26 | 7.24 | 19.64 | 19.70 |
| Conductivity (+/- 3%) pH (+/- 0.1) | pH unit | 7.44 | 7.30 | | 7.28 | 7.26 | 7.24 | 19.64 | |

sampling time @ 1035

| | Monito | oring Well | l Purging | / Samplii | ng Form | | * | |
|---------------------------------|--------------------|---------------------------|--------------|------------|------------------|-------------|----------|-------|
| Project Name and Number: | | Stratton AN | G, 60520890 | task 8.2 | | | | |
| Monitoring Well Number: | | B35- | MWOI | Date: | | 7,5/14/2018 | -7/2c | 0/18 |
| Samplers: | | Alex Golde | en 💝 🗸 🕒 | -697 | | | | |
| Sample Number: | SC- | B35-M1 | WOI WELL | A QA/QC | Collected? | | | 10000 |
| Purging / Sampling Method: | | Bladder pun | np/Dedicated | Tubing | | | | |
| 1. L = Well Depth: | | | | 8.51 | feet | D (inches) | D (feet) | |
| 2. D = Riser Diameter (I.D.): | | | | | feet | 1-inch | 0.08 | |
| 3. W = Depth to Water: | | | | 6.50 | feet | 2-inch | 0.17 | |
| 4. C = Column of Water in Well: | : | | | | feet | 3-inch | 0.25 | |
| 5. V = Volume of Water in Well | = C(3.14159 |)(0.5D) ² (7.4 | 8) | | gal | 4-inch | 0.33 | |
| 6. 3(V) = Target Purge Volume | · | ,, | • | | gal | 6-inch | 0.50 | |
| | | | | <u> </u> | • | | | |
| | | | Conversion | factors to | determine \ | V given C | | |
| | | D (inches) | 1-inch | 2-inch | 3-inch | 4-inch | 6-inch | |
| | | V (gal / ft) | 0.041 | 0.163 | 0.37 | 0.65 | 1.5 | |
| Parameter | Units | | | 1 | 7128 Readings | | | |
| Time | 24 hr | 0833 | 0838 | 0840 | 0855 | | | |
| Water Level (0.33) | feet | 6.50 | 8.40 | DM | 6.89 | | | |
| Volume Purged | gal | 1.1 | 115 | | | | | |
| Flow Rate | mL/min | 130 | 150 | | 200 | | | |
| Turbidity (+/- 10%) | NTU | 744 | 240 | | 72.9 | | | |
| Dissolved Oxygen (+/- 10%) | % | 26.3 | 19.4 | | 53.8 | | | |
| Dissolved Oxygen (+/- 10%) | mg/L | | | | | | | |
| Eh / ORP (+/- 10) | MeV | -89.3 | | | 43.7 | | E | |
| Specific Conductivity (+/- 3%) | mS/cm ^c | 2.201 | 1.714 | | 1.893 | | | |
| Conductivity (+/- 3%) | mS/cm | 2.030 | 1.512 | | 1.855 | | | |
| pH (+/- 0.1) | pH unit | 7.79 | 7.24 | | 6.94 | 1.0 | | |
| Temp (+/- 0.5) | C. | 20.87 | 18.84 | | 24.18 | | | |
| Color | Visual | munky | muncy | | clear | | | |
| Odor | Olfactory | None | None | ' | none | | | |
| Comments: Dry at | 0840 mp 12 (| @ 10 3 | 55 07 | -120 [0 | વ | | | |

Page 1 of



| | Monit | oring Wel | l Purging | / Samplir | ng Form | | | |
|---|--------------------|----------------------------|-----------------|-----------------|---|---|-----------------------------------|---|
| Project Name and Number: | | | G, 60520890 | task 8.2 | | | | |
| Monitoring Well Number: | | IP 123 | -Mwor | Date: | | B/1 92018 | | |
| Samplers: | | Alex Golde | en | 5 | | | | |
| Sample Number: | SC- | 1023-N | WO1 071 | 918 QA/QC | Collected? | DUP- | 01 & | |
| Purging / Sampling Method: | | Bladder pun | np/Dedicated | Tubing | | | 4019-14 | |
| L = Well Depth: D = Riser Diameter (I.D.): W = Depth to Water: C = Column of Water in Well: V = Volume of Water in Well = 3(V) = Target Purge Volume | = C(3.14159 |))(0.5D) ² (7.4 | | 6.67 | feet feet feet gal gal determine \ | D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch | D (feet) 0.08 0.17 0.25 0.33 0.50 | |
| | | D (inches) V (gal / ft) | 1-inch 0.041 | 2-inch 0.163 | 3-inch 0.37 | 4-inch 0.65 | 6-inch 1.5 | |
| Water Quality Readings Collecte | d Using | | 451- | NT | 7 | | | |
| Parameter | Units | 1320 | | | Readings | | | |
| Time | 24 hr | 120 | 1325 | 1330 | 1335 | 1340 | 1345 | |
| Water Level (0.33) | feet | 6.67 | 7.35 | 7.25 | 7.70 | | 8.09 | |
| Volume Purged | gal | 175 | 9-52 | 2.1 | 2.70 | 3.25 | 3.50 | |
| Flow Rate | mL/min | 150 | 120 | 120 | 150 | 150 | 150 | |
| Turbidity (+/- 10%) | NTU | 523 | 40.1 | 27.9 | 19.4 | 16.5 | 15.4 | |
| Dissolved Oxygen (+/- 10%) | % | 23.0 | 22.4 | 22.7 | 25.3 | 24.7 | 24.8 | |
| Dissolved Oxygen (+/- 10%) | mg/L | | | | | | _ | |
| Eh / ORP (+/- 10) | MeV | -59.4 | -30.9 | -27.3 | -31.2 | - 28.5 | -23.2 | |
| Specific Conductivity (+/- 3%) | mS/cm ^c | .946 | .904 | .896 | .892 | .891 | .886 | |
| Conductivity (+/- 3%) | mS/cm | .875 | .795 | 7778 | .776 | .776 | .767 | |
| pH (+/- 0.1) | pH unit | 7.34 | 7:01 | 7.13 | 7.29 | 7.29 | 7.20 | |
| Temp (+/- 0.5) | C. | 21.02 | 18.63 | 10.02 | 18.19 | 17.70 | 17.40 | |
| Color | Visual | murey | clear | clear | clear | Clecy | LICON | |
| Odor | Olfactory | None | None | None | None | None | None | |
| Comments: | i mp | ling | CI | 350 | | | | |
| | | | | | | | Page 1 of | 1 |

| | Monit | oring Wel | I Purging | / Sampli | ng Form | | | |
|---|--------------------|-------------------------|-----------------|-----------------|--|---|-----------------------------------|------|
| Project Name and Number: | | Stratton AN | IG, 60520890 |) task 8.2 | | | | |
| Monitoring Well Number: | 6 | MW - 2 | 24 | _ Date: | | #1 ¶/2018 | 3 | |
| Samplers: | | Alex Golde | en | | | | | |
| Sample Number: | 50 | -6MW-2 | 1FO H | 918 QA/QC | Collected? | | | |
| Purging / Sampling Method: | | Bladder pun | np/Dedicated | l Tubing | | | | |
| L = Well Depth: D = Riser Diameter (I.D.): W = Depth to Water: C = Column of Water in Well: V = Volume of Water in Well = 3(V) = Target Purge Volume | = C(3.14159 | ³)(0.5D)²(7.4 | | 7.99 6.32 | feet feet feet feet gal gal | D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch | D (feet) 0.08 0.17 0.25 0.33 0.50 | |
| | | | Conversion | n factors to | determine ' | V given C | | |
| | | D (inches) V (gal / ft) | 1-inch 0.041 | 2-inch 0.163 | 3-inch 0.37 | 4-inch 0.65 | 6-inch 1.5 | |
| Water Quality Readings Collecte | d Using | 75 | 1 + 1c |) TU | | - | | |
| Parameter Parameter | Units | | | | Readings | | | |
| Time | 24 hr | 1146 | 1145 | 1150 | 1155 | 1200 | 1205 | 1210 |
| Water Level (0.33) | feet | 6.32 | (0.30 | 6.30 | | 6.32 | 6.30 | |
| Volume Purged | gal | ,10 | 35 | .52 | 1.31 | 1.20 | 1.57 | |
| Flow Rate | mL/min | 150 | 150 | 15.0 | \$150 | 150 | 120 | |
| Turbidity (+/- 10%) | NTU | 22.3 | 15.8 | 12.4 | 3.52 | 7.28 | 7.06 | |
| Dissolved Oxygen (+/- 10%) | % | 26.6 | 25.8 | 16.3 | 14.8 | 17.1 | 17.7 | 11 |
| Dissolved Oxygen (+/- 10%) | mg/L | 4 W · W | 43.0 | 10.0 | 70.0 | | | |
| Eh / ORP (+/- 10) | MeV | -170.2 | -1601 | -165.8 | -148.9 | -154.7 | 1672 | |
| | mS/cm ^c | | -150.1 | .927 | . 922 | | - | |
| Specific Conductivity (+/- 3%) | | 1.041 | | | | . 922 | ,920 | |
| Conductivity (+/- 3%) | mS/cm | .970 | .820 | 903 | 1775 | .774 | 771 | |
| pH (+/- 0.1) | pH unit | 7.56 | 7,21 | 7.33 | 7.13 | 7.13 | 7.13 | |
| Temp (+/- 0.5) | C. | 21.33 | 18.72 | 17.73 | | 6.50 | 16.47 | |
| Color | Visual | ciear | Clear | | Clear | Clear | Clew | |
| Odor | Olfactory | SULFW | SULTUY | Sulfur | STORY | None | SURW | |
| Comments: | mlin | a (O | 1210 | | | Survi | (| |

| | Monit | oring Well | l Purging | / Sampli | ng Form | | | |
|---|--------------------|----------------------------|-----------------|-----------------|--|---|-----------------------------------|--|
| Project Name and Number: | | Stratton AN | G, 60520890 | task 8.2 | | | | |
| Monitoring Well Number: | | WWW- | -20 | Date: | | 4/9 /2018 | | |
| Samplers: | | Alex Golde | | - 10 | | | | |
| Sample Number: | 5 | C-6MW | -20 07 | +1918 QA/Q(| Collected? | | 1 | |
| Purging / Sampling Method: | | Bladder pun | np/Dedicated | Tubing | | | | |
| L = Well Depth: D = Riser Diameter (I.D.): W = Depth to Water: C = Column of Water in Well: V = Volume of Water in Well = 3(V) = Target Purge Volume | = C(3.1415§ | 3)(0.5D) ² (7.4 | 8) | 3.71 | feet feet feet feet gal gal | D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch | D (feet) 0.08 0.17 0.25 0.33 0.50 | |
| | | | Conversion | factors to | determine \ | / given C | | |
| | | D (inches) V (gal / ft) | 1-inch 0.041 | 2-inch 0.163 | 3-inch 0.37 | 4-inch 0.65 | 6-inch 1.5 | |
| Water Quality Readings Collected | d Using | | 181,1 | ITU | | | ./ | |
| Parameter | Units | | | | Readings | | | |
| Time | 24 hr | 123 | | 1241 | 1246 | 1251 | 1264 | |
| Water Level (0.33) | feet | 3.71 | 3.92 | 3.99 | 3.95 | 3.97 | 3.99 | |
| Volume Purged | gal | .50 | 165 | 1.00 | 1.45 | 1.75 | 2-15 | |
| Flow Rate | mL/min | 175 | 175 | 175 | 175 | 175 | 175 | |
| Turbidity (+/- 10%) | NTU | 7.20 | 8.26 | 8.30 | 45:6 | 53.2 | 44.2 | |
| Dissolved Oxygen (+/- 10%) | % | 9.8 | 9.8 | 6.5 | 7.4' | 7.8 | 44.2 8.3 | |
| Dissolved Oxygen (+/- 10%) | mg/L | | - | | - | - | | |
| Eh / ORP (+/- 10) | MeV | -228.6 | -222.0 | 231.6 | -238.1 | -234.0 | -233.6 | |
| Specific Conductivity (+/- 3%) | mS/cm ^c | 1.014 | 1.120 | 1.269 | 1,400 | 1.406 | | |
| Conductivity (+/- 3%) | mS/cm | .956 | 1.012 | 1,127 | 1.227 | 1.230 | 1.214 | |
| pH (+/- 0.1) | pH unit | 7.56 | 7.51 | 7.62 | 7.56 | 7,50 | 7.49 | |
| Temp (+/- 0.5) | C" | 21.86 | 19.83 | 19.20 | 19.00 | 18.99 | 18.87 | |
| Color | Visual | Clear | clear | | black is 17 | | 11 | |
| Odor | Olfactory | SUKW | SULFUY | SULFU | SUFFER | SUIFUR | SUFU | |
| Comments: | | | | | | | S | |
| | | Sant | pling | @ r | 230 | | | |

Page 1 of \

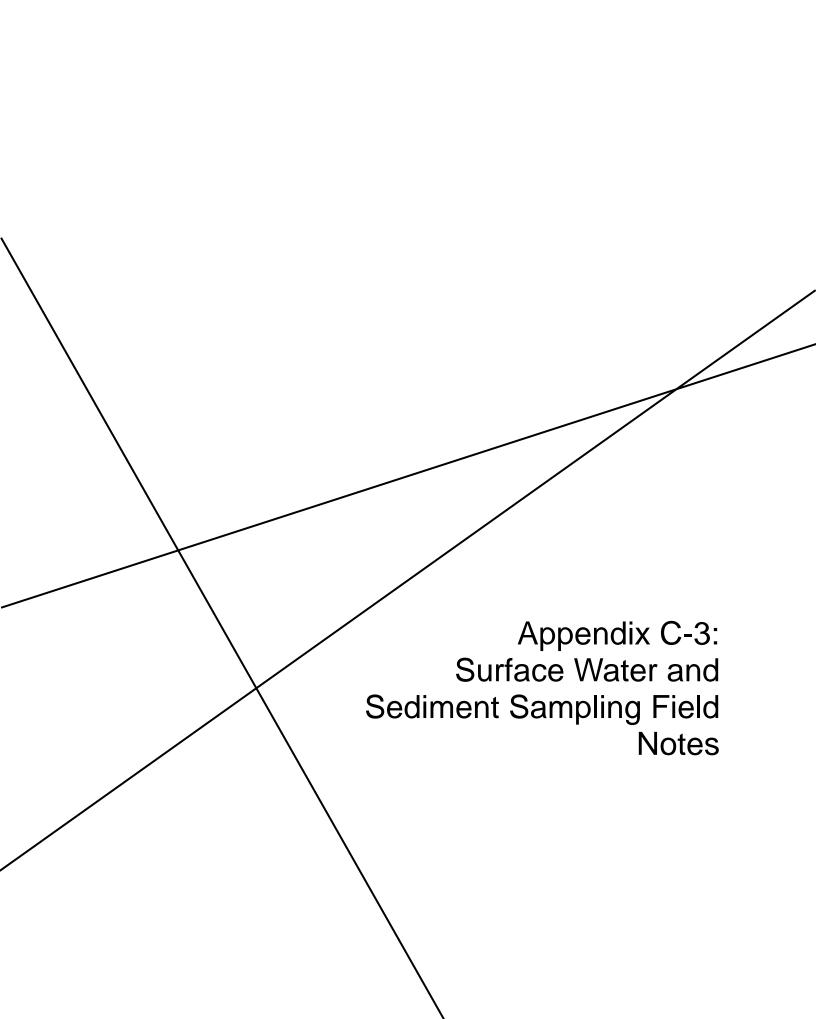
| | Monit | oring Wel | l Purging | / Sampli | ng Form | | | P |
|--|--------------------|----------------------------|-----------------|-----------------|------------------------------------|---|-----------------------------------|------|
| Project Name and Number: | | Stratton AN | G, 60520890 | task 8.2 | | | | |
| Monitoring Well Number: | | APR- | MWOI | Date: | | 7/2018 | 7/2 | 0/18 |
| Samplers: | | Alex Gold | en | | | | | |
| Sample Number: | Cr. | APR - M | NOI 07 | 20 18 0A/00 | Collected? | Dup | - 47 | - |
| | SC. | MIP III | | . 4.240 | concoica. | | | |
| Purging / Sampling Method: | | Bladder pun | np/Dedicated | Tubing | | | | |
| 1. L = Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well: 5. V = Volume of Water in Well 6. 3(V) = Target Purge Volume | | 9)(0.5D) ² (7.4 | 8) | 12.20 | feet feet feet gal gal | D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch | D (feet) 0.08 0.17 0.25 0.33 0.50 | |
| | | | Conversion | factors to | determine \ | V given C | | |
| | | D (inches) V (gal / ft) | 1-inch 0.041 | 2-inch 0.163 | 3-inch 0.37 | 4-inch 0.65 | 6-inch 1.5 | |
| Water Quality Readings Collecte | ed Using | <u> </u> | SI + N | TU | | . , | | |
| Parameter | Units | | | | Readings | | | |
| Time | 24 hr | 0802 | 0901 | 0812 | 0817 | 0822 | 0827 | |
| Water Level (0.33) | feet | 6.89 | 7.40 | 7.89 | 8.05 | 8.23 | | |
| Volume Purged | gal | 689 | 19 | ,25 | .35 | 8.23 | | |
| Flow Rate | mL/min | 175 | 179 | 175 | 175 | 179 | - | |
| Turbidity (+/- 10%) | NTU | 31.0 | 42.1 | 338 | 33.9 | 33.9 | | |
| Dissolved Oxygen (+/- 10%) | % | 24.0 | 25.4 | 23.4 | 22.4 | 21.9 | | |
| Dissolved Oxygen (+/- 10%) | mg/L | | • | | | | | |
| Eh / ORP (+/- 10) | MeV | -74.8 | -69.6 | -41.0 | -66.2 | ~68.6 | | |
| Specific Conductivity (+/- 3%) | mS/cm ^c | .964 | .957 | ,950 | .946 | , 944 | | = |
| Conductivity (+/- 3%) | mS/cm | .8+2 | 748 | .764 | 157 | ,755 | | |
| pH (+/- 0.1) | pH unit | 7.51 | 7.47 | 7.31 | 737 | 7.39 | | |
| Temp (+/- 0.5) | C. | 14.69 | 14.64 | 14.56 | 14.46 | 14.46 | | |
| Color | Visual | clear | Clear | CYCON | clear | | | |
| Odor | Olfactory | None | None | None | None | None | - | |
| Comments: | 4 | Sampli | ng e | | 30 | | | |
| | | | | | | | Page 1 of | i i |

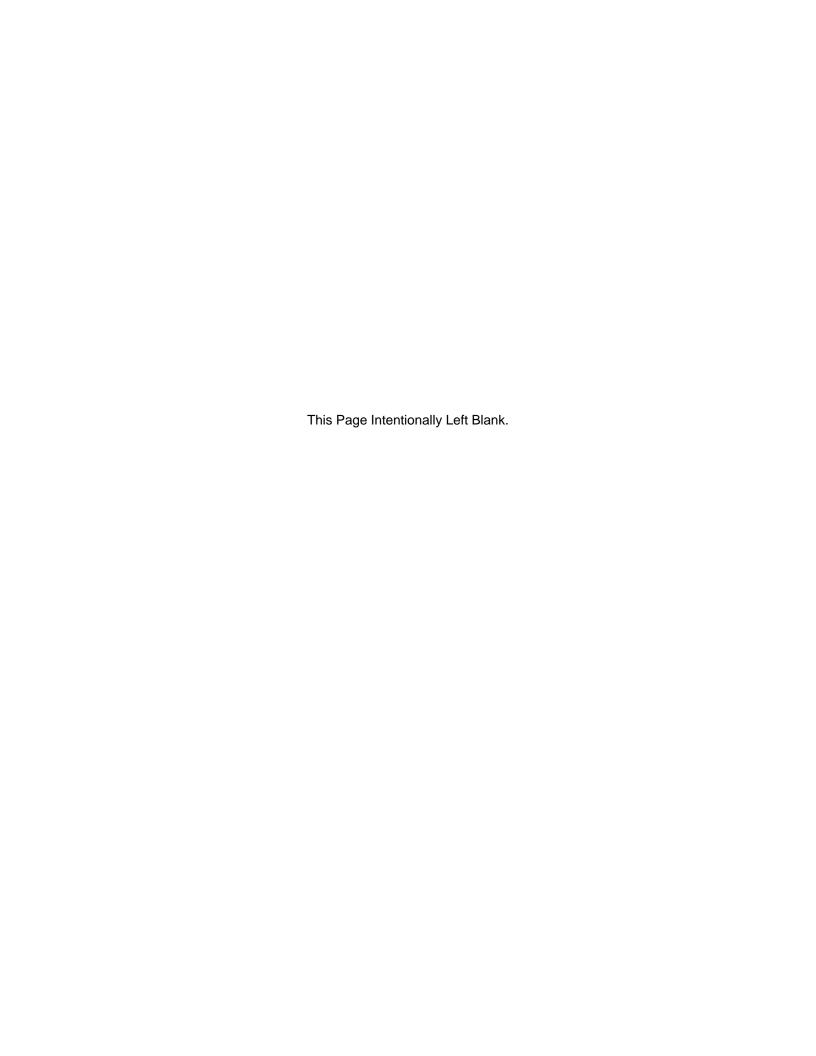
| | Monit | oring Well | Purging | / Sampli | ng Form | · · · · · | | | | |
|--|---|----------------------------|-------------------------------|---|-----------------------------------|----------------|---------------|------|--|--|
| Project Name and Number: | | Stratton AN | G, 60520890 |) task 8.2 | | | | | | |
| Monitoring Well Number: | | APR-1 | SOWN | Date: | | 6/ /2018 | 7/2 | 8118 | | |
| Samplers: | | Alex Golde | n | | | | | | | |
| Sample Number: | | | QA/QC Collected? | | | | | | | |
| Purging / Sampling Method: | | Bladder pum | Bladder pump/Dedicated Tubing | | | | | | | |
| 1. L = Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well: 5. V = Volume of Water in Well 6. 3(V) = Target Purge Volume | feet feet feet feet feet feet feet geal gal | | | D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch | D (feet) 0.08 0.17 0.25 0.33 0.50 | | | | | |
| | | | Conversion | n factors to | determine ' | V given C | | | | |
| | | D (inches) V (gal / ft) | 1-inch 0.041 | 2-inch 0.163 | 3-inch 0.37 | 4-inch 0.65 | 6-inch 1.5 | | | |
| Water Quality Readings Collecte | ed Using | | | | | | | | | |
| Parameter | Units | | | 1 | Readings | 1 | | 1 | | |
| Time | 24 hr | | | | | | | | | |
| Water Level (0.33) | feet | | | | | | | | | |
| Volume Purged | gal | | | | | | | | | |
| Flow Rate | mL/min | - | | | | | | | | |
| Turbidity (+/- 10%) | NTU | - | | | | | | | | |
| Dissolved Oxygen (+/- 10%) | % | - | | | | | | | | |
| Dissolved Oxygen (+/- 10%) | mg/L | | | | | | | | | |
| Eh / ORP (+/- 10) | MeV | - | | | | | | | | |
| Specific Conductivity (+/- 3%) | mS/cm ^c | | | | | | | | | |
| Conductivity (+/- 3%) | mS/cm | | | | | | | | | |
| pH (+/- 0.1) | pH unit | | | | | | | | | |
| Temp (+/- 0.5) | C. | | | | | | | | | |
| Color | Visual | | | | _ | | | | | |
| Odor | Olfactory | | | | | | | | | |
| Comments: DQ~ | C | 0857 | D . | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | Page 1 of | | | |

| Monitoring Well Purging / Sampling Form | | | | | | | | | |
|---|--------------------|---------------|---------------|-----------------|--------------|---------------|--|--------|--|
| Project Name and Number: | | Stratton AN | G, 60520890 |) task 8.2 | | 3. | | | |
| Monitoring Well Number: | 1 | APR-MV | 76-MW03 Date: | | | 8/2018 7/2018 | | | |
| Samplers: | Alex Gold | | | | _ | | | | |
| Sample Number: | Sc. | APP-r | 1woz | 077018 QA/QI | C Collected? | | | | |
| Purging / Sampling Method: | | Bladder pun | | l Tubing | | | 11 | | |
| | | | | | _ | | | | |
| 1. L = Well Depth: | | | | 4.69 | feet | D (inches) | D (feet) | | |
| 2. D = Riser Diameter (I.D.): | | | - | feet | 1-inch | 0.08 | | | |
| 3. W = Depth to Water: | | | | 2.86 | feet | 2-inch | 0.17 | | |
| 4. C = Column of Water in Well | | | | | _feet | 3-inch | 0.25 | | |
| 5. V = Volume of Water in Well | = C(3.14159 | 9)(0.5D)²(7.4 | 8) | | _gal | 4-inch | 0.33 | | |
| 6. 3(V) = Target Purge Volume | | | | _gal | 6-inch | 0.50 | | | |
| Conversion factors to determine V given C | | | | | | | | | |
| | | D (inches) | 1-inch | 2-inch | 3-inch | 4-inch | 6-inch | | |
| | | V (gal / ft) | 0.041 | 0.163 | 0.37 | 0.65 | 1.5 | | |
| Parameter | Units | W | | ~ | Readings | | | | |
| Time | 24 hr | 0912 | 0917 | 0922 | 0927 | 0932 | | | |
| Water Level (0.33) | feet | 2.36 | 3.20 | 3-60 | 3.82 | 4.00 | | | |
| Volume Purged | gal | .15 | 125 | .35 | ,50 | .60 | | | |
| Flow Rate | mL/min | 173 | 175 | 175 | 175 | 175 | | 21 | |
| Turbidity (+/- 10%) | NTU | 67.1 | 19.5 | 21-2 | 22.0 | 19.8 | | | |
| Dissolved Oxygen (+/- 10%) | % | 25.4 | 21.2 | 19.2 | 17.1 | 19.3 | | | |
| Dissolved Oxygen (+/- 10%) | mg/L | | | _ | - | | Then, I | | |
| Eh / ORP (+/- 10) | MeV | -65.5 | -37.3 | -32.9 | -30.1 | -30.2 | 100 | | |
| Specific Conductivity (+/- 3%) | mS/cm ^c | .704 | .694 | . 681 | .700 | .702 | | | |
| Conductivity (+/- 3%) | mS/cm | .6607 | .649 | .631 | . 646 | . 660 | | | |
| pH (+/- 0.1) | pH unit | 7.36 | 7.21 | 7.17 | 7.20 | 7:21 | | | |
| Temp (+/- 0.5) | C. | 22.25 | 21.14 | 21.05 | 21.00 | 21.80 | A STATE OF THE PARTY OF THE PAR | | |
| Color | Visual | Crear | Clear | Clear | clear | Clear | | Jan 11 | |
| Odor | Olfactory | None | None | None | None | None | B | ¥ | |
| Comments: | | damplin | g @ | 093 | | \$ | | | |
| | | | | | | | | | |

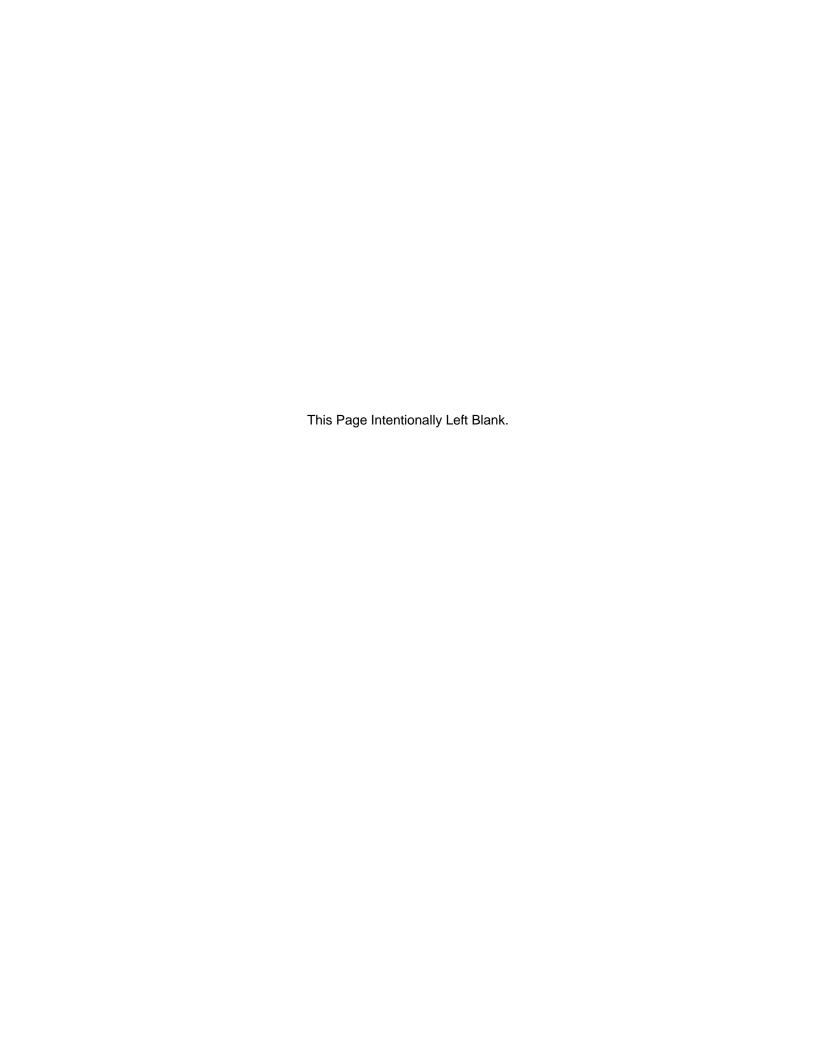
Page 1 of

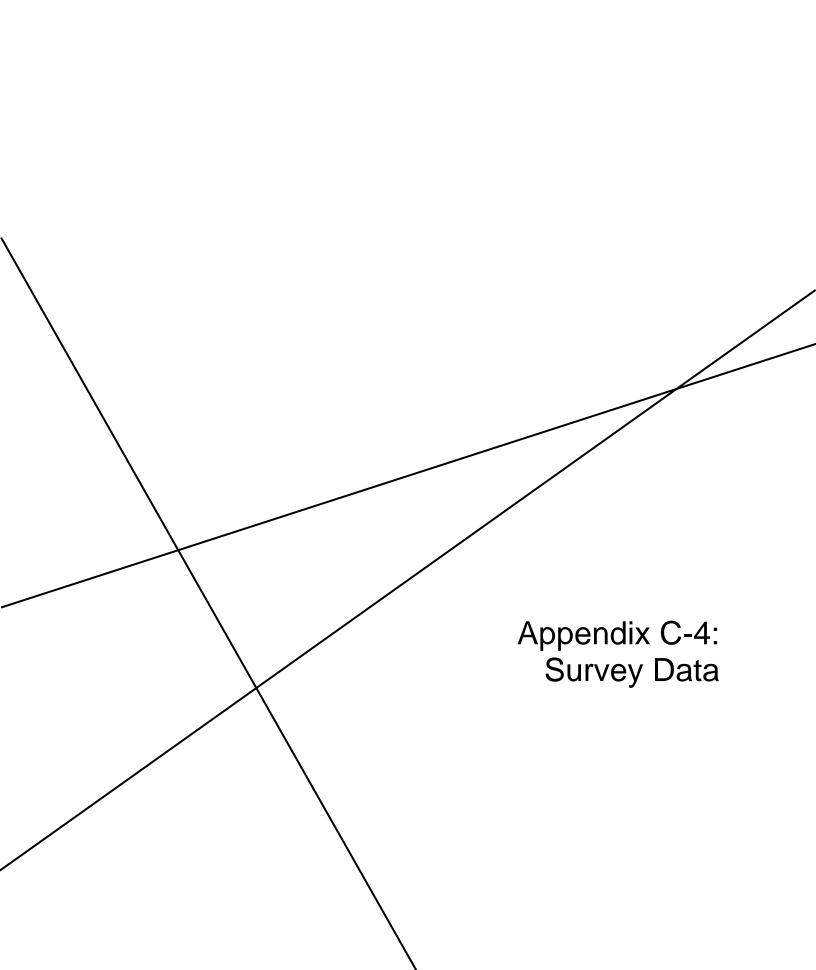
| Monitoring Well Purging / Sampling Form | | | | | | | | | | |
|---|--------------------|--|-------------------------------|----------------|---------------|---|-----------------------------------|---|--|--|
| Project Name and Number: | | Stratton ANO | G, 60520890 | task 8.2 | | 0.63-0.00 | | - | | |
| Monitoring Well Number: | | BBW- | BBW-MWOI Date: 67/2018 7/2018 | | | | | | | |
| Samplers: | | Alex Golde | Alex Golden | | | | | | | |
| Sample Number: | | | QA/QC Collected? | | | | | | | |
| Purging / Sampling Method: | Bladder pum | Bladder pump/Dedicated Tubing | | | | | | | | |
| 1. L = Well Depth: 2. D = Riser Diameter (I.D.): 3. W = Depth to Water: 4. C = Column of Water in Well 5. V = Volume of Water in Well 6. 3(V) = Target Purge Volume | | feetfeetfeetfeetfeetfeetfeetfeetfeetgalgal | | | | D (inches) 1-inch 2-inch 3-inch 4-inch 6-inch | D (feet) 0.08 0.17 0.25 0.33 0.50 | | | |
| | 1-inch 0.041 | 2-inch 0.163 | 3-inch 0.37 | 4-inch 0.65 | 6-inch 1.5 | | | | | |
| Water Quality Readings Collect | ed Using | | | | | | | | | |
| Parameter | Units | 1 | | | Readings | | | | | |
| Time | 24 hr | | | | | | | | | |
| Water Level (0.33) | feet | | | | | | | | | |
| Volume Purged | gal | | | | | | | | | |
| Flow Rate | mL/min | | | | | | | | | |
| Turbidity (+/- 10%) | NTU | | | | | | | | | |
| Dissolved Oxygen (+/- 10%) | % | | | | | | | | | |
| Dissolved Oxygen (+/- 10%) | mg/L | | | | | | | | | |
| Eh / ORP (+/- 10) | MeV | | | | | | | | | |
| Specific Conductivity (+/- 3%) | mS/cm ^c | | | | | | | | | |
| Conductivity (+/- 3%) | mS/cm | | | | | | | | | |
| pH (+/- 0.1) | pH unit | | | | | | | | | |
| Temp (+/- 0.5) | C. | | | | | | | | | |
| Color | Visual | | | | | | | | | |
| Odor | Olfactory | | | | | | | | | |
| Comments: | € • • • | 100 | | | | | Dage 1 of | | | |
| | | | | | | | Page 1 of | 1 | | |

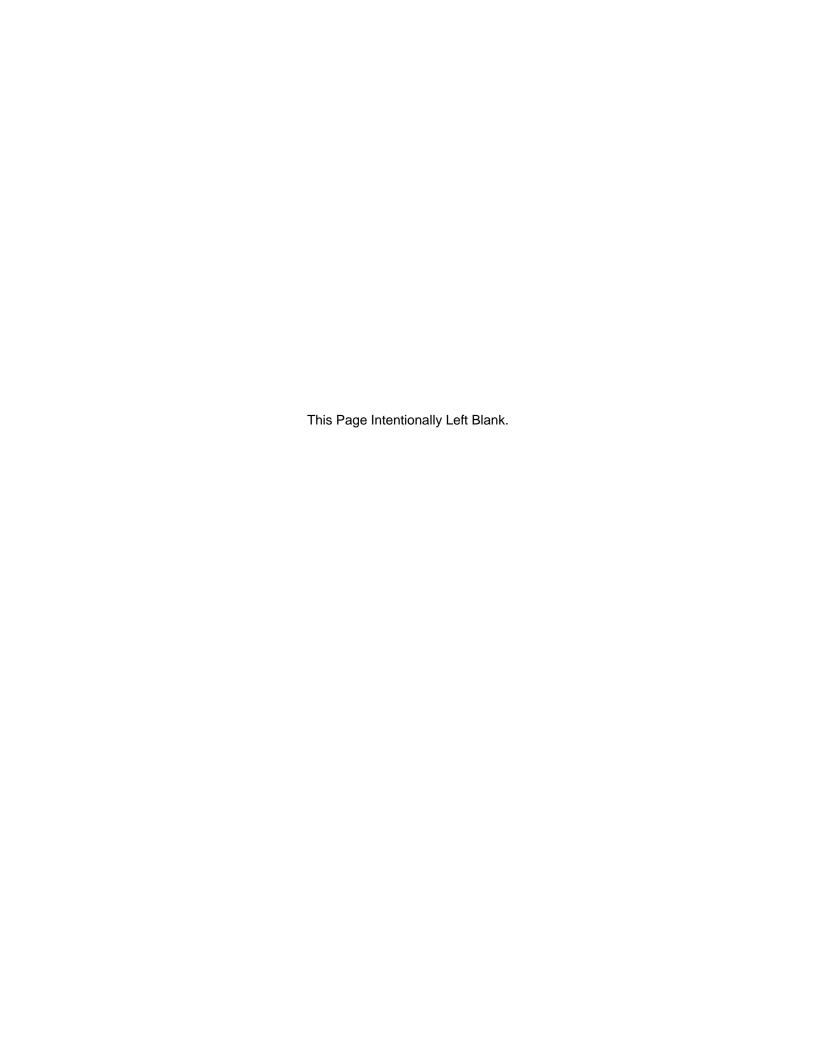




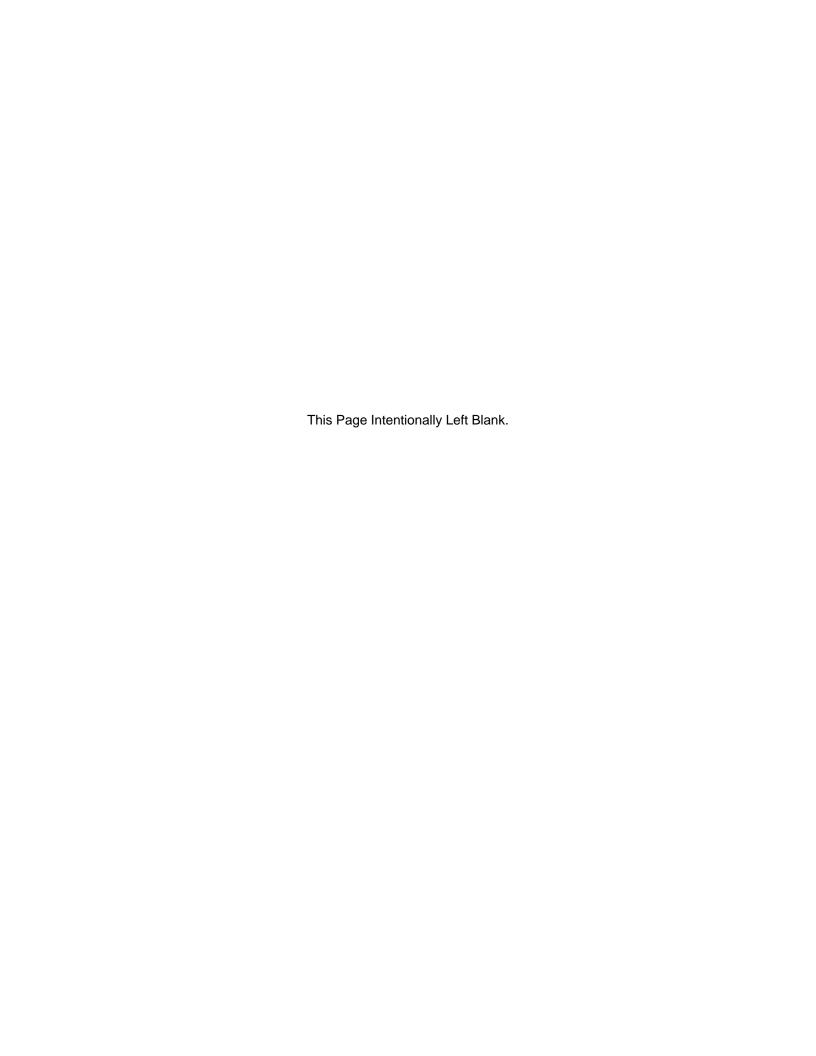
| Media | Sample ID | Date | Sample Time | Weather | Notes |
|---------------|-------------|-----------|-------------|-----------------|--|
| Surface Water | SC-DRD-SW01 | 7/19/2018 | 1355 | 75 deg F, sunny | 0.5" rainfall in 24 hours preceeding sampling |
| Surface Water | SC-OF3-SW01 | 7/20/2018 | 1000 | 75 deg F, sunny | 0.5" rainfall in 48 hours preceeding sampling |
| Surface Water | SC-OF4-SW01 | 7/20/2018 | 1015 | 75 deg F, sunny | 0.5" rainfall in 48 hours preceeding sampling |
| Surface Water | SC-OF5-SW01 | 7/20/2018 | 0955 | 75 deg F, sunny | 0.5" rainfall in 48 hours preceeding sampling |
| Sediment | SC-DRD-SD01 | 7/19/2018 | 1400 | 75 deg F, sunny | 0.5" rainfall in 24 hours preceeding sampling |
| Sediment | SC-OF1-SD01 | 7/20/2018 | 1205 | 75 deg F, sunny | outfall dry. 0.5" rainfall in 48 hours preceeding sampling |
| Sediment | SC-OF2-SD01 | 7/20/2018 | 1045 | 75 deg F, sunny | outfall dry. 0.5" rainfall in 48 hours preceeding sampling |
| Sediment | SC-OF3-SD01 | 7/20/2018 | 1002 | 75 deg F, sunny | 0.5" rainfall in 48 hours preceeding sampling |
| Sediment | SC-OF4-SD01 | 7/20/2018 | 1020 | 75 deg F, sunny | 0.5" rainfall in 48 hours preceeding sampling |
| Sediment | SC-OF5-SD01 | 7/20/2018 | 0956 | 75 deg F, sunny | 0.5" rainfall in 48 hours preceeding sampling |

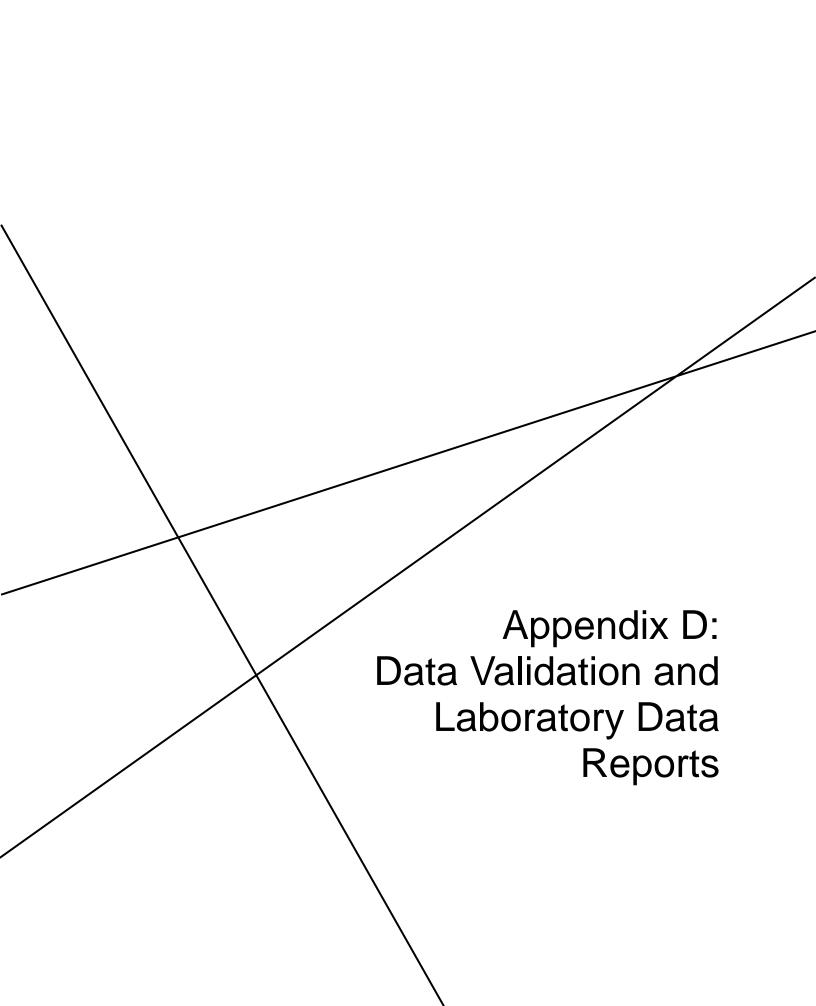


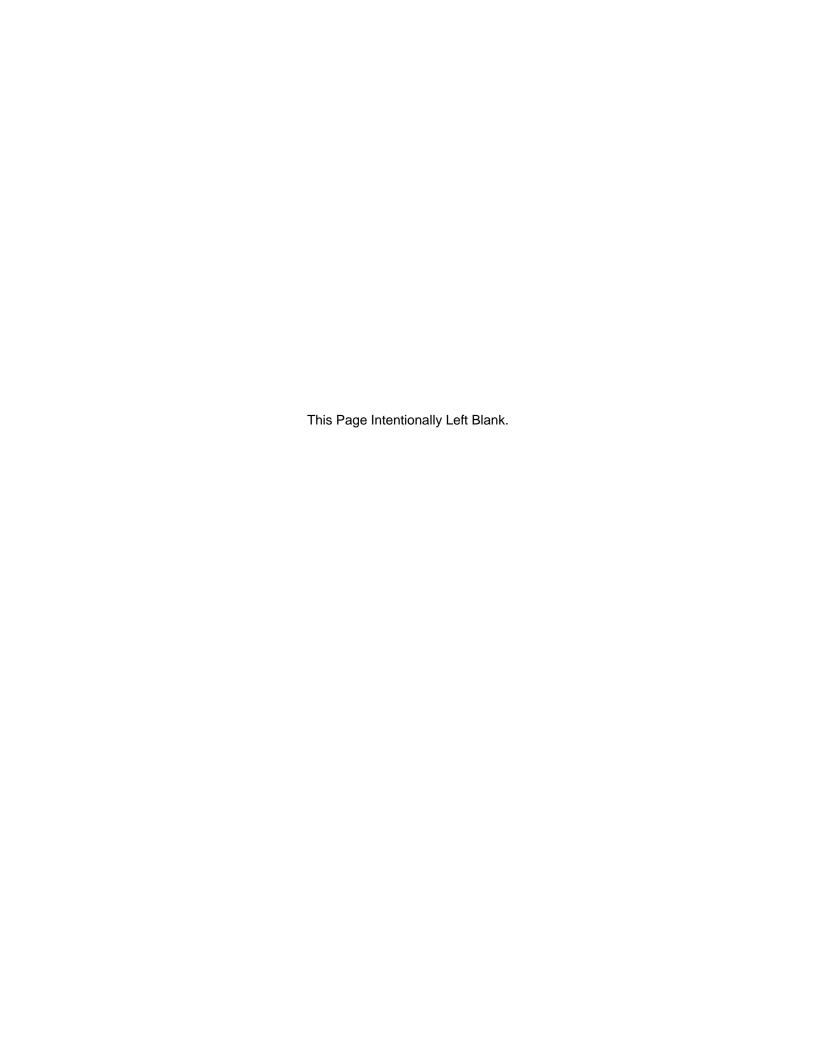




| Description | Northing (USFT) | Easting (USFT) | Latitude (DMS) | Longitude (DMS) | Elevation | Casing Elevation | PVC Elevation |
|-------------|-----------------|----------------|--------------------|--------------------|-----------|------------------|---------------|
| 6MW-20 | 1463604.9370' | 647387.2700' | N042° 50' 57.8978" | W073° 55' 15.5403" | 304.98' | 304.98' | 304.84' |
| 6MW-24 | 1463701.9010' | 647443.3540' | N042° 50' 58.8518" | W073° 55' 14.7784" | 308.71' | 308.71' | 308.54' |
| APR-MW01 | 1465009.5150' | 646120.9740' | N042° 51' 11.8577" | W073° 55' 32.4114" | 343.66' | 343.66' | 343.40' |
| APR-MW02 | 1464621.4970' | 646445.8120' | N042° 51' 08.0030" | W073° 55' 28.0859" | 342.15' | 342.15' | 341.93' |
| APR-MW03 | 1464309.2750' | 647006.4660' | N042° 51' 04.8810" | W073° 55' 20.5876" | 332.34' | 332.34' | 332.16' |
| B02-MW01 | 1464597.1690' | 647559.4360' | N042° 51' 07.6873" | W073° 55' 13.1373" | 333.57' | 333.57' | 333.33' |
| B02-SB01 | 1464701.4980' | 647385.6100' | N042° 51' 08.7296" | W073° 55' 15.4614" | 335.71' | | |
| B03-SB01 | 1464960.0580' | 647627.0070' | N042° 51' 11.2673" | W073° 55' 12.1966" | 334.83' | | |
| B03-SB02 | 1464868.0090' | 647638.4190' | N042° 51' 10.3572" | W073° 55' 12.0519" | 335.13' | | |
| B07-MW01 | 1463955.1030' | 647534.8630' | N042° 51' 01.3467" | W073° 55' 13.5265" | 314.56' | 314.56' | 314.28' |
| B07-SB01 | 1464089.5330' | 647547.3500' | N042° 51' 02.6737" | W073° 55' 13.3465" | 327.57' | | |
| B08 SB01 | 1464322.0650' | 647605.9880' | N042° 51' 04.9666" | W073° 55' 12.5378" | 330.86' | | |
| B10 SB01 | 1464984.5460' | 646948.2050' | N042° 51' 11.5552" | W073° 55' 21.3077" | 343.79' | | |
| B10 SB02 | 1464946.5960' | 646995.9780' | N042° 51' 11.1771" | W073° 55' 20.6698" | 343.85' | | |
| B11 SB01 | 1465461.8370' | 646448.4350' | N042° 51' 16.3036" | W073° 55' 27.9736" | 347.98' | | |
| B11 SB02 | 1465475.7420' | 646391.0080' | N042° 51' 16.4449" | W073° 55' 28.7433" | 347.76' | | |
| B11-MW01 | 1465319.4460' | 646317.0210' | N042° 51' 14.9060" | W073° 55' 29.7510" | 346.72' | 346.72' | 346.47' |
| B12-MW01 | 1464461.4550' | 647639.2030' | N042° 51' 06.3413" | W073° 55' 12.0790" | 331.08' | 331.08' | 330.89' |
| B12-SB01 | 1464494.3570' | 647629.7970' | N042° 51' 06.6669" | W073° 55' 12.2022" | 331.77' | | |
| B31-MW01 | 1465566.9800' | 646373.1180' | N042° 51' 17.3473" | W073° 55' 28.9751" | 355.22' | 355.22' | 355.02' |
| B31-SB01 | 1465582.9230' | 646326.6830' | N042° 51' 17.5079" | W073° 55' 29.5971" | 353.17' | | |
| B31-SB02 | 1465687.7580' | 646382.6840' | N042° 51' 18.5397" | W073° 55' 28.8356" | 354.08' | | |
| B35-MW01 | 1465351.3160' | 646840.1500' | N042° 51' 15.1854" | W073° 55' 22.7246" | 361.08' | 361.08' | 360.81' |
| B35-SB01 | 1465550.4360' | 646814.1690' | N042° 51' 17.1541" | W073° 55' 23.0551" | 360.56' | | |
| B35-SB02 | 1465365.5790' | 646900.2250' | N042° 51' 15.3223" | W073° 55' 21.9168" | 359.85' | | |
| BBW-MW01 | 1464397.3670' | 646695.3900' | N042° 51' 05.7722" | W073° 55' 24.7558" | 338.83' | 338.83' | 338.60' |
| DRAIN DITCH | 1463332.2100' | 647319.5310' | N042° 50' 55.2084" | W073° 55' 16.4748" | 292.20' | | |
| IRP3-MW01 | 1463304.9360' | 647332.3240' | N042° 50' 54.9381" | W073° 55' 16.3056" | 296.09' | 296.09' | 295.90' |
| IRP3-SB01 | 1463416.1560' | 647433.2350' | N042° 50' 56.0299" | W073° 55' 14.9406" | 295.76' | | |
| IRP3-SB02 | 1463383.5890' | 647408.9150' | N042° 50' 55.7099" | W073° 55' 15.2701" | 296.11' | | |
| OUTFALL 001 | 1463635.0290' | 647314.6240' | N042° 50' 58.2000" | W073° 55' 16.5128" | 302.35' | | |
| OUTFALL 002 | 1465510.2680' | 646649.5330' | N042° 51' 16.7684" | W073° 55' 25.2692" | 355.05' | | |
| OUTFALL 003 | 1464077.3990' | 646751.5970' | N042° 51' 02.6078" | W073° 55' 24.0306" | 319.18' | | |
| OUTFALL 004 | 1464496.9300' | 646354.4780' | N042° 51' 06.7787" | W073° 55' 29.3235" | 328.45' | | |
| OUTFALL 005 | 1464028.2240' | 646818.2910' | N042° 51' 02.1175" | W073° 55' 23.1398" | 320.42' | <u> </u> | |
| WTP-SBO1 | 1463642.7370' | 647486.5340' | N042° 50' 58.2644" | W073° 55' 14.2042" | 305.89' | | |
| WTP-SBO2 | 1463555.1880' | 647582.6530' | N042° 50' 57.3931" | W073° 55' 12.9219" | 301.60' | | |
| WTP-SBO3 | 1463528.9190' | 647533.5980' | N042° 50' 57.1369" | W073° 55' 13.5829" | 301.81' | | |







DATA VALIDATION REPORT - Level III Review

| SDG No.: | FSA88, FSB16,17,18,29,30 | Analysis: | Perfluorinated Alkyl Substances | | | |
|-------------|--------------------------|-----------|---------------------------------|--|--|--|
| Laboratory: | Eurofins | Project: | Schenectady-Stratton | | | |
| Reviewer: | Naoum Tavantzis | Date: | August 20 th , 2018 | | | |

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied, data review worksheets, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the specifics of the analytical method referenced and provisions of the approved project-specific work plan; and, qualified according to the *Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, EPA-540-R-2017-002, January 2017. Modifications reflect the level of review requested, the specifications of the project-specific QAPP, and the specifics of the analytical methods employed.

Major

Anomalies: None.

Minor

Anomalies: During the PFAS analysis, the source water blank displayed concentrations greater than

the detection limit (DL) for the following:

| Blank ID | Analyte | Concentration (ng/l) |
|-------------|---------------------------|----------------------|
| | Perfluorobutanesulfonate | 1.2 |
| | Perfluoroheptanoic Acid | 2.0 |
| Schenectady | Perfluorohexanesulfonate | 2.5 |
| Decon Water | Perfluorononanoic Acid | 0.42 |
| | Perfluoro-octanesulfonate | 3.8 |
| | Perfluorooctanoic Acid | 5.8 |

The positive associated field sample results that displayed detections less than five times the concentrations found in the blanks were qualified U, x. When appropriate, the quantitation limits were elevated to the concentrations detected. The source water blank displayed a percent difference in the continuing calibration blank analyzed on 04/23/18 at 0652 greater than the quality control (QC) limit of 30% for perfluorooctanoic acid at 32.03% with a positive bias. The associated field sample result was positive and qualified J,c. The following injection internal standards displayed area counts outside the QC limits of 50-150%:

| Date | Time | Field Sample | Surrogate | Area Count (%) |
|----------|-------|--------------------|------------------------------------|----------------|
| | | | ¹³ C ² -PFDA | 164.0 |
| 06/26/18 | 17:02 | SC-B12-SB01-07 | ¹³ C ₂ -PFOA | 151.6 |
| | | | ¹³ C ₄ -PFOS | 150.2 |
| 07/27/18 | 15:45 | DUP 02 | ¹³ C ₂ -PFOA | 150.5 |
| 07/30/18 | 19:25 | SC-APR-MW03 072018 | ¹³ C ₃ -PFBA | 49.9 |

The field sample results associated with the high area counts were positive and were qualified J-,i, unless previously qualified due to a blank detection. The field sample result associated with low area count was positive and was qualified J+,i. The following matrix spike pairs (MS/MSD) displayed percent recoveries outside the QC limits of 70-130%:

| Parent Sample | Batch | Analyte | MS Recovery (%) | MSD Recovery (%) |
|----------------|----------|---------------------------|-----------------------|------------------------|
| SC-B03-DUP03 | 18171018 | Perfluoro-octanesulfonate | 180 | - |
| | 18168002 | Perfluorooctanoic acid | 104 | 202 |
| SC-B07-SB01-34 | | Perfluoroheptanoic acid | 89 | 249 |
| 3C-DU1-3DU1-34 | | Perfluorohexanesulfonate | 60 | 259 |
| | | Perfluoro-octanesulfonate | -2 | 56 |
| SC-DRD-SD01 | 18207006 | Perfluorononanoic Acid | 132 | - |
| 071918 | 10207000 | Perfluoro-octanesulfonate | -43 | - |

The positive associated parent sample and field duplicate results associated with the positive biases were qualified J+,m while the parent sample results associated with the negative biases were positive and were qualified J-,m. The parent sample result associated with the unknown bias for perfluorohexanesulfonate was qualified J,m. In addition, the MS/MSD also displayed relative percent differences (RPD) greater than the laboratory QC limit of 30%. The field duplicate pair SC-B31-SS02-01/SC-B31-DUP04 displayed a greater than the upper QC limit of 50% RPD for perfluoro-octanesulfonate at 63.7%. The associated field sample results were previously qualified due to MS/MSD percent recovery anomalies; no further data qualifying action was taken. In addition field duplicate pair SC-APR-SS03-01/SC-APR-DUP01 displayed a difference greater than four times the limit of quantitation for perfluoro-octanesulfonate. The associated field duplicate results were positive and were qualified J,f.

Correctable Anomalies:

None.

Comments:

On the basis of this evaluation, the laboratory appears to have followed the specified method, with the exception of anomalies discussed previously. If a given fraction was not discussed, all quality control criteria reviewed were within acceptable limits. All data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed:

Naoum Tavantzis

Schenectady-Stratton

Laboratory: Job: 60520893 Eurofins

FSA43, 48, 54, 58, 59, 67, SDG#:

68, 82 & 97

| | | | 68, 82 & 97 | | | | |
|----------------|--------------|-------------------------|------------------------------|------------------------|--------------|---------------|--|
| SDG | Sample ID | Client ID | Sample Type | Sample Date | Matrix | PFOA/ PFOS | |
| FSA88 | | Schenectady Decon Water | Decon Water | 4/11/2018 | Aqueous | Χ | |
| FSB16 | | SC-B11-SS03-01 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | | SC-B11-SB03-45 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | | SC-B11-SS01-01 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | | SC-B11-SB01-34 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | | SC-B11-SS02-01 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | | SC-B11-SB02-34 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | 9659175 | SC-APR-SS01-01 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | 9659176 | SC-APR-SB01-45 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | 9659177 | SC-APR-SS02-01 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | 9659178 | SC-APR-SB02-45 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | 9659179 | SC-APR-SS03-01 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | 9659180 | SC-APR-SB03-45 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | 9659181 | SC-APR-DUP01 | Field Duplicate | 6/11/2018 | Soil | Χ | |
| FSB16 | 9659182 | SC-B10-SS02-01 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | 9659183 | SC-B10-SB02-34 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | | SC-B10-SS01-01 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | | SC-B10-SB01-34 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | | SC-B02-SS01-01 | Field Sample | 6/11/2018 | Soil | Χ | |
| FSB16 | | SC-B02-SB01-78 | Field Sample | 6/11/2018 | Soil | X | |
| FSB17 | | SC-B12-SS01-01 | Field Sample | 6/13/2018 | Soil | X | |
| FSB17 | | SC-B12-SB01-07 | Field Sample | 6/13/2018 | Soil | Χ | |
| FSB17 | | SC-B12-SS02-01 | Field Sample | 6/13/2018 | Soil | Х | |
| FSB17 | | SC-B12-SB02-56 | Field Sample | 6/13/2018 | Soil | Х | |
| FSB17 | | SC-B02-SS02-01 | Field Sample | 6/13/2018 | Soil | Х | |
| FSB17 | 9659227 | SC-B02-SB02-56 | Field Sample | 6/13/2018 | Soil | Х | |
| FSB17 | | SC-B03-SS02-01 | Field Sample | 6/13/2018 | Soil | Х | |
| FSB17 | 9659229 | SC-B03-SB02-23 | Field Sample | 6/13/2018 | Soil | Х | |
| FSB17 | | SC-B03-DUP03 | Field Duplicate | 6/13/2018 | Soil | Х | |
| FSB17 | 9659231 | SC-B03-SS01-01 | Field Sample | 6/13/2018 | Soil | X | |
| FSB17 | 9659232 | | Field Sample | 6/13/2018 | Soil | Х | |
| FSB17 | | SC-B35-SS02-01 | Field Sample | 6/13/2018 | Soil | Х | |
| FSB17 | | SC-B35-SB02-34 | Field Sample | 6/13/2018 | Soil | Х | |
| FSB17 | | SC-B35-SS03-01 | Field Sample | 6/13/2018 | Soil | X | |
| | | SC-B35-SB03-56 | | | | X | |
| FSB17 FSB17 | | SC-B35-SS01-01 | Field Sample Field Sample | 6/13/2018 6/13/2018 | Soil Soil | X | |
| FSB17 | | SC-B35-SB01-23 | Field Sample | 6/13/2018 | Soil | X | |
| | | | | | | X | |
| FSB17 | | SC-B31-SS02-01 | Field Sample | 6/13/2018 | Soil | X | |
| FSB17 | | SC-B31-DUP04 | Field Duplicate | 6/13/2018 | Soil | X | |
| FSB17 | | SC-B31-SS01-01 | Field Sample | 6/13/2018 | Soil | | |
| FSB17 | | SC-B31-SB01-45 | Field Sample | 6/13/2018 | Soil | X | |
| FSB17 | | SC-B31-SS03-01 | Field Sample | 6/13/2018 | Soil | X | |
| FSB17 | | SC-B31-SB03-56 | Field Sample | 6/13/2018 | Soil | X | |
| FSB18 | | SC-WTP-SS02-01 | Field Sample | 6/12/2018 | Soil | X | |
| FSB18 | | SC-WTP-SB02-23 | Field Sample | 6/12/2018 | Soil | X | |
| FSB18 | | SC-WTP-SS01-01 | Field Sample | 6/12/2018 | Soil | X | |
| FSB18 | | SC-WTP-SB01-34 | Field Sample | 6/12/2018 | Soil | X | |
| FSB18 | | SC-WTP-SS03-01 | Field Sample | 6/12/2018 | Soil | Х | |
| FSB18 | | SC-WTP-SB03-34 | Field Sample | 6/12/2018 | Soil | X | |
| FSB18 | | SC-IRP3-SS01-01 | Field Sample | 6/12/2018 | Soil | Χ | |
| FSB18 | | SC-IRP3-SB01-34 | Field Sample | 6/12/2018 | Soil | Χ | |
| FSB18 | 9659299 | SC-IRP3-SS02-01 | Field Sample | 6/12/2018 | Soil | Χ | |

Schenectady-Stratton

Job: 60520893 Laboratory: Eurofins

FSA43, 48, 54, 58, 59, 67,

SDG#: 68, 82 & 97

| | Sample | | | Sample | | PFOA/ |
|-------|---------|----------------------|-----------------|-----------|----------|-------|
| SDG | ID | Client ID | Sample Type | Date | Matrix | PFOS |
| FSB18 | 9659300 | SC-IRP3-SB02-45 | Field Sample | 6/12/2018 | Soil | Χ |
| FSB18 | 9659301 | SC-IRP3-MW01-01 | Field Sample | 6/12/2018 | Soil | Χ |
| FSB18 | 9659302 | SC-IRP3-MW01-45 | Field Sample | 6/12/2018 | Soil | Χ |
| FSB18 | 9659303 | SC-IRP3-DUP02 | Field Duplicate | 6/12/2018 | Soil | Χ |
| FSB18 | | SC-B07-SS02-01 | Field Sample | 6/12/2018 | Soil | Χ |
| FSB18 | 9659305 | SC-B07-SB02-45 | Field Sample | 6/12/2018 | Soil | Χ |
| FSB18 | 9659306 | SC-EB-Macro | Equipment Blank | 6/12/2018 | Aqueous | Χ |
| FSB18 | 9659307 | SC-B07-SS01-01 | Field Sample | 6/12/2018 | Soil | Χ |
| FSB18 | 9659308 | SC-B07-SB01-34 | Field Sample | 6/12/2018 | Soil | Χ |
| FSB18 | 9659309 | SC-B07-SB01-34 | Field Sample | 6/12/2018 | Soil | Χ |
| FSB18 | 9659310 | SC-B07-SB01-34 | Field Sample | 6/12/2018 | Soil | Χ |
| FSB18 | 9659311 | SC-B08-SS01-01 | Field Sample | 6/12/2018 | Soil | Χ |
| FSB18 | 9659312 | SC-B08-SB01-74 | Field Sample | 6/12/2018 | Soil | Χ |
| FSB29 | 9714891 | SC-B07-MW01 071918 | Field Sample | 7/19/2018 | Aqueous | Χ |
| FSB29 | 9714894 | SC-6MW-24 071918 | Field Sample | 7/19/2018 | Aqueous | Χ |
| FSB29 | 9714895 | SC-6MW-20 071918 | Field Sample | 7/19/2018 | Aqueous | Χ |
| FSB29 | 9714896 | SC-IPR3-MW01 071918 | Field Sample | 7/19/2018 | Aqueous | Χ |
| FSB29 | 9714897 | SC-DRD-SD01 071918 | Field Sample | 7/19/2018 | Sediment | Χ |
| FSB29 | 9714898 | SC-DRD-SW01 071918 | Field Sample | 7/19/2018 | Aqueous | Χ |
| FSB29 | 9714899 | DUP-01 | Field Duplicate | 7/19/2018 | Aqueous | Χ |
| FSB29 | 9714900 | Field Blank 1 071918 | Field Blank | 7/19/2018 | Aqueous | Χ |
| FSB30 | 9715813 | SC-APR-MW01 072018 | Field Sample | 7/20/2018 | Aqueous | Χ |
| FSB30 | 9715814 | Field Blank 2 072018 | Field Blank | 7/20/2018 | Aqueous | Χ |
| FSB30 | 9715815 | SC-APR-MW03 072018 | Field Sample | 7/20/2018 | Aqueous | Χ |
| FSB30 | 9715816 | SC-OF5-SD01 072018 | Field Sample | 7/20/2018 | Sediment | Χ |
| FSB30 | 9715817 | SC-OF5-SW01 072018 | Field Sample | 7/20/2018 | Aqueous | Χ |
| FSB30 | 9715818 | SC-OF3-SW01 072018 | Field Sample | 7/20/2018 | Aqueous | Χ |
| FSB30 | 9715819 | SC-OF3-SD01 072018 | Field Sample | 7/20/2018 | Sediment | Χ |
| FSB30 | 9715820 | SC-OF4-SW01 072018 | Field Sample | 7/20/2018 | Aqueous | Χ |
| FSB30 | 9715821 | SC-OF4-SD01 072018 | Field Sample | 7/20/2018 | Sediment | Χ |
| FSB30 | 9715822 | SC-OF2-SD01 072018 | Field Sample | 7/20/2018 | Sediment | Χ |
| FSB30 | 9715823 | SC-B35-MW01 072018 | Field Sample | 7/20/2018 | Aqueous | Χ |
| FSB30 | 9715824 | SC-B02-MW01 072018 | Field Sample | 7/20/2018 | Aqueous | Χ |
| FSB30 | 9715825 | SC-OF1-SD01 072018 | Field Sample | 7/20/2018 | Sediment | Χ |
| FSB30 | 9715826 | EQ Blank | Equipment Blank | 7/20/2018 | Aqueous | Χ |
| FSB30 | 9715827 | DUP 02 | Field Duplicate | 7/20/2018 | Aqueous | Х |

| Client Sam | | SC-APF SS03-0 6/11/18 | 1 | SC-API DUP0 6/11/1 | 1 | | | | | | |
|---------------------------------|-------|-----------------------------|--------|--------------------------|---|---------|-----|--------|-------|--------|---------------|
| Date Sa | Units | LOQ | 5x LOQ | Sampl | е | Duplica | ate | % RPD | Delta | 4x LOQ | Pass/ Fail |
| Perfluorinated Alkyl Substances | | | | | | | | | | | |
| Perfluorobutanesulfonate | ng/g | 0.70 | 3.5 | 0.67 | U | 0.70 | U | 4.4% | 0.030 | 2.8 | Pass |
| Perfluoroheptanoic acid | ng/g | 0.79 | 4.0 | 0.76 | U | 0.37 | J | 69.0% | 0.39 | 3.2 | Pass |
| Perfluorohexanesulfonate | ng/g | 0.74 | 3.7 | 1.7 | | 3.7 | | 74.1% | 2.0 | 3.0 | Pass |
| Perfluorononanoic acid | ng/g | 0.79 | 4.0 | 0.76 | U | 0.67 | J | 12.6% | 0.090 | 3.2 | Pass |
| Perfluoro-octanesulffonate | ng/g | 0.75 | 3.8 | 2.1 | | 14 | | 147.8% | 12 | 3.0 | Fail |
| Perfluorooctanoic acid | ng/g | 0.79 | 4.0 | 0.75 | J | 1.5 | | 66.7% | 0.75 | 3.2 | Pass |

Control limit [sample]>5xLOQ use 50%

[sample]<5xLOQ use Delta<4xLOQ

Client Sample ID: SC-B03- SC-B03- SS02-01 DUP03

Date Sampled: 6/13/18 6/13/18

Lucy Loo 5x Sample Duplicate

| | Units | LOQ | 5x LOQ | Sample Conc |) | Duplicate Conc | % RPD | Delta | 4x LOQ | Pass/ Fail | | |
|---------------------------------|-------|------|-----------|----------------|---|-------------------|-------|-------|-----------|---------------|--|--|
| Perfluorinated Alkyl Substances | | | | | | | | | | | | |
| Perfluoro-octanesulffonate | ng/g | 0.68 | 3.4 | 2.0 | | 2.0 | 0.0% | 0.0 | 2.7 | Pass | | |
| Perfluorooctanoic acid | ng/g | 0.71 | 3.6 | 0.29 | J | 0.31 | 6.7% | 0.020 | 2.8 | Pass | | |

 Client Sample ID:
 SC-B31-SS02-01
 SC-B31-DUP04

 Date Sampled:
 6/13/18
 6/13/18

| | Units | LOQ | 5x LOQ | Sampl Cond | | Duplica Cond | | % RPD | Delta | 4x LOQ | Pass/ Fail | |
|---------------------------------|-------|------|-----------|---------------|---|-----------------|---|-------|-------|-----------|---------------|--|
| Perfluorinated Alkyl Substances | | | | | | | | | | | | |
| Perfluorobutanesulfonate | ng/g | 0.64 | 3.2 | 0.39 | J | 0.47 | J | 18.6% | 0.080 | 2.6 | Pass | |
| Perfluoroheptanoic acid | ng/g | 0.72 | 3.6 | 0.27 | J | 0.35 | J | 25.8% | 0.080 | 2.9 | Pass | |
| Perfluorohexanesulfonate | ng/g | 0.68 | 3.4 | 9.5 | | 7.8 | | 19.7% | 1.7 | 2.7 | Pass | |
| Perfluorononanoic acid | ng/g | 0.72 | 3.6 | 0.77 | J | 0.61 | J | 23.2% | 0.16 | 2.9 | Pass | |
| Perfluoro-octanesulffonate | ng/g | 0.69 | 3.5 | 120 | | 62 | | 63.7% | 58 | 2.8 | Fail | |
| Perfluorooctanoic acid | ng/g | 0.72 | 3.6 | 0.85 | J | 0.74 | J | 13.8% | 0.11 | 2.9 | Pass | |

Control limit [sample]>5xLOQ use 50%

[sample]<5xLOQ use Delta<4xLOQ

Client Sample ID: SC-IRP3- SC-IRP3- MW01-45 DUP02

Date Sampled: 6/12/18 6/12/18

| | Units | LOQ | DX LOQ | Conc | e | Cond | ate : | % RPD | Delta | LOQ | Pass/ Fail | | |
|---------------------------------|-------|------|-----------|------|---|------|----------|--------|-------|-----|---------------|--|--|
| Perfluorinated Alkyl Substances | | | | | | | | | | | | | |
| Perfluoro-octanesulffonate | ng/g | 0.75 | 3.8 | 0.70 | J | 0.22 | J | 104.3% | 0.48 | 3.0 | Pass | | |
| Perfluorooctanoic acid | ng/g | 0.78 | 3.9 | 0.54 | J | 0.72 | U | 28.6% | 0.18 | 3.1 | Pass | | |

Control limit [sample]>5xLOQ use 50%

[sample]<5xLOQ use Delta<4xLOQ

| Client Sam | | SC-IRP3- MW01 | DUP-01 | | | | | | |
|----------------------------|-------|------------------|--------|---------|-----------|-------|-------|------|-------|
| Date Sampled: | | | | 7/19/18 | 7/19/18 | | | | |
| | Units | Jnits LOQ | | Sample | Duplicate | % RPD | Delta | 2x | Pass/ |
| D (1 ' (A | | | LOQ | Conc | Conc | | | LOQ | Fail |
| Perfluorinated Alkyl Subst | ances | | | | | | | | |
| Perfluorobutanesulfonate | ng/l | 0.97 | 4.9 | 56 | 56 | 0.0% | 0.0 | 1.9 | Pass |
| Perfluoroheptanoic acid | ng/l | 1.1 | 5.5 | 52 | 53 | 1.9% | 1.0 | 2.2 | Pass |
| Perfluorohexanesulfonate | ng/l | 9.7 | 48.5 | 460 | 450 | 2.2% | 10 | 19.4 | Pass |
| Perfluorononanoic acid | ng/l | 1.1 | 5.5 | 9.9 | 9.5 | 4.1% | 0.40 | 2.2 | Pass |
| Perfluoro-octanesulffonate | ng/l | 11 | 55 | 960 | 970 | 1.0% | 10 | 22.0 | Pass |
| Perfluorooctanoic acid | ng/l | 1.1 | 5.5 | 99 | 100 | 1.0% | 1.0 | 2.2 | Pass |

Control limit [sample]>5xLOQ use 35%

[sample]<5xLOQ use Delta<2xLOQ

Client Sample ID: SC-APR-MW01 DUP 02

Date Sampled: 7/20/18 7/20/18

| | Units | LOQ | 5x LOQ | Sample Conc | _ | Duplica Conc | | % RPD | Delta | 2x LOQ | Pass/ Fail | |
|---------------------------------|-------|-----|-----------|----------------|---|-----------------|---|-------|-------|-----------|---------------|--|
| Perfluorinated Alkyl Substances | | | | | | | | | | | | |
| Perfluorobutanesulfonate | ng/l | 1.8 | 9.0 | 3.3 | J | 3.3 | J | 0.0% | 0.0 | 3.6 | Pass | |
| Perfluoroheptanoic acid | ng/l | 2.0 | 10 | 5.1 | | 5.2 | | 1.9% | 0.10 | 4.0 | Pass | |
| Perfluorohexanesulfonate | ng/l | 1.8 | 9.0 | 13 | | 13 | | 0.0% | 0.0 | 3.6 | Pass | |
| Perfluorononanoic acid | ng/l | 2.0 | 10 | 2.0 | U | 2.0 | U | 0.0% | 0.0 | 4.0 | Pass | |
| Perfluoro-octanesulffonate | ng/l | 2.0 | 10 | 23 | | 24 | | 4.3% | 1.0 | 4.0 | Pass | |
| Perfluorooctanoic acid | ng/l | 2.0 | 10 | 7.7 | | 7.6 | | 1.3% | 0.10 | 4.0 | Pass | |

Control limit [sample]>5xLOQ use 35%

[sample]<5xLOQ use Delta<2xLOQ



Lancaster Laboratories Environmental

Analysis Report

2425 New Hotland Pike, Lancaster, PA 17501 • 717-656-2300 • Fax: 717-656-4766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

Schenectady Decon Water Grab Water

Schenectady-Stratton ANGB

AECOM

ELLE Sample #:

WW 9555124 1931008

ELLE Group #: Matrix: Water

Project Name:

Schenectady-Stratton ANGB

Submittal Date/Time: Collection Date/Time:

04/12/2018 10:10 04/11/2018 12:15

SDG#:

FSA88-01

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|--|------------|---------|---------------------|-----------------------|-----------------------|-----|
| LC/MS | /MS Miscellaneous EPA 5: table E | | ng/i | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 1.2 | 0.27 | 0.91 | 0.91 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 2.0 | 0.27 | 0.91 | 0.91 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 2.5 | 0.36 | 1.8 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 0.42 J | 0.36 | 1.8 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 3.8 | 0.55 | 1.8 | 1.8 | 1 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 5.8 J.c | 0.27 | 0.91 | 0.91 | 1 |
| | aboratory's DoD Scope of Accreditat od: EPA 537 mod QSM 5.1 table B-1 | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|----------------------------------|--------------------------------|--------|----------|---------------------------|-------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18107005 | 04/23/2018 09:17 | Devon M Whooley | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18107005 | 04/17/2018 15:30 | Anthony C Polaski | 1 |

Lancaster Laboratories Environmental

Analysis Report

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Sample Description:

SC-B11-SS03-01 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #: ELLE Group #:

SW 9659169 1955015

Matrix: Soil

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/11/2018 08:35

SDG#:

FSB16-01

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|--|-------------------------------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 53 table B | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.61 | 0.82 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.54 J | 0.20 | 0.69 | 0.82 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.89 | 0.20 | 0.65 | 0.82 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.40 J | 0.20 | 0.69 | 0.82 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 10 | 0.20 | 0.66 | 0.82 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.92 | 0.20 | 0.69 | 0.82 | 1 |
| Wet C | | 0 G-1997 ture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in wei 103 - 105 degrees Celsius. The mo as-received basis. | n.a. ght of the sample after pisture result reported | 7.5 r oven drying at is on an | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

| | Laboratory Sample Analysis Record | | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 01:47 | Joshua P Trost | 1 | | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | | |

^{*=}This limit was used in the evaluation of the final result

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Sample Description:

SC-B11-SB03-45 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #:

SW 9659170 1955015

ELLE Group #: Matrix: Soil

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/11/2018 08:45

SDG#:

CAT

14478

00111 Moisture

No.

Analysis Name

PFAS Solid Prep - DoD

PFAS in Soil by LC/MS/MS-DoD

FSB16-02

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|---|--------------------------------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 5 table E | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.25 | 0.74 | 0.99 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.25 | 0.84 | 0.99 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.25 | 0.79 | 0.99 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.25 | 0.84 | 0.99 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 2.7 | 0.25 | 0.81 | 0.99 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.25 | 0.84 | 0.99 | 1 |
| | | • | | | | | |
| Wet CI | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in we 103 - 105 degrees Celsius. The m as-received basis. | n.a. eight of the sample after noisture result reported | 20.1 r oven drying at is on an | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

Laboratory Sample Analysis Record

18169820007A

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

table B-15 SM 2540 G-1997

%Moisture Calc

| | | _ | | | |
|--------------------------------|--------|----------|---------------------------|------------------|--------------------|
| Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 02:18 | Joshua P Trost | 1 |
| EPA 537 mod QSM 5.1 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 |

06/18/2018 21:58

Scott W Freisher

*=This limit was used in the evaluation of the final result

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Sample Description:

SC-B11-SS01-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

06/14/2018 08:00 06/11/2018 09:05

SDG#:

FSB16-03

| | | \sim | _ | 8.8 | |
|---|---|--------|---|-----|--|
| ш | _ | ٤. | | w | |

ELLE Sample #:

SW 9659171

ELLE Group #:

1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--------------------------|---|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfonat | e 355-46-4 | 0.24 J | 0.22 | 0.70 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfonat | e 1763-23-1 | 0.96 | 0.22 | 0.71 | 0.87 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| Wet CI | hemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | | n.a. oss in weight of the sample after is. The moisture result reported | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 02:34 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

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Sample Description:

SC-B11-SB01-34 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/11/2018 09:15

SDG#: FSB16-04

AECOM

ELLE Sample #:

SW 9659172 1955015

ELLE Group #:

Matrix: Soil

| 00011. | 100 | 710-0-4 | | | | | | |
|------------|--------------------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|--|
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF | |
| LC/MS | | EPA 537 mod QSM 5.1 able B-15 | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.59 | 0.79 | 1 | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.67 | 0.79 | 1 | |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.63 | 0.79 | 1 | |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.67 | 0.79 | 1 | |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.20 | 0.64 | 0.79 | 1 | |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.67 | 0.79 | 1 | |
| Wet Ch | | 6M 2540 G-1997 6Moisture Calc | % | % | % | % | | |
| 00111 | Moisture Moisture represents the los | n.a. ss in weight of the sample after . The moisture result reported i | | 0.50 t | 0.50 | 0.50 | Ĭ | |

Sample Comments

| | | Labor | atory S | Sample Analysis | s Record | | |
|------------|------------------------------|----------------------------------|---------|-----------------|---------------------------|------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 02:49 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

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Sample Description:

SC-B11-SS02-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/11/2018 10:00

SDG#:

FSB16-05

AECOM

ELLE Sample #:

SW 9659173 1955015

ELLE Group #:

Matrix: Soil

| CAT | 74 | | D | Dry Detection | Dry Limit of | Dry Limit of | |
|--------|---|---|-------------------------------------|------------------|-----------------|-----------------|----|
| No. | Analysis Name | CAS Number | Dry Result | Limit* | Detection | Quantitation | DF |
| LC/MS | /MS Miscellaneous EPA 53 table B | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.41 J | 0.24 | 0.73 | 0.98 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.31 J | 0.24 | 0.83 | 0.98 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 8.3 | 0.24 | 0.78 | 0.98 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.62 J | 0.24 | 0.83 | 0.98 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 61 | 0.24 | 0.80 | 0.98 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.4 | 0.24 | 0.83 | 0.98 | 1 |
| Wet CI | • | i0 G-1997 ture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in wei 103 - 105 degrees Celsius. The mo as-received basis. | n.a. ight of the sample after pisture result reported i | 20.7 roven drying at is on an | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | | Laboi | atory S | Sample Analysis | Record | | |
|------------|------------------------------|----------------------------------|---------|-----------------|---------------------------|------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 03:05 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 |

^{*=}This limit was used in the evaluation of the final result

SW 9659174

1955015

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description:

SC-B11-SB02-34 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: SDG#:

06/11/2018 08:00

FSB16-06

06/14/2018 08:00

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 537 table B- | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.86 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.32 J | 0.22 | 0.73 | 0.86 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 5.1 | 0.22 | 0.69 | 0.86 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.40 J | 0.22 | 0.73 | 0.86 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 27 | 0.22 | 0.70 | 0.86 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.3 | 0.22 | 0.73 | 0.86 | 1 |
| W-4 O | 011.0540 | 0.400 | 0/ | | | | |
| wet Ci | nemistry SM 2540 %Moistu | | % | % | % | % | |
| 00111 | Moisture | n.a. | 10.7 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in weight 103 - 105 degrees Celsius. The mois as-received basis. | | | | | | |

Sample Comments

| | | Labor | ratory S | Sample Analysis | s Record | | |
|------------|------------------------------|----------------------------------|----------|-----------------|---------------------------|------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 03:20 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 |

^{*=}This limit was used in the evaluation of the final result

Analysis Report

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Sample Description:

SC-APR-SS01-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/11/2018 11:06

SDG#: FSB16-07 **AECOM**

ELLE Sample #:

ELLE Group #:

SW 9659175 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF | |
|------------|-------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|--|
| LC/MS | S/MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonat | e 375-73-5 | N.D. | 0.21 | 0.62 | 0.83 | 1 | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.70 | 0.83 | 1 | |
| 14478 | Perfluorohexanesulfona | te 355-46-4 | 0.22 J | 0.21 | 0.66 | 0.83 | 1 | |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.70 | 0.83 | 1 | |
| 14478 | Perfluoro-octanesulfona | te 1763-23-1 | 1.6 | 0.21 | 0.67 | 0.83 | 1 | |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.21 | 0.70 | 0.83 | 1 | |
| W-4 C | hawalata . | OH 0540 O 4007 | 9/ | 9/ | | 0/ | | |
| wet C | hemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | % | | |
| 00111 | Moisture | n.a. | 5.1 | 0.50 | 0.50 | 0.50 | 1 | |
| | | loss in weight of the sample after us. The moisture result reported | | | | | | |

Sample Comments

| | | Laboi | ratory S | Sample Analysis | s Record | | |
|------------|------------------------------|----------------------------------|----------|-----------------|---------------------------|------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 03:36 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 |

^{*=}This limit was used in the evaluation of the final result

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Sample Description:

SC-APR-SB01-45 Grab Soil

Stratton PFAS

Project Name:

Wet Chemistry

00111

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/11/2018 11:20

AECOM

ELLE Sample #:

ELLE Group #:

%

0.50

SW 9659176

1955015 Matrix: Soil

| SDG#: | SDG#: FSB16-08 | | | | | | | | | | |
|------------|---------------------------|---------------------------------|---------------|--|----------------------------|------------------------------|---------------------------------|----|--|--|--|
| CAT No. | Analysis Name | CAS Number | Dry Result | | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF | | | |
| LC/MS | /MS Miscellaneous E ta | PA 537 mod QSM 5.1 ible B-15 | ng/g | | ng/g | ng/g | ng/g | | | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | | 0.20 | 0.61 | 0.81 | 1 | | | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | | 0.20 | 0.69 | 0.81 | 1 | | | |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | | 0.20 | 0.65 | 0.81 | 1 | | | |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | | 0.20 | 0.69 | 0.81 | 1 | | | |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | | 0.20 | 0.66 | 0.81 | 1 | | | |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | | 0.20 | 0.69 | 0.81 | 1 | | | |

Moisture 10.3 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

SM 2540 G-1997

%Moisture Calc

Sample Comments

0.50

0.50

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 03:51 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 |

^{*=}This limit was used in the evaluation of the final result

Analysis Report

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Sample Description:

SC-APR-SS02-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time:

06/14/2018 08:00

AECOM

ELLE Sample #: ELLE Group #:

SW 9659177 1955015

Matrix: Soil

| CAT No. Analysi | s Name | | : 4 |
|--------------------------|--------|-----------------------------|-----|
| Collection Date SDG#: | | 06/11/2018 11:4 FSB16-09 | _ |

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|------------|---------------|----------------------------|------------------------|---------------------------|-----|
| | /MS Miscellaneous EPA 537 i | | ng/g | ng/g | ng/g | ng/g | _, |
| 14478 | table B-15 Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.62 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.58 J | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.76 J | 0.21 | 0.66 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.46 J | 0.21 | 0.67 | 0.83 | 1 = |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.37 J | 0.21 | 0.70 | 0.83 | 1 |
| Wet Ch | nemistry SM 2540 (%Moistur | | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in weight 103 - 105 degrees Celsius. The moistu as-received basis. | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 04:07 | Joshua P Trost | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | |

^{*=}This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinaUS.com/LancLabsEnv

Sample Description:

SC-APR-SB02-45 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/11/2018 11:50

SDG#:

FSB16-10

AECOM

ELLE Sample #:

SW 9659178 1955015

ELLE Group #:

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF | |
|------------|---|-----------------------|---------------|----------------------------|------------------------------|---------------------------------|----|--|
| LC/MS | S/MS Miscellaneous EPA 53 table B | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.61 | 0.81 | 1 | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.69 | 0.81 | 1 | |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.65 | 0.81 | 1 | |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 | |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.20 | 0.66 | 0.81 | 1 | |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 | |
| Wet C | | 0 G-1997 ture Calc | % | % | % | % | | |
| 00111 | Moisture Moisture represents the loss in wei 103 - 105 degrees Celsius. The mo as-received basis. | | | 0.50 | 0.50 | 0.50 | 1 | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 04:38 | Joshua P Trost | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | |

^{*=}This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-APR-SS03-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: SDG#: 06/14/2018 08:00 06/11/2018 12:30

FSB16-11

AECOM

ELLE Sample #:

SW 9659179 1955015

ELLE Group #:

Matrix: Soil

| | | | | | Dmi | D | D | |
|------------|--|--------------------------|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| CAT No. | Analysis Name | | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
| LC/MS | /MS Miscellaneous | EPA 537 me table B-15 | od QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | е | 375-73-5 | N.D. | 0.22 | 0.67 | 0.90 | 1 |
| 14478 | Perfluoroheptanoic acid | | 375-85-9 | N.D. | 0.22 | 0.76 | 0.90 | 1 |
| 14478 | Perfluorohexanesulfonal | te | 355-46-4 | 1.7 | 0.22 | 0.72 | 0.90 | 1 |
| 14478 | Perfluorononanoic acid | | 375-95-1 | N.D. | 0.22 | 0.76 | 0.90 | 1 |
| 14478 | Perfluoro-octanesulfona | te | 1763-23-1 | 2.1 5, 1 | 0.22 | 0.73 | 0.90 | 1 |
| 14478 | Perfluorooctanoic acid | | 335-67-1 | 0.75 J | 0.22 | 0.76 | 0.90 | 1 |
| Wet Ch | nemistry | SM 2540 G- %Moisture | | % | % | % | %a | |
| 00111 | Moisture | | n.a. | 14.2 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the 103 - 105 degrees Celsi as-received basis. | | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 04:53 | Joshua P Trost | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 - 717-656-2300 - Fax: 717-656-6766 - www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-APR-SB03-45 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/11/2018 12:36

SDG#:

FSB16-12

AECOM

ELLE Sample #: ELLE Group #:

SW 9659180 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-----------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA | 537 mod QSM 5.1 e B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.62 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.43 J | 0.21 | 0.66 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.21 | 0.67 | 0.83 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| Wet CI | - | 2540 G-1997 Disture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 10.3 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The as-received basis. | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 05:09 | Joshua P Trost | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | |

^{*=}This limit was used in the evaluation of the final result

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Sample Description:

SC-APR-DUP01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: SDG#: 06/14/2018 08:00 06/11/2018 FSB16-13FD **AECOM**

ELLE Sample #:

SW 9659181 1955015

ELLE Group #:

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|-------|
| LC/MS | /MS Miscellaneous El | PA 537 mod QSM 5.1 ble B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.23 | 0.70 | 0.93 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.37 J | 0.23 | 0.79 | 0.93 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 3.7 | 0.23 | 0.74 | 0.93 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.67 J | 0.23 | 0.79 | 0.93 | 1 = 2 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 14 J,F | 0.23 | 0.75 | 0.93 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.5 | 0.23 | 0.79 | 0.93 | 1 |
| Wet C | | M 2540 G-1997 Moisture Calc | % | % | % | % | |
| 00111 | | n.a. s in weight of the sample afte The moisture result reported | | 0.50 | 0.50 | 0.50 | Ĩ |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 05:25 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result

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Sample Description:

SC-B10-SS02-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: SDG#: 06/14/2018 08:00 06/11/2018 12:58

FSB16-14

AECOM

ELLE Sample #:

SW 9659182 1955015

ELLE Group #:

Matrix: Soil

| | | | | Dry Detection | Dry Limit of | Dry Limit of | | |
|------------|--|---|------------------------------|------------------|-----------------|-----------------|----|--|
| CAT No. | Analysis Name | CAS Number | Dry Result | Limit* | Detection | Quantitation | DF | |
| LC/M | S/MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonat | e 375-73-5 | N.D. | 0.24 | 0.72 | 0.96 | 1 | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.24 | 0.82 | 0.96 | 1 | |
| 14478 | Perfluorohexanesulfona | te 355-46-4 | 2.4 | 0.24 | 0.77 | 0.96 | 1 | |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.24 | 0.82 | 0.96 | 1 | |
| 14478 | Perfluoro-octanesulfona | te 1763-23-1 | 19 | 0.24 | 0.78 | 0.96 | 1 | |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.24 | 0.82 | 0.96 | 1 | |
| Wet 0 | Chemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | % | | |
| 00111 | Moisture | n.a. | 21.6 | 0.50 | 0.50 | 0.50 | 1 | |
| | Moisture represents the 103 - 105 degrees Celsi as-received basis. | loss in weight of the sample afte us. The moisture result reported | r oven drying at is on an | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 05:40 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result

2425 New Holland Pike, Lancaster, PA 17601 - 717-656-2300 - Fax: 717-658-6766 - www.EurofineUS.com/LancLabeEnv

Sample Description:

SC-B10-SB02-34 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/11/2018 13:05

SDG#:

FSB16-15

AECOM

ELLE Sample #:

SW 9659183 1955015

ELLE Group #:

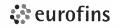
Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|------------------------------|------------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA tabl | A 537 mod QSM 5.1 le B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.22 | 0.69 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.22 | 0.70 | 0.87 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| W-4 O | | 2010 2 1000 | | | 24 | | |
| wet Ci | | 2540 G-1997 oisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 12.8 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The as-received basis. | weight of the sample after | r oven drying at | | | 3.33 | * |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 05:56 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

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Sample Description:

SC-B10-SS01-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/11/2018 13:15

SDG#: FSB16-16

AECOM

ELLE Sample #:

SW 9659184 1955015

ELLE Group #:

Matrix: Soil

| 047 | | | | Dry Detection | Dry Limit of | Dry Limit of | |
|------------|---|---|--------------------------------------|------------------|-----------------|-----------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Limit* | Detection | Quantitation | DF |
| LC/MS | /MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | e 375-73-5 | 0.29 J | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfonat | e 355-46-4 | 3.7 | 0.21 | 0.67 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.71 | 0.84 | f |
| 14478 | Perfluoro-octanesulfonat | re 1763-23-1 | 21 | 0.21 | 0.68 | 0.84 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.26 J | 0.21 | 0.71 | 0.84 | 1 |
| Wet CI | hemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the 103 - 105 degrees Celsiu as-received basis. | n.a. loss in weight of the sample afte us. The moisture result reported | 10.6 r oven drying at is on an | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 06:11 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 - 717-656-2300 - Fax: 717-656-6766 - www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B10-SB01-34 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/11/2018 13:20

SDG#:

FSB16-17

AECOM

ELLE Sample #:

SW 9659185 **ELLE Group #:** 1955015

Matrix: Soil

| CAT No. | Analysis Name | | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|--------------------------|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 me table B-15 | od QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | е | 375-73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | | 375-85-9 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfonat | e | 355-46-4 | 1.5 | 0.22 | 0.69 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | | 375-95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfonat | te | 1763-23-1 | 6.2 | 0.22 | 0.71 | 0.87 | 1 |
| 14478 | Perfluorooctanoic acid | | 335-67-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| Wet Cl | hemistry | SM 2540 G- %Moisture | | % | % | % | % | |
| 00111 | Moisture Moisture represents the 103 - 105 degrees Celsiu as-received basis. | | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 06:27 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result

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Sample Description:

SC-B02-SS01-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/11/2018 13:35

SDG#:

FSB16-18

AECOM

ELLE Sample #:

SW 9659186 1955015

ELLE Group #:

Matrix: Soil

| CAT No. | Analysis Name | CAS Numbe | Dry ^r Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|-------------------------|--|----------------------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 mod QSM 5.4 table B-15 | f ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | e 375-73-5 | N.D. | 0.20 | 0.59 | 0.79 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.67 | 0.79 | 1 |
| 14478 | Perfluorohexanesulfona | te 355-46-4 | N.D. | 0.20 | 0.63 | 0.79 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.67 | 0.79 | 1 |
| 14478 | Perfluoro-octanesulfona | te 1763-23-1 | N.D. | 0.20 | 0.64 | 0.79 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.67 | 0.79 | 1 |
| Wet CI | hemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 6.0 | 0.50 | 0.50 | 0.50 | 1 |
| | | loss in weight of the sample af us. The moisture result reporte | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 06:42 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-4766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B02-SB01-78 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/11/2018 13:40

FSB16-19

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

SW 9659187 1955015

SDG#: Dry Limit of Dry Dry Detection Limit of CAT Dry **Analysis Name CAS Number** Limit* Detection Quantitation DF No. Result LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 ng/g ng/g ng/g table B-15 14478 Perfluorobutanesulfonate 375-73-5 N.D. 0.21 0.63 0.84 1 14478 Perfluoroheptanoic acid 375-85-9 N.D. 0.21 0.71 0.84 14478 Perfluorohexanesulfonate 355-46-4 N.D. 0.21 0.67 0.84 14478 Perfluorononanoic acid 375-95-1 N.D. 0.21 0.71 0.84 14478 Perfluoro-octanesulfonate 1763-23-1 N.D. 0.21 0.68 0.84 14478 Perfluorooctanoic acid 335-67-1 N.D. 0.21 0.71 0.84 **Wet Chemistry** SM 2540 G-1997 % **%Moisture Calc** Moisture 13.3 0.50 0.50 0.50 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 06:58 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

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Sample Description:

SC-B12-SS01-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

06/14/2018 08:00 06/13/2018 08:20

SDG#: FSB17-01

AECOM

ELLE Sample #:

SW 9659222

ELLE Group #:

1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-------------------------|---------------|----------------------------|------------------------------|---------------------------------|------|
| LC/MS | /MS Miscellaneous EPA 5 table I | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 1.0 | 0.22 | 0.66 | 0.88 | _ 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.68 J | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 47 | 0.22 | 0.71 | 0.88 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.23 J | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 190 | 0.22 | 0.72 | 0.88 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 5.6 | 0.22 | 0.75 | 0.88 | 1 |
| Wet Cl | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 9.3 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | ,x2. |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/25/2018 23:41 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/19/2018 15:30 | Danielle D McCully | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 | | | |

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B12-SB01-07 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #:

SW 9659223

1955027

ELLE Group #: Matrix: Soil

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/13/2018 08:25

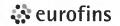
SDG#:

FSB17-02

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF | |
|---|---|-------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|--|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 1.2 | 0.23 | 0.69 | 0.92 | 1 | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 1.2 | 0.23 | 0.78 | 0.92 | 1 | |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 23 | 0.23 | 0.73 | 0.92 | 1 | |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.35 J | 0.23 | 0.78 | 0.92 | 1 | |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 180 | 2.3 | 7.4 | 9.2 | 10 | |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 7.6 | 0.23 | 0.78 | 0.92 | 1 | |
| Wet C | | 40 G-1997 sture Calc | % | % | % | % | | |
| 00111 | Moisture | n.a. | 15.2 | 0.50 | 0.50 | 0.50 | 1 | |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/25/2018 23:56 | Joshua P Trost | 1 | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/26/2018 17:02 | Joshua P Trost | 10 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/19/2018 15:30 | Danielle D McCully | 1_ | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 | | | | |



Analysis Report

SW 9659224

1955027

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description:

SC-B12-SS02-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

06/14/2018 08:00 06/13/2018 08:00

SDG#:

FSB17-03

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--------------------------|---|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | e 375-73-5 | N.D. | 0.21 | 0.62 | 0.82 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.21 J | 0.21 | 0.70 | 0.82 | 1 |
| 14478 | Perfluorohexanesulfonat | e 355-46-4 | 6.7 | 0.21 | 0.66 | 0.82 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.70 | 0.82 | 1 |
| 14478 | Perfluoro-octanesulfonat | te 1763-23-1 | 28 | 0.21 | 0.67 | 0.82 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 2.5 | 0.21 | 0.70 | 0.82 | 1 |
| Wet Cl | nemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 8.5 | 0.50 | 0.50 | 0.50 | 1 |
| | | loss in weight of the sample afte us. The moisture result reported | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/26/2018 00:12 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/19/2018 15:30 | Danielle D McCully | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 | | | | |

Analysis Report

2425 New Holland Pike, Lancaster, PA 17801 • 717-656-2300 • Fax: 717-658-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B12-SB02-56 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

06/14/2018 08:00 06/13/2018 08:05

SDG#:

FSB17-04

| | | `' | NR/ | ı |
|---|----|----|------------|---|
| А | E٧ | J | JIV | ı |

ELLE Sample #:

: SW 9659225 1955027

ELLE Group #:

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 5 table I | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 5.9 | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 1.4 | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 42 | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 150 | 0.20 | 0.66 | 0.81 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 5.3 | 0.20 | 0.69 | 0.81 | 1 |
| Wet Cl | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 8.3 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

%Moisture Calc

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|--------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/26/2018 00:27 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/19/2018 15:30 | Danielle D McCully | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 | | | | |



Analysis Report

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Sample Description:

SC-B02-SS02-01 Grab Soil

Stratton PFAS

AECOM ELLE Sample #:

SW 9659226

Stratton PFAS

ELLE Group #:

1955027

Project Name:

Stratton ANGB 60520893

Matrix: Soil

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/13/2018 08:40

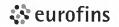
SDG#:

FSB17-05

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|---------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA table | 537 mod QSM 5.1 B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.19 | 0.57 | 0.76 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.19 | 0.65 | 0.76 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 3.5 | 0.19 | 0.61 | 0.76 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.19 | 0.65 | 0.76 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 45 | 0.19 | 0.62 | 0.76 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.27 J | 0.19 | 0.65 | 0.76 | 1 |
| Wet CI | | 540 G-1997 isture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 3.9 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in v 103 - 105 degrees Celsius. The as-received basis. | | | | 39 | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|---------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/26/2018 00:43 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/19/2018 15:30 | Danielle D McCully | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 | | | |



Analysis Report

SW 9659227

1955027

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description:

SC-B02-SB02-56 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time:

06/14/2018 08:00

Collection Date/Time: SDG#:

Project Name:

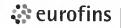
FSB17-06

06/13/2018 08:45

| | | | | Dry | Dry | Dry | |
|------------|---|---------------------------|---------------|---------------------|-----------------------|--------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
| .C/MS | /MS Miscellaneous EPA table | 537 mod QSM 5.1 B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.25 J | 0.21 | 0.64 | 0.86 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.29 J | 0.21 | 0.73 | 0.86 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 6.8 | 0.21 | 0.69 | 0.86 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.73 | 0.86 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 51 | 0.21 | 0.70 | 0.86 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.73 J | 0.21 | 0.73 | 0.86 | 1 |
| Vet CI | | 540 G-1997 isture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 13.0 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The as-received basis. | | | | 29 | | |

Sample Comments

| | | Labor | ratory S | Sample Analysis | s Record | | |
|------------|------------------------------|----------------------------------|----------|-----------------|---------------------------|--------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/26/2018 00:58 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5:1 table B-15 | 1 | 18170012 | 06/19/2018 15:30 | Danielle D McCully | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B03-SS02-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

06/14/2018 08:00 06/13/2018 09:40

SDG#:

FSB17-07

AECOM

ELLE Sample #:

SW 9659228

ELLE Group #: Matrix: Soil

1955027

| | | | | Dry | Dry | Des | | |
|------------|--|--------------------------|---------------|---------------------|-----------------------|---------------------------|----|--|
| CAT No. | Analysis Name | CAS Number | Dry Result | Detection Limit* | Limit of Detection | Dry Limit of Quantitation | DF | |
| LC/MS | 6/MS Miscellaneous EPA 5 table | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.19 | 0.57 | 0.77 | 1 | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.19 | 0.65 | 0.77 | 1 | |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.19 | 0.61 | 0.77 | 1 | |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.19 | 0.65 | 0.77 | 1 | |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 2.0 JTM | 0.19 | 0.62 | 0.77 | 1 | |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.29 J | 0.19 | 0.65 | 0.77 | 1 | |
| Wet CI | | i40 G-1997 sture Calc | % | % | % | % | | |
| 00111 | Moisture | n.a. | 3.3 | 0.50 | 0.50 | 0.50 | 1 | |
| | Moisture represents the loss in war 103 - 105 degrees Celsius. The mas-received basis. | | | | | | | |

Sample Comments

| | | Labor | ratory S | Sample Analysis | s Record | | |
|------------|------------------------------|----------------------------------|----------|-----------------|---------------------------|--------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/26/2018 01:14 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/19/2018 15:30 | Danielle D McCully | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 |

Analysis Report

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Sample Description:

SC-B03-SB02-23 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #:

SW 9659229

1955027

ELLE Group #:

Matrix: Soil

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/13/2018 09:45

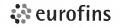
SDG#:

FSB17-08

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|--------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA (table | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.22 | 0.69 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 1.4 | 0.22 | 0.71 | 0.87 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.35 J | 0.22 | 0.74 | 0.87 | 1 |
| Wet CI | | 540 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.9 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in w 103 - 105 degrees Celsius. The I as-received basis. | | | | | | |

Sample Comments

| | | Labo | ratory S | Sample Analysis | Record | | |
|------------|------------------------------|----------------------------------|----------|-----------------|---------------------------|--------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/26/2018 01:45 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/19/2018 15:30 | Danielle D McCully | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B03-DUP03 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #:

SW 9659230

ELLE Group #:

1955027 Matrix: Soil

Project Name:

Stratton ANGB 60520893

Submittal Date/Time:

06/14/2018 08:00 06/13/2018 FSB17-09FD

Collection Date/Time: SDG#:

| CAT | Augusta Maria | | Dry | Dry Detection | Dry Limit of | Dry Limit of | |
|--------|---------------------------|--|--------|------------------|-----------------|-----------------|----|
| No. | Analysis Name | CAS Number | Result | Limit* | Detection | Quantitation | DF |
| LC/MS | | EPA 537 mod QSM 5.1 able B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0,21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.21 | 0.67 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 2.0 | 0.21 | 0.68 | 0.84 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.31 J | 0.21 | 0.71 | 0.84 | 1 |
| Wet CI | | SM 2540 G-1997 6Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 6.7 | 0.50 | 0.50 | 0.50 | 1 |
| | | ss in weight of the sample after . The moisture result reported i | | | | | |

Sample Comments

| | | Laboi | atory S | sample Analysis | Record | | |
|------------|------------------------------|----------------------------------|---------|-----------------|---------------------------|--------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 09:30 | Hannah Kruelle | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 |



Analysis Report

2425 New Holland Pike, Lancaster. PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B03-SS01-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time:

Project Name:

06/14/2018 08:00

AECOM

ELLE Sample #:

SW 9659231 1955027

ELLE Group #:

Matrix: Soil

| Collection SDG# | tion Date/Time: | 06/13/2018 10:05 FSB17-10 | | |
|-----------------|-----------------|------------------------------|---------------|----------------------------|
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* |

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|-------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | e 375-73-5 | 0.52 J | 0.22 | 0.66 | 0.88 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 3.4 | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluorohexanesulfonat | e 355-46-4 | 16 | 0.22 | 0.70 | 0.88 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.76 J | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluoro-octanesulfona | te 1763-23-1 | 30 | 0.22 | 0.72 | 0.88 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 7.6 | 0.22 | 0.75 | 0.88 | 1 |
| Wet Cl | nemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 11.8 | 0.50 | 0.50 | 0.50 | 1 |
| | | loss in weight of the sample after us. The moisture result reported | | £ | | | |

as-received basis.

Sample Comments

| | | Labor | ratory S | Sample Analysis | s Record | | |
|------------|------------------------------|----------------------------------|----------|-----------------|---------------------------|--------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 09:45 | Hannah Kruelle | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B03-SB01-34 Grab Soil

Stratton PFAS

AECOM ELLE Sample #:

SW 9659232

ELLE Group #: Matrix: Soil

1955027

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/13/2018 10:10

SDG#:

Project Name:

FSB17-11

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|------------------------------|---------------------------------|----------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EF tal | PA 537 mod QSM 5.1 ble B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.62 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.85 | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 1.3 | 0.21 | 0.66 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 5.1 | 0.21 | 0.67 | 0.83 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.0 | 0.21 | 0.71 | 0.83 | 1 |
| Vet Cl | | /l 2540 G-1997 Moisture Calc | % | % | °/ ₆ | % | |
| 00111 | Moisture | n.a. | 3.6 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss | | oven drying at | 5.55 | 0.00 | 0.00 | ж: |

as-received basis.

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 10:01 | Hannah Kruelle | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010B | 06/15/2018 07:52 | William C Schwebel | 1 | | | |

Analysis Report

2425 New Holland Pike, Lancaster. PA 17601 • 717-656-2300 • Fax: 717-656-8766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B35-SS02-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/13/2018 10:55

SDG#:

Project Name:

FSB17-12

AECOM

ELLE Sample #:

SW 9659233

ELLE Group #:

1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|-----------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.66 | 0.88 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.22 | 0.70 | 0.88 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.22 | 0.71 | 0.88 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.22 | 0.75 | 0.88 | 1 |
| Wet C | | 2540 G-1997 Disture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 10.6 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The as-received basis. | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 10:16 | Hannah Kruelle | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010B | 06/15/2018 07:52 | William C Schwebel | 1 |



Analysis Report

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Sample Description:

SC-B35-SB02-34 Grab Soil

AECOM

SW 9659234

Stratton PFAS

ELLE Sample #: ELLE Group #: Matrix: Soil

1955027

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/13/2018 11:00

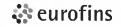
SDG#:

FSB17-13

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|-----------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.61 | 0.82 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.70 | 0.82 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.66 | 0.82 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.70 | 0.82 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.20 | 0.67 | 0.82 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.70 | 0.82 | 1 |
| Wet Cl | • | 2540 G-1997 oisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 8.7 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The as-received basis. | | | | | | |

Sample Comments

| | | Labor | ratory S | Sample Analysis | s Record | | |
|------------|------------------------------|----------------------------------|----------|-----------------|---------------------------|--------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 10:32 | Hannah Kruelle | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010B | 06/15/2018 07:52 | William C Schwebel | 1 |



Analysis Report

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Sample Description:

SC-B35-SS03-01 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #:

SW 9659235 1955027

ELLE Group #:

Matrix: Soil

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/13/2018 11:10

SDG#:

FSB17-14

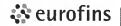
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---------------------------|---|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73 - 5 | N.D. | 0.20 | 0.60 | 0.80 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.64 | 0.80 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.88 | 0.20 | 0.65 | 0.80 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.20 J | 0.20 | 0.68 | 0.80 | 1 |
| Wet CI | | M 2540 G-1997 Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 8.2 | 0.50 | 0.50 | 0.50 | 1 |
| | | s in weight of the sample after The moisture result reported | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 10:47 | Hannah Kruelle | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010B | 06/15/2018 07:52 | William C Schwebel | 1 = |



Analysis Report

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Sample Description:

SC-B35-SB03-56 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #:

SW 9659236

ELLE Group #:

1955027

Matrix: Soil

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/13/2018 11:15

SDG#:

CAT

Analysis Name

FSB17-15

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|---------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.20 | 0.66 | 0.81 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| Wet CI | | 540 G-1997 isture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.6 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in w 103 - 105 degrees Celsius. The r as-received basis. | | | | | | |

Sample Comments

Laboratory Sample Analysis Record

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

| Labor | ratory Cample Analysis Record | | | | | | |
|---------------------|-------------------------------|----------|------------------------|----------------|--------------------|--|--|
| Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| EPA 537 mod QSM 5.1 | 1 | 18171018 | 06/22/2018 11:03 | Hannah Kruelle | 1 | | |

No. Factor 14478 PFAS in Soil by LC/MS/MS-DoD E table B-15 PFAS Solid Prep - DoD 14510 EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 Anthony C Polaski 1 table B-15 00111 Moisture SM 2540 G-1997 18165820010B 06/15/2018 07:52 William C Schwebel %Moisture Calc



Analysis Report

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Sample Description:

SC-B35-SS01-01 Grab Soil

Stratton PFAS

AECOM ELLE Sample #:

SW 9659237

Oli attori i i Ac

ELLE Group #:

1955027

Project Name:

Stratton ANGB 60520893

Matrix: Soil

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/13/2018 11:20

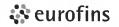
SDG#:

FSB17-16

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|--|--------------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 5.8 | 0.20 | 0.66 | 0.81 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| Wet Cl | | l 2540 G-1997 Noisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 6.7 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss 103 - 105 degrees Celsius. T as-received basis. | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 11:34 | Hannah Kruelle | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010B | 06/15/2018 07:52 | William C Schwebel | 1 | | | | |



Analysis Report

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Sample Description:

SC-B35-SB01-23 Grab Soil

Stratton PFAS

AECOM ELLE Sample #:

SW 9659238

Stratton Fra

ELLE Group #:

1955027

Project Name:

Stratton ANGB 60520893

Matrix: Soil

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/13/2018 11:25

SDG#:

FSB17-17

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|---------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.49 J | 0.21 | 0.63 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.63 J | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 3.0 | 0.21 | 0.67 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 6.8 | 0.21 | 0.68 | 0.83 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.50 J | 0.21 | 0.71 | 0.83 | 1 |
| Wet CI | | 540 G-1997 isture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 5.0 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The as-received basis. | | | | Se | | |

Sample Comments

| Laboratory Sample Analysis Record | | | | | | | |
|-----------------------------------|------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 11:50 | Hannah Kruelle | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010B | 06/15/2018 07:52 | William C Schwebel | 1 |

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B31-SS02-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

06/14/2018 08:00 06/13/2018 11:40

SDG#:

FSB17-18

AECOM

ELLE Sample #:

#: SW 9659239

ELLE Group #:

1955027

Matrix: Soil

| | | | | Dry | Dry | Dry | |
|---|---|------------|---------------|---------------------|-----------------------|--------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.39 J | 0.21 | 0.64 | 0.85 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.27 J | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 9.5 | 0.21 | 0.68 | 0.85 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.77 J | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 120 J.F | 0.21 | 0.69 | 0.85 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.85 J | 0.21 | 0.72 | 0.85 | 1 |
| Wet Chemistry SM 2540 G-1997 %Moisture Calc | | % | % | 9/6 | % | | |
| 00111 | Moisture | n.a. | 7.7 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the lo 103 - 105 degrees Celsius as-received basis. | | | | | | |

Sample Comments

| Laboratory Sample Analysis Record | | | | | | | |
|-----------------------------------|------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 12:05 | Hannah Kruelle | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010B | 06/15/2018 07:52 | William C Schwebel | 1 |

Analysis Report

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Sample Description:

SC-B31-DUP04 Grab Soil

Stratton PFAS

AECOM

SW 9659240

ELLE Sample #: ELLE Group #:

1955027

Project Name:

Stratton ANGB 60520893

Matrix: Soil

Submittal Date/Time: Collection Date/Time: SDG#:

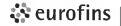
06/14/2018 08:00 06/13/2018 FSB17-19FD

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|---------------------------------|----------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EP tab | PA 537 mod QSM 5.1 ble B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.47 J | 0.20 | 0.60 | 0.80 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.35 J | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 7.8 | 0.20 | 0.64 | 0.80 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.61 J | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 62 3, 1 | 0.20 | 0.65 | 0.80 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.74 J | 0.20 | 0.68 | 0.80 | 1 |
| Net C | | ll 2540 G-1997 Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.8 | 0.50 | 0.50 | 0.50 | 1 |
| 00111 | Moisture represents the loss 103 - 105 degrees Celsius. T as-received basis | in weight of the sample after | oven drying at | 0.50 | 0.50 | 0.50 | |

Sample Comments

| Laboratory | Sample | Analysis | Record |
|------------|--------|----------|--------|
| | | | |

| | | | • | | | | |
|------------|------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 12:21 | Hannah Kruelle | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010B | 06/15/2018 07:52 | William C Schwebel | 1 |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17801 • 717-656-2300 • Fax; 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B31-SS01-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

06/14/2018 08:00 06/13/2018 11:50

SDG#:

CAT

14478

00111 Moisture

No.

FSB17-20

AECOM

ELLE Sample #:

SW 9659241 **ELLE Group #:**

1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|-------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.66 | 0.88 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.37 J | 0.22 | 0.74 | 0.88 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 7.3 | 0.22 | 0.70 | 0.88 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.75 J | 0.22 | 0.74 | 0.88 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 90 | 0.22 | 0.71 | 0.88 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.73 J | 0.22 | 0.74 | 0.88 | 1 |
| Wet Cl | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 10.5 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

SM 2540 G-1997

%Moisture Calc

Laboratory Sample Analysis Record Method **Analysis Name** Trial# Batch# **Analysis Analyst** Dilution **Date and Time** Factor PFAS in Soil by LC/MS/MS-DoD EPA 537 mod QSM 5.1 18171018 06/22/2018 12:36 Hannah Kruelle table B-15 PFAS Solid Prep - DoD EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 Anthony C Polaski 1 table B-15

18165820010B

06/15/2018 07:52

William C Schwebel



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B31-SB01-45 Grab Soil

AECOM

SW 9659242

Stratton PFAS

ELLE Sample #: ELLE Group #:

1955027

Project Name:

Stratton ANGB 60520893

Matrix: Soil

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/13/2018 11:35

SDG#:

FSB17-21

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|---------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.86 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.73 | 0.86 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.22 | 0.69 | 0.86 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.73 | 0.86 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.22 | 0.70 | 0.86 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.22 | 0.73 | 0.86 | 1 |
| Wet CI | | 540 G-1997 isture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 15.5 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in v 103 - 105 degrees Celsius. The as-received basis. | | | | | | *(|

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 12:52 | Hannah Kruelle | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820009B | 06/15/2018 07:24 | William C Schwebel | 1 | | |

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6758 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B31-SS03-01 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #:

SW 9659243

1955027

ELLE Group #:

Matrix: Soil

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/13/2018 12:00

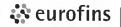
SDG#:

FSB17-22

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|-------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | e 375-73-5 | 2.0 | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.83 | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonal | e 355-46-4 | 32 | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 2.8 | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfona | te 1763-23-1 | 350 | 2.0 | 6.6 | 8.1 | 10 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 3.6 | 0.20 | 0.69 | 0.81 | 1 |
| Wet C | hemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 6.5 | 0.50 | 0.50 | 0.50 | 1 |
| | | loss in weight of the sample after us. The moisture result reported | | | | | €: |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 13:07 | Hannah Kruelle | 1 | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/25/2018 12:17 | Joshua P Trost | 10 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820009B | 06/15/2018 07:24 | William C Schwebel | 1 | | | |



Analysis Report

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Sample Description:

SC-B31-SB03-56 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

SDG#:

06/14/2018 08:00 06/13/2018 12:05

FSB17-23

AECOM

ELLE Sample #:

SW 9659244 1955027

ELLE Group #:

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 able B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.67 | 0.89 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.76 | 0.89 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 1.9 | 0.22 | 0.71 | 0.89 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.76 | 0.89 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 7.5 | 0.22 | 0.72 | 0.89 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.87 J | 0.22 | 0.76 | 0.89 | 1 |
| | | 6M 2540 G-1997 6Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 11.7 | 0.50 | 0.50 | 0.50 | 1 |
| | | ss in weight of the sample after The moisture result reported | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 13:23 | Hannah Kruelle | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820009B | 06/15/2018 07:24 | William C Schwebel | 1 | | |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 - 717-656-2300 - Fax: 717-656-6766 - www.EurofinaUS.com/LancLabsEnv

Sample Description:

SC-WTP-SS02-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/12/2018 08:55

FSB18-01

AECOM

ELLE Sample #:

SW 9659291 1955055

ELLE Group #:

Matrix: Soil

SDG#: Dry Dry Dry Detection Limit of Limit of CAT Dry **Analysis Name CAS Number** Limit* Detection Quantitation DF No. Result LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 ng/g ng/g ng/g ng/g table B-15 14478 Perfluorobutanesulfonate 375-73-5 N.D. 0.21 0.63 0.83 1 14478 Perfluoroheptanoic acid 375-85-9 N.D. 0.21 0.71 0.83 14478 Perfluorohexanesulfonate 355-46-4 1.3 0.21 0.67 0.83 14478 Perfluorononanoic acid 375-95-1 N.D. 0.21 0.71 0.83 1 14478 Perfluoro-octanesulfonate 1763-23-1 1.0 0.21 . 0.68 0.83 14478 Perfluorooctanoic acid 335-67-1 0.60 J 0.21 0.83 0.71 **Wet Chemistry** % SM 2540 G-1997 % % **%Moisture Calc** 00111 Moisture 7.8 0.50 0.50 0.50 Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

| Laboratory Sample Analysis Record | | | | | | | | |
|-----------------------------------|------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 00:03 | Joshua P Trost | _ 1 | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | |

^{*=}This limit was used in the evaluation of the final result

Analysis Report

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Sample Description:

SC-WTP-SB02-23 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/12/2018 09:00

SDG#:

FSB18-02

AECOM

ELLE Sample #: ELLE Group #:

SW 9659292

1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF | |
|------------|---|---|--------------------------------------|----------------------------|------------------------------|---------------------------------|-----|--|
| LC/MS | S/MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonal | | N.D. | 0.22 | 0.67 | 0.89 | 1 | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.76 | 0.89 | 1 | |
| 14478 | Perfluorohexanesulfona | te 355-46-4 | 0.45 J | 0.22 | 0.71 | 0.89 | 1 | |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.76 | 0.89 | 1 | |
| 14478 | • Perfluoro-octanesulfona | te 1763-23-1 | N.D. | 0.22 | 0.72 | 0.89 | 1 | |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.39 J | 0.22 | 0.76 | 0.89 | 1 | |
| Wet C | hemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | % | | |
| 00111 | Moisture Moisture represents the 103 - 105 degrees Celsi as-received basis. | n.a. loss in weight of the sample afte us. The moisture result reported | 16.8 r oven drying at is on an | 0.50 | 0.50 | 0.50 | 1 - | |

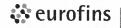
Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

%Moisture Calc

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|--------------------------------|--------|--------------|------------------------|------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 00:18 | Joshua P Trost | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | _1 | 18168002 | .06/18/2018 08:10 | Pamela Rothharpt | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 | 1 | 18169820005A | 06/18/2018 12:31 | Larry F Revins | 1 | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

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Sample Description:

SC-WTP-SS01-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/12/2018 09:10

SDG#:

FSB18-03

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|---|-------|--|
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ELLE Sample #: ELLE Group #:

SW 9659293 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|-------------------------|--|---------------|----|----------------------------|------------------------------|---------------------------------|-----|
| LC/MS | S/MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | te 375-73-5 | N.D. | | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.40 J | | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfona | te 355-46-4 | 5.8 | | 0.21 | 0.67 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.79 J | | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluoro-octanesulfona | te 1763-23-1 | 100 | , | 0.21 | 0.68 | 0.84 | 1 . |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.97 | | 0.21 | 0.71 | 0.84 | 1 |
| Wet C | hemistry | SM 2540 G-1997 %Moisture Calc | % | | % | % | % | |
| 00111 | | n.a. loss in weight of the sample after us. The moisture result reported | | ıt | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

Laboratory Sample Analysis Record

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

%Moisture Calc

| | | | Labor | atory c | ample Analysis | Record | | |
|----------|-----|------------------------------|--------------------------------|---------|----------------|------------------------|------------------|--------------------|
| CA No | | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 144 | 478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 00:34 | Joshua P Trost | 1 |
| 14 | 510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 |
| 00 | 111 | Moisture | SM 2540 G-1997 | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 |

^{*=}This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-WTP-SB01-34 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: SDG#:

06/14/2018 08:00 06/12/2018 09:15

FSB18-04

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|----|-----|------|----|
| FU | I F | Grou | ın |

AECOM

FILE Sample #: ELLE Group #:

SW 9659294 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|-----|
| LC/MS | /MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.33 J | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.71 J | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonat | e 355-46-4 | 11 | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.96 | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfonat | re 1763-23-1 | 64 • | 0.20 | 0.66 | 0.81 | 1 • |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 2.1 | 0.20 | 0.69 | 0.81 | 1 |
| Wet C | nemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | | n.a. loss in weight of the sample after us. The moisture result reported | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 00:49 | Joshua P Trost | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | |

^{*=}This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinaUS.com/LancLabsEnv

Sample Description:

SC-WTP-SS03-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/12/2018 09:25

SDG#:

FSB18-05

AECOM

ELLE Sample #: ELLE Group #:

SW 9659295 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|------------|---------------|----------------------------|------------------------------|---------------------------------|-----|
| LC/MS | /MS Miscellaneous EPA 537 table B-1 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.70 J | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 7.4 | 0.21 | 0.67 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.99 | 0.21 | 0.71 | 0.84 | Ť |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 39 • | 0.21 | 0.68 | 0.84 | • 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 2.7 | 0.21 | 0.71 | 0.84 | 1 |
| | | | | | | | |
| Wet Ch | nemistry SM 2540 %Moistu | | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.1 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in weigh 103 - 105 degrees Celsius. The moist as-received basis. | | | | | | |

Sample Comments

Laboratory Sample Analysis Record

| manorato. | , - | ampio. | manyono | 1100014 | |
|-----------|-----|--------|---------|----------|--|
| Trial | # | Batch# | | Analysis | |

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 01:20 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 |

^{*=}This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinaUS.com/LancLabeEnv

Sample Description:

SC-WTP-SB03-34 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/12/2018 09:30

SDG#: FSB18-06

AECOM

ELLE Sample #:

SW 9659296 1955055

ELLE Group #:

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|-------------------------|---|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | i/MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | te 375-73-5 | N.D. | 0.23 | 0.69 | 0.92 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.30 J | 0.23 | 0.78 | 0.92 | 1 |
| 14478 | Perfluorohexanesulfona | ste 355-46-4 | 2.8 | 0.23 | 0.74 | 0.92 | 4 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.61 J | 0.23 | 0.78 | 0.92 | 1 |
| 14478 | Perfluoro-octanesulfona | ate 1763-23-1 | -24 | 0.23 | 0.75 | 0.92 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.2 | 0.23 | 0.78 | 0.92 | 4 |
| Wet C | hemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | °/ ₀ | |
| 00111 | | n.a. loss in weight of the sample afte us. The moisture result reported | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 01:36 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-658-6766 • www.EurofinsUS.com/LancLabeEnv

Sample Description:

SC-IRP3-SS01-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/12/2018 09:45

SDG#:

FSB18-07

AECOM

ELLE Sample #:

SW 9659297

ELLE Group #:

1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|-------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 537 (table B-1 | mod QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.60 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.48 J | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.69 | 0.81 | :Î |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.33 J | 0.20 | 0.66 | 0.81 • | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| Wet Cl | nemistry SM 2540 %Moistur | | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.3 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in weight 103 - 105 degrees Celsius. The moist as-received basis. | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 01:51 | Joshua P Trost | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | |

^{*=}This limit was used in the evaluation of the final result

2425 New Holland Pike, Lancaster, PA 17601 - 717-656-2390 - Fax: 717-656-6766 - www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-IRP3-SB01-34 Grab Soil

Stratton PFAS

Stra

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

06/14/2018 08:00 06/12/2018 09:50

SDG#:

FSB18-08

AECOM

ELLE Sample #:

SW 9659298 1955055

ELLE Group #:

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|---------------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 53 table B | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.63 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 2.6 | 0.21 | 0.67 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 17 | 0.21 | 0.68 | 0.83 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.97 | 0.21 | 0.71 | 0.83 | 1 |
| Wet Cl | | 0 G-1997 ture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in wei 103 - 105 degrees Celsius. The mo | n.a. ght of the sample after | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 02:07 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-IRP3-SS02-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: SDG#:

Project Name:

06/14/2018 08:00 06/12/2018 09:55

FSB18-09

AECOM

ELLE Sample #:

SW 9659299 1955055

ELLE Group #: Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|---|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous El | PA 537 mod QSM 5.1 ble B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.64 | 0.85 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.73 | 0.85 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.41 J | 0.21 | 0.68 | 0.85 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.73 | 0.85 | 1 |
| 14478 | Perfluoro-octanesulfonate | · 1763-23-1 | 0.57 J | 0.21 | 0.69 | • 0.85 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.21 | 0.73 | 0.85 | 1 |
| Wet CI | | W 2540 G-1997 Moisture Calc | % | % | % | % | |
| 00111 | | n.a. s in weight of the sample after The moisture result reported i | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

Laboratory Sample Analysis Record

| | | Labor | atory c | ample Analysis | Record | | |
|------------|------------------------------|----------------------------------|---------|----------------|---------------------------|------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 4 | 18168002 | 06/20/2018 02:22 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 |

^{*=}This limit was used in the evaluation of the final result

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Sample Description:

SC-IRP3-SB02-45 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: SDG#: 06/14/2018 08:00 06/12/2018 10:00

FSB18-10

AECOM

ELLE Sample #:

SW 9659300 1955055

ELLE Group #:

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | MS Miscellaneous EPA 537 table B-1 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 4.5 | 0.22 | 0.70 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 31 | 0.22 | • 0.71 | 0.87 | ī |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.2 | 0.22 | 0.74 | 0.87 | 1 |
| Wet C | hemistry SM 2540 %Moistu | | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in weigh 103 - 105 degrees Celsius. The mois as-received basis. | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | _1 | 18168002 | 06/20/2018 02:38 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6768 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-IRP3-MW01-01 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/12/2018 10:15

SDG#:

FSB18-11

AECOM

ELLE Sample #:

SW 9659301

ELLE Group #:

1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 537 table B-1 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.72 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.21 | 0.67 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.72 | 0.84 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.23 J | 0.21 | 0.68 | 0.84 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.21 | 0.72 | 0.84 | 1 |
| Wet CI | hemistry SM 2540 %Moistur | | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in weight 103 - 105 degrees Celsius. The moist as-received basis. | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

Laboratory Sample Analysis Record

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

%Moisture Calc

| | | Labo | atory | Jampie Analysis | Necolu | | |
|------------|------------------------------|--------------------------------|--------|-----------------|---------------------------|------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 02:53 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 |
| 00111 | Moisture | SM 2540 G-1997 | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-658-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-IRP3-MW01-45 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/12/2018 10:20

SDG#:

FSB18-12

AECOM

ELLE Sample #:

SW 9659302

ELLE Group #:

1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|------------|---------------|----------------------------|------------------------------|---------------------------------|-----|
| LC/M | S/MS Miscellaneous EPA 537 table B-1 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.23 | 0.69 | 0.92 | 1 = |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.23 | 0.78 | 0.92 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.23 | 0.74 | 0.92 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.23 | 0.78 | 0.92 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.70 J | 0.23 | 0.75 | 0.92 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.54 J | 0.23 | 0.78 | 0.92 | 1 |
| Wet C | Chemistry SM 2540 %Moistur | | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in weight 103 - 105 degrees Celsius. The moist as-received basis. | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 03:09 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 - 717-656-2300 - Fax: 717-656-4766 - www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-IRP3-DUP02 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: SDG#:

06/14/2018 08:00 06/12/2018 FSB18-13FD

AECOM

ELLE Sample #: ELLE Group #:

SW 9659303 1955055

Matrix: Soil

| SDG#. | F. F3010-13FD | | | | | | |
|------------|---|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
| LC/MS | /MS Miscellaneous EPA 537 m table B-15 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.64 | 0.85 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.21 | 0.68 | 0.85 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | *Perfluoro-octanesulfonate | 1763-23-1 | 0.22 J | 0.21 | 0.69 | 0.85 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.21 | 0.72 | 0.85 | 1 |
| Wet CI | nemistry SM 2540 G %Moisture | | % | % | % | % | |
| 00111 | Moisture | n.a. | 17.5 | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

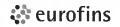
All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

as-received basis.

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 03:24 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B07-SS02-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Project Name:

AECOM

ELLE Sample #:

SW 9659304

ELLE Group #:

1955055

Matrix: Soil

| Submittal Date/Time: | 06/14/2018 08:00 |
|-----------------------|------------------|
| Collection Date/Time: | 06/12/2018 13:50 |
| SDG#: | FSB18-14 |
| | |

| | | <u></u> | | Dry | Dry | Dry | | |
|------------|--|-----------------------|---------------|---------------------|-----------------------|--------------------------|----|---|
| CAT No. | Analysis Name | CAS Number | Dry Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF | |
| LC/MS | /MS Miscellaneous EPA 53 table B | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.27 J | 0.21 | 0.62 | 0.83 | 1 | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.48 J | 0.21 | 0.70 | 0.83 | 1 | |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 3.3 | 0.21 | 0.66 | 0.83 | 1 | |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 - | 0.70 | 0.83 | 1 | |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 15 | • 0.21 | 0.67 | 0.83 | į | • |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.44 J | 0.21 | 0.70 | 0.83 | 1 | |
| | | | | | | | | |
| Wet C | | 0 G-1997 ture Calc | % | % | % | % | | |
| 00111 | Moisture | n.a. | 6.8 | 0.50 | 0.50 | 0.50 | 1 | |
| | Moisture represents the loss in wei 103 - 105 degrees Celsius. The mo as-received basis. | | | | | | | |

Sample Comments

| Laboratory Sample | Analysis | Record |
|-------------------|----------|--------|
|-------------------|----------|--------|

| | | | - | | | | |
|------------|------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 03:40 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B07-SB02-45 Grab Soil

Stratton PFAS

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: SDG#: 06/14/2018 08:00 06/12/2018 13:52

FSB18-15

AECOM

ELLE Sample #:

SW 9659305 1955055

ELLE Group #:

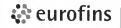
Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|-------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|-----|
| LC/MS | /MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | e 375-73-5 | 0.24 J | 0.19 | 0.57 | 0.76 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.53 J | 0.19 | 0.64 | 0.76 | 1 |
| 14478 | Perfluorohexanesulfona | te 355-46-4 | 4.2 | 0.19 | 0.60 | 0.76 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.19 | 0.64 | 0.76 | 1 |
| 14478 | Perfluoro-octanesulfona | te 1763-23-1 | 12 + | 0.19 | 0.61 | 0.76 | 1 . |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.46 J | 0.19 | 0.64 | 0.76 | 1 |
| Wet Cl | nemistry | SM 2540 G-1997 | % | % | % | % | |
| | | %Moisture Calc | | | | | |
| 00111 | | n.a. loss in weight of the sample after us. The moisture result reported | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 04:11 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

WW 9659306

1955055

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Water

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-EB-Macro Grab Water

Stratton PFAS

oudion i i i

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

06/14/2018 08:00 06/12/2018 11:00

SDG#:

FSB18-16EB

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS | /MS Miscellaneous EPA 537 m table B-15 | od QSM 5.1 | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.29 | 1.1 | 1.9 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.29 | 1.2 | 1.9 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.39 | 1.1 | 1.9 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.39 | 1.2 | 1.9 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. • | 0.58 | 2.2 | 2.9 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.29 | 1.2 | 1.9 | 1 |

Sample Comments

Laboratory Sample Analysis Record

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

table B-15 `

| | | | - | • | • | | |
|------------|----------------------------------|--------------------------------|--------|----------|---------------------------|------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166004 | 06/19/2018 00:14 | Joshua P Trost | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 | 1 | 18166004 | 06/15/2018 08:00 | Pamela Rothharpt | 1 |

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B07-SS01-01 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #:

SW 9659307

1955055

ELLE Group #: Matrix: Soil

M

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

06/14/2018 08:00 06/12/2018 13:00

SDG#:

FSB18-17

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF | |
|------------|--|--|------------------------------|----------------------------|------------------------------|---------------------------------|----|--|
| LC/MS | 6/MS Miscellaneous EPA tabl | A 537 mod QSM 5.1 le B-15 | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.75 J | 0.20 | 0.61 | 0.82 | 1 | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 3.8 | 0.20 | 0.70 | 0.82 | 1 | |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 34 | 0.20 | 0.65 | 0.82 | 1 | |
| 14478 | Perfluorononanoic acid | 375-95-1 | 2.1 | 0.20 | 0.70 | 0.82 | 1 | |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 100 | 0.20 | 0.66 | 0.82 | 1 | |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 6.2 | 0.20 | 0.70 | 0.82 | 1 | |
| Wet C | hemistry SM | 2540 G-1997 | % | % | % | % | | |
| | • | oisture Calc | | | | | | |
| 00111 | Moisture | n.a. | 11.1 | 0.50 | 0.50 | 0.50 | 1 | |
| | Moisture represents the loss in 103 - 105 degrees Celsius. Th as-received basis. | n weight of the sample after e moisture result reported | r oven drying at is on an | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 04:26 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-4766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B07-SB01-34 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #: ELLE Group #:

SW 9659308 1955055

Matrix: Soil

Project Name:

Stratton ANGB 60520893

Submittal Date/Time:

06/14/2018 08:00 06/12/2018 13:05

Collection Date/Time: SDG#:

FSB18-18BKG

| | | | | Dry | Dry | Dry | |
|------------|---|-------------|---------------------|---------------------|-----------------------|--------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
| LC/MS/ | MS Miscellaneous EPA 537 m table B-15 | od QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.28 J Jtm | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 1.7 Jim | 0.22 | 0.69 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 ' | 2.8 Jim | 0.22 | 0.71 | 0.87 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.50 J T †,m | 0.22 | 0.74 | 0.87 | 1 |
| Wet Ch | emistry SM 2540 G %Moisture | | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in weight of 103 - 105 degrees Celsius. The moisture as-received basis. | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| Laboratory Sample Analysis Record | | | | | | | | |
|-----------------------------------|------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 04:42 | Joshua P Trost | 1 | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | |

^{*=}This limit was used in the evaluation of the final result

SW 9659309

1955055

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofineUS.com/LancLabsEnv

Sample Description:

SC-B07-SB01-34 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

Project Name:

06/14/2018 08:00 06/12/2018 13:05

SDG#:

06/12/2018 13:0 FSB18-18MS

| | | D 10-10MO | | | | | | | |
|-------------|---------------------------|--------------------------------|---------------|---|----------------------------|------------------------------|---------------------------------|----|--|
| CAT No. | Analysis Name | CAS Number | Dry Result | | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF | |
| LC/MS | | EPA 537 mod QSM 5.1 table B-15 | ng/g | | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 1.2 | | 0.19 | 0.58 | 0.77 | 1 | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 1.4 | ş | 0.19 | 0.65 | 0.77 | 1 | |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 2.5 | | 0.19 | 0.62 | 0.77 | 1 | |
| 14478 | Perfluorononanoic acid | 375-95-1 | 1.5 | | 0.19 | 0.65 | 0.77 | 1 | |
| 14478 | Perfluoro-octanesulfonate | e 1763-23-1 | 2.7 | | 0.19 | 0.63 | 0.77 • | 1 | |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.9 | | 0.19 | 0.65 | 0.77 | 1 | |
| Wet C | • | SM 2540 G-1997 | % | | % | % | % | | |
| 00118 | Moisture | %Moisture Calc n.a. | 9.7 | | 0.50 | 0.50 | 0.50 | 1 | |
| | | | | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 04:58 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00118 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result

SW 9659310

1955055

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6756 • www.EurofinaUS.com/LancLabsEnv

Sample Description:

SC-B07-SB01-34 Grab Soil

Stratton PFAS

Stratton ANGB 60520893

Submittal Date/Time:

Project Name:

06/14/2018 08:00 06/12/2018 13:05

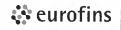
Collection Date/Time: SDG#: FSB18-18MSD

| | | | | Dry Detection | Dry Limit of | Dry Limit of | |
|------------|--|---|---------------|------------------|-----------------|-----------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Limit* | Detection | Quantitation | DF |
| LC/MS | 6/MS Miscellaneous EPA 537 table B- | • | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 1.5 | 0.21 | 0.64 | 0.85 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 3.9 | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 5.3 | 0.21 | 0.68 | 0.85 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 1.6 | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 3.5 | 0.21 | 0.69 4 | 0.85 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 3.4 | 0.21 | 0.72 | 0.85 | 1 |
| Wet C | , |) G-1997 ure Calc | % | % | % | % | |
| 00118 | Moisture | n.a. | 9.7 | 0.50 | 0.50 | 0.50 | 1 |
| 00121 | Moisture Duplicate The duplicate moisture value is proving moisture test. For comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the value used to proving the comparability pur determination is the comparability purporability pur determination is the comparability purporability pu | poses, the initial mois | sture | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 05:13 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00118 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax; 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B07-SB01-34 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #:

SW 9659310

ELLE Group #: Matrix: Soil

1955055

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time: 06/14/2018 08:00 06/12/2018 13:05

SDG#:

FSB18-18MSD

Laboratory Sample Analysis Record

CAT No.

00121

Analysis Name

Method

Trial#

Batch#

Date and Time 06/18/2018 12:31

Analyst

Dilution Factor

Moisture Duplicate

SM 2540 G-1997 %Moisture Calc

18169820005A

Larry E Bevins



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-4766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B08-SS01-01 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #: ELLE Group #:

Matrix: Soil

SW 9659311 1955055

Stratton ANGB 60520893

Submittal Date/Time:

06/14/2018 08:00

Collection Date/Time:

Project Name:

06/12/2018 14:20

SDG#:

FSB18-19

| | | · · · · · · · · · · · · · · · · · · · | | | | | | |
|------------|-------------------------|--|---------------|----------------------------|---|------------------------------|---------------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | | Dry Limit of Detection | Dry Limit of Quantitation | DF |
| LC/MS | /MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | e 375-73-5 | N.D. | 0.20 | | 0.59 | 0.79 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | | 0.67 | 0.79 | 1 |
| 14478 | Perfluorohexanesulfona | te 355-46-4 | 3.5 | 0.20 | | 0.63 | 0.79 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | | 0.67 | 0.79 | 1 |
| 14478 | Perfluoro-octanesulfona | te 1763-23-1 | 14 | 0.20 | ï | 0.64 | 0.79 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.55 J | 0.20 | | 0.67 | 0.79 | 1 |
| | | | | | | | | |
| Wet CI | hemistry | SM 2540 G-1997 %Moisture Calc | % | % | | % | % | |
| 00111 | Moisture | n.a. | 7.9 | 0.50 | | 0.50 | 0.50 | 1 |
| | | loss in weight of the sample after us. The moisture result reported | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 05:29 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005B | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B08-SB01-74 Grab Soil

Stratton PFAS

AECOM

ELLE Sample #: ELLE Group #:

SW 9659312 1955055

Matrix: Soil

Project Name:

Stratton ANGB 60520893

Submittal Date/Time: Collection Date/Time:

06/14/2018 08:00 06/12/2018 14:25

SDG#:

FSB18-20

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | | 0.52 J | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.25 J | 0.21 | 0.72 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 7.0 | 0.21 | 0.68 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.72 | 0.84 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 9.7 | 0.21 | 0.69 | 0.84 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.8 | 0.21 | 0.72 | 0.84 | 1 |
| Wet C | | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | | n.a. oss in weight of the sample after s. The moisture result reported i | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| Laboratory Sample Analysis Record | | | | | | | | |
|-----------------------------------|------------------------------|----------------------------------|--------|--------------|------------------------|------------------|--------------------|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 05:44 | Joshua P Trost | 1 | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005B | 06/18/2018 12:31 | Larry E Bevins | 1 | |

^{*=}This limit was used in the evaluation of the final result



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B07-MW01 071918 Grab Groundwater

Schenectady ANGB

AECOM

ELLE Sample #:

WW 9714891

ELLE Group #:

1968185

Matrix: Groundwater

Project Name:

Schenectady ANGB

table B-15

Submittal Date/Time: Collection Date/Time:

07/20/2018 10:00 07/19/2018 10:35

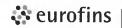
Collect SDG#:

FSB29-01BKG

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|-------------------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/M | S/MS Miscellaneous EPA 5 table E | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 85 | 0.27 | 0.97 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 210 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 730 | 3.5 | 9.7 | 18 | 10 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 16 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 3,300 | 4.4 | 11 | 18 | 10 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 97 | 0.44 | 1.1 | 1.8 | 1 |
| | | | | | | | |

Sample Comments

| | | Labo | ratory a | sample Analy | sis Recora | | |
|------------|----------------------------------|--------------------------------|----------|--------------|---------------------------|---------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 13:12 | Marissa C Drexinger | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 17:55 | Joshua P Trost | 10 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |



Analysis Report

WW 9714894

1968185

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Groundwater

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-6MW-24 071918 Grab Groundwater

Schenectady ANGB

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

Project Name:

07/20/2018 10:00 07/19/2018 12:10

SDG#:

FSB29-02

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|-------------------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS | /MS Miscellaneous EPA 53 table E | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 90 | 0.26 | 0.96 | 1.7 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 70 | 0.35 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 520 | 3.5 | 9.6 | 17 | 10 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 14 | 0.35 | 1.0 | 1.7 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 790 | 4.4 | 10 | 17 | 10 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 95 | 0.44 | 1.0 | 1.7 | 1 |

Sample Comments

| | | Labo | ratory S | Sample Analy | sis Record | • | |
|------------|----------------------------------|--------------------------------|----------|--------------|---------------------------|-------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 18:13 | Joshua P Trost | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 18:31 | Joshua P Trost | 10 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |



Analysis Report

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Sample Description:

SC-6MW-20 071918 Grab Groundwater

Schenectady ANGB

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

Project Name:

07/20/2018 10:00 07/19/2018 12:30

SDG#:

CAT

No.

FSB29-03

AECOM

ELLE Sample #:

WW 9714895

ELLE Group #:

1968185

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|----------------------------|-------------|------------|---------------------|-----------------------|--------------------------|----|
| LC/MS | MS Miscellaneous EPA 537 m | nod QSM 5.1 | ng/l | ng/l | ng/l | ng/l | |
| | table B-15 | | | | | | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 24 | 0.26 | 0.97 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 15 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 97 | 0.35 | 0.97 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 1.5 AU, 74 | 0.35 | 1.5° | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 110 | 0.44 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 17U U/X | 0.44 | 2017 | 1017 | 1 |
| | | | | | NAC | 1.4 | |

Sample Comments

28/21/18

State of New York Certification No. 10670

| Labo | ratory S | Sample Analy | sis Record | 2.30 | |
|-----------|----------|--------------|---------------------------|---------------------|----------|
| | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution |
| d QSM 5.1 | 1 | 18206014 | 07/27/2018 13:30 | Marissa C Drevinger | Factor |

PFAS in Water by 14434 LC/MS/MS-DoD 14465 PFAS Water Prep - DoD

Analysis Name

Method EPA 537 mod table B-15 EPA 537 mod QSM 5.1 1 18206014 table B-15

07/25/2018 16:00

Anthony C Polaski

Analysis Report

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Sample Description:

SC-IPR3-MW01 071918 Grab Groundwater

Schenectady ANGB

ELLE Sample #:

AECOM

WW 9714896

Conchectualy ANCE

ELLE Group #: 19
Matrix: Groundwater

1968185

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

Project Name:

07/20/2018 10:00 07/19/2018 13:50

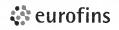
SDG#:

FSB29-04

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---------------------------|------------|--------|---------------------|-----------------------|-----------------------|----|
| LC/MS | MS Miscellaneous EPA 5 | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 56 | 0.27 | 0.97 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 52 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 460 | 3.5 | 9.7 | 18 | 10 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 9.9 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 960 | 4.4 | 11 | 18 | 10 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 99 | 0.44 | 1.1 | 1.8 | 1 |
| | | | | | | | |

Sample Comments

| | | Labo | ratory S | Sample Analy | sis Record | | |
|------------|----------------------------------|--------------------------------|----------|--------------|---------------------------|---------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 13:39 | Marissa C Drexinger | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 18:40 | Joshua P Trost | 10 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |



Analysis Report

2425 Now Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-658-6786 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-DRD-SD01 071918 Grab Soil

Schenectady ANGB

AECOM FLLE San

ELLE Sample #: SW 9714897

ELLE Group #: Matrix: Soil 1968185

Project Name: Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

07/20/2018 10:00 07/19/2018 13:55

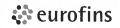
SDG#:

FSB29-05

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|--------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | MS Miscellaneous EPA 5 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.24 | 0.72 | 0.95 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.24 | 0.81 | 0.95 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.58 J | 0.24 | 0.76 | 0.95 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.24 | 0.81 | 0.95 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 5.6 Jm | 0.24 | 0.78 | 0.95 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.24 | 0.81 | 0.95 | 1 |
| Wet CI | | 540 G-1997 sture Calc | °% | % | % | % | |
| 00111 | Moisture | n.a. | 22.4 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in w 103 - 105 degrees Celsius. The r as-received basis. | | | | ****** | | |

Sample Comments

| | | Labo | ratory S | Sample Analysis | s Record | | |
|------------|------------------------------|----------------------------------|----------|-----------------|---------------------------|--------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 16:57 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18205820002B | 07/24/2018 12:17 | William C Schwebel | 1 |



Analysis Report

WW 9714898

1968185

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Surface Water

2425 New Holland Pike, Lancaster, PA 17601 - 717-656-2300 - Fax: 717-656-6766 - www.EurofinsUS.com/LancLabeEnv

Sample Description:

SC-DRD-SW01 071918 Grab Surface Water

Schenectady ANGB

Project Name: Se

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

07/20/2018 10:00 07/19/2018 14:00

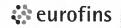
SDG#:

FSB29-06

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|-----------------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| _C/MS | MS Miscellaneous EPA 5 table E | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 39 | 0.27 | 0.99 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 55 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 320 | 3.6 | 9.9 | 18 | 10 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 8.0 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 630 | 4.5 | 11 | 18 | 10 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 64 | 0.45 | 1.1 | 1.8 | 1 |

Sample Comments

| | · | Labo | ratory S | Sample Analy | sis Record | | |
|------------|----------------------------------|--------------------------------|----------|--------------|---------------------------|---------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 13:48 | Marissa C Drexinger | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 18:58 | Joshua P Trost | 10 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |



Analysis Report

WW 9714899

1968185

AECOM

ELLE Sample #:

Matrix: Groundwater

ELLE Group #:

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Sample Description:

DUP-01 Grab Groundwater

Schenectady ANGB

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

Project Name:

07/20/2018 10:00 07/19/2018

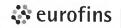
SDG#:

FSB29-07FD

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|------------------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| .c/Ms | /MS Miscellaneous EPA 5 table l | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 56 | 0.28 | 1.0 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 53 | 0.37 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 450 | 3.7 | 10 | 18 | 10 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 9.5 | 0.37 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 970 | 4.6 | 11 | 18 | 10 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 100 | 0.46 | 1.1 | 1.8 | 1 |

Sample Comments

| Laboratory Sample Analysis Record | | | | | | | | |
|-----------------------------------|----------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 13:57 | Marissa C Drexinger | 1 | |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 19:07 | Joshua P Trost | 10 | |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 | |



Analysis Report

WW 9714900

1968185

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Groundwater

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Sample Description:

Field Blank 1 071918 Grab Groundwater

Schenectady ANGB

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

Project Name:

07/20/2018 10:00 07/19/2018 12:15

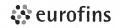
SDG#:

FSB29-08FB

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|------------------------------------|------------|--------|---------------------|-----------------------|-----------------------|----|
| LC/MS | /MS Miscellaneous EPA 5 table E | | ng/l | ng/l | ng/l | ng/i | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.26 | 0.94 | 1.7 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.34 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.34 | 0.94 | 1.7 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.34 | 1.0 | 1.7 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.43 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.43 | 1.0 | 1.7 | 1 |
| | | | | | | | |

Sample Comments

| Laboratory Sample Analysis Record | | | | | | | | |
|-----------------------------------|----------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 14:06 | Marissa C Drexinger | 1 | |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 | |



Analysis Report

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Sample Description:

SC-APR-MW01 072018 Grab Groundwater

Schenectady ANGB

ELLE Sample #:

WW 9715813

ELLE Group #:

1968367

AECOM

Matrix: Groundwater

Project Name:

Schenectady ANGB

Submittal Date/Time: Collection Date/Time: 07/21/2018 10:00 07/20/2018 08:30

SDG#:

FSB30-01

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---------------------------------------|------------|------------------|---------------------|-----------------------|-----------------------|----|
| LC/MS/ | /MS Miscellaneous EPA 537 table B- | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 3.3 1U U/x | 0.50 | 103.3 | 3.3 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 5.1 U U, X | 0.67 | 20.5.1 | 305.1 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 13 ° | 0.67 | 1.8 | 3.3 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.67 | 2.0 | 3.3 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 23 | 0.83 | 2.0 | 3.3 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 7.7 U U,X | 0.83 | 207.7 | es 7.7 | 1 |

Sample Comments

NAT

| | | | 4 |
|-----------|----------|-----------------|--------|
| Laborator | / Sample | Analysis | Record |

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|----------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 14:15 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |



Analysis Report

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Sample Description:

Field Blank 2 072018 Grab Water

Schenectady ANGB

AECOM

ELLE Sample #:

ELLE Group #: Matrix: Water

WW 9715814 1968367

Project Name:

Schenectady ANGB

Submittal Date/Time:

07/21/2018 10:00 07/20/2018 08:45

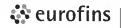
Collection Date/Time: SDG#:

FSB30-02FB

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS | /MS Miscellaneous EPA 5 | | ng/i | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.26 | 0.94 | 1.7 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.34 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.34 | 0.94 | 1.7 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.34 | 1.0 | 1.7 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.43 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.43 | 1.0 | 1.7 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|-----------------------------------|--------|----------|---------------------------|---------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 14:33 | Marissa C Drexinger | 1 | | |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 | | |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-APR-MW03 072018 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

07/21/2018 10:00 07/20/2018 09:38

SDG#:

FSB30-03

AECOM

ELLE Sample #: WW 9715815 ELLE Group #: 1968367

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|-----------------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS | i/MS Miscellaneous EPA 5 table | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 14 54, | 0.28 | 1.0 | 1.9 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 49 | 0.38 | 1.1 | 1.9 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 250 | 0.38 | 1.0 | 1.9 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 13 | 0.38 | 1.1 | 1.9 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 74 | 0.47 | 1.1 | 1.9 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 95 | 0.47 | 1.1 | 1.9 | 1 |
| | | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|--------------------------------|--------|----------|---------------------------|-------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 19:25 | Joshua P Trost | 1 | | |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 | | |

Analysis Report

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Sample Description:

SC-OF5-SD01 072018 Grab Soil

Schenectady ANGB

AECOM

ELLE Sample #:

SW 9715816

ELLE Group #: Matrix: Soil

1968367

Project Name:

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

07/21/2018 10:00 07/20/2018 09:56

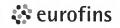
SDG#:

FSB30-04

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | 6/MS Miscellaneous EPA 5 table l | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.23 | 0.70 | 0.94 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.23 | 0.80 | 0.94 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.23 | 0.75 | 0.94 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.23 | 0.80 | 0.94 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.46 J | 0.23 | 0.76 | 0.94 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.23 | 0.80 | 0.94 | 1 |
| Wet C | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 19.5 | 0.50 | 0.50 | 0.50 | 1 |
| • | Moisture represents the loss in w 103 - 105 degrees Celsius. The n as-received basis. | | | 4 | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 17:06 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18205820006B | 07/24/2018 22:18 | Scott W Freisher | 1 | | | |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-OF5-SW01 072018 Grab Groundwater

Schenectady ANGB

ELLE Sample #:

WW 9715817

ELLE Group #:

AECOM

1968367

Matrix: Groundwater

Project Name:

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

07/21/2018 10:00 07/20/2018 09:55

SDG#:

FSB30-05

| CAT No. | Analysis Name | CAS Number | Result | | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|-------------------------------|------------|-------------|----|---------------------|-----------------------|-----------------------|----|
| LC/MS | /MS Miscellaneous EPA : table | | ng/l | | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 9.9 | | 0.26 | 0.97 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 15 | | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 72 | | 0.35 | 0.97 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 2.6 | | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 63 | | 0.44 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 13 U | Ux | 0.44 | 413 | 1013 | 1 |
| | | | | | | | | |

Sample Comments

NAT

| Laboratory | Sample | Analysis | Record |
|------------|--------|-----------------|--------|

| | | | • | | | | |
|------------|----------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 14:51 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-4766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-OF3-SW01 072018 Grab Groundwater

335-67-1

40

Schenectady ANGB

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

Project Name:

07/21/2018 10:00 07/20/2018 10:00

SDG#:

14434 14434 ECDAN NO

| ELLE Sample #: | WW 9715818 |
|----------------------|------------|
| ELLE Group #: | 1968367 |
| Matrix: Groundwa | ter |

1.8

AECOM

| SDG#: | FSB30-0 | J6 | | | | | |
|--|---------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 ng/l table B-15 | | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 39 | 0.27 | 0.98 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 40 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 280 | 0.36 | 0.98 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 4.9 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 340 | 4.5 | 11 | 18 | 10 |

1.1

Sample Comments

0.45

State of New York Certification No. 10670

Perfluorooctanoic acid

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:00 | Marissa C Drexinger | 1 | | | |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 19:34 | Joshua P Trost | 10 | | | |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 | | | |

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinaUS.com/LancLabsEnv

Sample Description:

SC-OF3-SD01 072018 Grab Soil

Schenectady ANGB

AECOM

ELLE Sample #:

SW 9715819

1968367

ELLE Group #:

Matrix: Soil

Project Name:

Schenectady ANGB

Submittal Date/Time: Collection Date/Time: 07/21/2018 10:00 07/20/2018 10:02

SDG#:

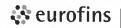
FSB30-07

| CAT | | | Dry | Dry Detection | Dry Limit of | Dry Limit of | |
|--------|---------------------------|--|--------|------------------|-----------------|-----------------|-----|
| No. | Analysis Name | CAS Number | Result | Limit* | Detection | Quantitation | DF |
| LC/MS | | EPA 537 mod QSM 5.1 able B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.60 | 1.8 | 2.4 | _ 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.60 | 2.0 | 2.4 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.85 J | 0.60 | 1.9 | 2.4 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.60 | 2.0 | 2.4 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 8.3 | 0.60 | 1.9 | 2.4 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.60 | 2.0 | 2.4 | 1 |
| Wet Cl | | 6M 2540 G-1997 6Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 66.5 | 0.50 | 0.50 | 0.50 | 1 |
| | | ss in weight of the sample after . The moisture result reported i | | | | • | |

as-received basis.

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 17:15 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18205820006B | 07/24/2018 22:18 | Scott W Freisher | 1 | | | |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-4766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-OF4-SW01 072018 Grab Groundwater

Schenectady ANGB

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

Project Name:

07/21/2018 10:00 07/20/2018 10:15

SDG#:

FSB30-08

AECOM

ELLE Sample #:

WW 9715820

ELLE Group #:

1968367

Matrix: Groundwater

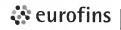
| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|-------------------------|--------------------------------|------------|---------------------|-----------------------|--------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 mod QSM 5.1 table B-15 | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonat | e 375-73-5 | 18 | 0.26 | 0.96 | 1.7 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 9.3 U U/X | 0.35 | 20 9.3 | 49.3 | 1 |
| 14434 | Perfluorohexanesulfona | te 355-46-4 | 130 | 0.35 | 0.96 | 1.7 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 1.7 JU U/X | 0.35 | 201.7 | 1.7 | 1 |
| 14434 | Perfluoro-octanesulfona | te 1763-23-1 | 190 | 0.44 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 10U U, x | 0.44 | 1010 | 47 10 | 1 |

Sample Comments

NAT

| Laboratory S | ample Anal | ysis Record |
|--------------|------------|-------------|
|--------------|------------|-------------|

| | | | - | | | | |
|------------|----------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:09 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinaUS.com/LancLabsEnv

Sample Description:

SC-OF4-SD01 072018 Grab Soil

Schenectady ANGB

AECOM

ELLE Sample #:

SW 9715821

1968367

ELLE Group #: Matrix: Soil

Project Name:

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

07/21/2018 10:00 07/20/2018 10:20

SDG#:

FSB30-09

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---------------------------|--------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.24 | 0.73 | 0.97 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.42 J ' | 0.24 | 0.83 | 0.97 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.59 J | 0.24 | 0.78 | 0.97 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.53 J | 0.24 | 0.83 | 0.97 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 5.2 | 0.24 | 0.79 | 0.97 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.95 J | 0.24 | 0.83 | 0.97 | 1 |
| Wet Ch | | 540 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 20.3 | 0.50 | 0.50 | 0.50 | 1 |
| Moisture represents the loss in weight of the sample after oven dry 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis. | | | | | | • | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 17:24 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18205820006B | 07/24/2018 22:18 | Scott W Freisher | 1 | | | |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 - 717-656-2300 - Fax; 717-656-4766 - www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-OF2-SD01 072018 Grab Soil

Schenectady ANGB

AECOM

ELLE Sample #: SW !

ELLE Group #: Matrix: Soil SW 9715822 1968367

Project Name:

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

07/21/2018 10:00 07/20/2018 10:45

SDG#:

FSB30-10

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|--------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.24 | 0.73 | 0.98 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.38 J | 0.24 | 0.83 | 0.98 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.36 J | 0.24 | 0.78 | 0.98 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.30 J | 0.24 | 0.83 | 0.98 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 5.7 | 0.24 | 0.79 | 0.98 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.53 J | 0.24 | 0.83 | 0.98 | 1 |
| Wet CI | | 540 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 21.9 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in w 103 - 105 degrees Celsius. The r as-received basis. | | | | | • | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 17:33 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1- | 18205820006B | 07/24/2018 22:18 | Scott W Freisher | 1 | | | |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-4766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-B35-MW01 072018 Grab Groundwater

Schenectady ANGB

ELLE Sample #:

AECOM

WW 9715823

ELLE Group #:

1968367

Project Name:

Schenectady ANGB

Matrix: Groundwater

Submittal Date/Time: Collection Date/Time: 07/21/2018 10:00 07/20/2018 10:55

SDG#:

FSB30-11

| of | Limit of | |
|------|--------------|----|
| tion | Quantitation | DF |
| | of tion | |

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---------------------------|-----------------------------------|----------------------------|---------------------|-----------------------|--------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 table B-15 | ng/l | ng/l | ng/i | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 34 | 0.26 | 0.94 | 1.7 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 15 | 0.34 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 69 | 0.34 | 0.94 | 1.7 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 1.6 كالر 1.6 | 0.34 | 201.6 | 1.7 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 32 | 0.43 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 12 U U _x | 0.43 | 1012 | 412 | 1 |

Sample Comments

State of New York Certification No. 10670

Osprile

| | | Labor | ratory s | sample Analy | sis Record | | |
|------------|----------------------------------|--------------------------------|----------|--------------|---------------------------|---------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:18 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabeEnv

Sample Description:

SC-B02-MW01 072018 Grab Groundwater

Schenectady ANGB

ELLE Sample #:

AECOM

WW 9715824

ELLE Group #:

1968367

Matrix: Groundwater

Project Name:

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

07/21/2018 10:00 07/20/2018 11:20

SDG#:

FSB30-12

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|-------------------------------------|------------|--------|---------------------|-----------------------|--------------------------|-----|
| LC/M | S/MS Miscellaneous EPA 5 table i | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 160 | 0.27 | 0.99 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 300 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 2,100 | 36 | 99 | 180 | 100 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 9.6 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 5,300 | 45 | 110 | 180 | 100 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 310 | 45 | 110 | 180 | 100 |
| | | | | | | | |

Sample Comments

| | | Labor | ratory S | Sample Analy | sis Record | | |
|------------|----------------------------------|--------------------------------|----------|--------------|---------------------------|---------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:27 | Marissa C Drexinger | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 19:52 | Joshua P Trost | 100 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

SC-OF1-SD01 072018 Grab Soil

Schenectady ANGB

Schenectady ANGB

Submittal Date/Time: Collection Date/Time: 07/21/2018 10:00 07/20/2018 12:05

SDG#:

Project Name:

FSB30-13

AECOM

ELLE Sample #:

SW 9715825

ELLE Group #:

1968367

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|------------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA tabl | A 537 mod QSM 5.1 le B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.24 | 0.73 | 0.97 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.24 | 0.82 | 0.97 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.86 J | 0.24 | 0.78 | 0.97 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.24 | 0.82 | 0.97 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 12 | 0.24 | 0.79 | 0.97 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.24 | 0.82 | 0.97 | 1 |
| Wet CI | | 2540 G-1997 loisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 22.9 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The as-received basis. | | | y. 4) | | | |

Sample Comments

| | | Labor | ratory S | Sample Analysis | s Record | | |
|------------|------------------------------|----------------------------------|----------|-----------------|---------------------------|------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 17:51 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18205820006B | 07/24/2018 22:18 | Scott W Freisher | 1 |



Analysis Report

WW 9715826

1968367

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Water

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

EQ Blank Grab Water

Schenectady ANGB

Schenectady ANGB

Submittal Date/Time: Collection Date/Time:

Project Name:

07/21/2018 10:00 07/20/2018 11:35

SDG#:

FSB30-14EB

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---------------------------|-----------------------------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS/N | | EPA 537 mod QSM 5.1 table B-15 | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.27 | 0.98 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.36 | 0.98 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.45 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.45 | 1.1 | 1.8 | 1 |

Sample Comments

State of New York Certification No. 10670

| Laboi | ratory S | Sample Analy | sis Record | | |
|-------------|----------|--------------|---------------------------|---------------------|----------|
| | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution |
| nod QSM 5.1 | 1 | 18206014 | 07/27/2018 15:36 | Marissa C Drevinger | Factor |

CAT Method **Analysis Name** No. PFAS in Water by EPA 537 mod QSM 5.1 14434 LC/MS/MS-DoD table B-15 14465 PFAS Water Prep - DoD EPA 537 mod QSM 5.1 1 18206014 07/25/2018 16:00 Anthony C Polaski table B-15



Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-658-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description:

DUP 02 Grab Groundwater

Schenectady ANGB

Project Name:

Schenectady ANGB

Submittal Date/Time:

07/21/2018 10:00

Collection Date/Time:

nа

SDG#:

FSB30-15FD

AECOM

ELLE Sample #:

WW 9715827

ELLE Group #:

1968367

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---------------------------|---------------------------------|------------|---------------------|-----------------------|--------------------------|----|
| LC/MS | | PA 537 mod QSM 5.1 able B-15 | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 3.3 J | 0.50 | 1.8 | 3.3 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 5.2U U12 | 0.67 | 205.2 | 205.2 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 13 | 0.67 | 1.8 | 3.3 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.67 | 2.0 | 3.3 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 24 | 0.83 | 2.0 | 3.3 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 7.6 U U, x | 0.83 | 207.6 | 257.6 | 1 |
| | | | | | | | |

Sample Comments

State of New York Certification No. 10670

NAT

| | | Labo | ratory S | Sample Analy | sis Record | | |
|------------|----------------------------------|--------------------------------|----------|--------------|---------------------------|---------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:45 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

DATA VALIDATION WORKSHEET

Perfluorinated Compounds by LC/MS/MS

Naoum Tavantzis 8/20/2018

Reviewer:

Ш

DV Level: Date:

Review Document:

Schenectady Stratton Eurofins 60520893 FSA88, Project Name: Project Number: Laboratory:

FSB16,17,18,29,30 PFOA/PFOS SDG No.: Test Name:

1.0 Laboratory Deliverables

X National Functional Guidelines for Organic Data Review

| 1.0 Laborat | 1.0 Laboratory Deliverables | Yes No NA | No | NA |
|-------------|---|-----------|----|----|
| 1.1 | Do Chain-of-Custody forms list all samples that were analyzed? | X | | |
| 1.2 | Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained? | × | | |
| 1 3 | Do sample preservation, collection and storage condition meet method requirement? 4±2°C | 4 | | |
| L:1 | If samples were received with the cooler temperature exceeding 6°C, then flag J(+)/UJ(-). If >20°C, J(+)/R(-) | 4 | | |
| 1 4 | Do the traffic Reports, chain-of-custody, and lab narrative indicate any problems with sample receipt, condition of | | Þ | |
| 1.4 | samples, analytical problems or special circumstances affecting the quality of the data? | | V | |

Notes:

| • | | | | |
|-------------------|--|-----|----|----|
| 2.0 Holding Times | Times | Yes | No | NA |
| , | Have any technical holding times, determined from date of sampling to date of analysis, been exceeded? If yes, | | | |
| 7.1 | J(+)/UJ(-). Extraction: 14 days; Analysis: 40 days. | | × | |
| 2.2 | Have any technical holding time grossly (twice the holding time) been exceeded? If yes, J(+)/R(-). | | × | |
| | | | | |

Notes:

| 3.0 Blanks (| 3.0 Blanks (Laboratory and Field) | Yes | No | NA |
|--------------|---|-----|----|----|
| 3.1 | Were method blanks (MB) prepared at the appropriate frequency (one per 20 samples, per batch per matrix?) | X | | |
| 3.2 | Do any method blanks have positive results? | | X | |
| 3.3 | Do any field equipment blanks/trip blanks have positive results? If yes, use same rules above. | X | | |
| | | | | |

Notes:

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|--------|-------------|
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| 1 | 4 |

AN

S_o

Yes

| 4.1 | Are at least five standards included in the calibration curve? If no, flag "R". | X | | |
|-----------------|--|------------|---------|--|
| 4.2 | Was the retention time window for each analyte and surrogate set using the midpoint standard of the curve? | X | | |
| 4.3 | Was the relative retention time of each analyte within ±0.06 RRT units of the ICAL? | X | | |
| 4.4 | Was a second source calibration verification analyzed for each calibration curve? If no, flag "R". | X | | |
| 4.5 | Were continuing calibration standards analyzed every 12 hours or ten samples and at the end of the sequence? If no, flag "R". | × | | |
| 4.6 | Are all calibration standard %RSD ($<\pm20\%$ ICAL, r>0.995, or r ² <0.990), second source ($\pm30\%$) or %D($\pm20\%$) within the control limits? | | × | |
| For initial cal | For initial calibration: Each calibration point, except those less than 2x MRL should calculate to be 80%-120% of the true value. (<2x MRL: 50%-150%) | x MRL: 50° | %-150%) | |
| For second so | For second source: %D>30% I(+)/R(-) | | | |

For continuing calibration: Positive Bias - %D >+ 20%, J(+), only. Negative Bias - %D>-20% but <-50%, J(+)/UJ(-) and %D>-50%, J(+)/R(-). Notes: The ICAL anomaly was low-point %D positive bias. All pos sample results >> [low-point]. No flag needed

5.0 Laboratory Control Sample (LCS)

| 5.0 Laborate | 5.0 Laboratory Control Sample (LCS) | Yes | No | NA |
|--------------|---|-----|-------------|----|
| 5.1 | Were LCS/LCSD analyzed at required frequency (one per 20 samples per batch) for each matrix? | X | | |
| 6.3 | Are there any %R for LCS/LCSD recoveries outside the laboratory QC limits(lab default is 70%-130%)? | | > | |
| 2.2 | Action: If Yes, for %R >130, K(+) only; for %R 30%-70%, L(+)/UL(-), and %R<30%, L(+)/R(-). | | 4 | |
| 5.3 | Are there any RPD for LCS/LCSD recoveries outside the QC limits? If Yes, J(+) only. | | × | |
| , , | | | | |

Notes:

| | ł |
|-----------|---|
| Count | |
| Area | |
| Standard | |
| Internal | |
| Recovery/ | |
| ate | |
| 0.9 | |

| 6.0 Surrogat | 6.0 Surrogate Recovery/Internal Standard Area Count | indard Area Count | | | Yes | No | NA |
|--------------|---|--|---|---|----------|----|----|
| 6.1 | Are surrogate recoverie | Are surrogate recoveries within acceptance criteri | teria for all samples and method blanks (±30%)? | nks (±30%)? | X | | |
| 6.2 | If No in Section 6.3, are | If No in Section 6.3, are these sample(s) or method blank(s) reanalyzed? | d blank(s) reanalyzed? | | | | × |
| | If No in Section 6.4, is | any sample dilution factor | If No in Section 6.4, is any sample dilution factor greater than 10? (recoveries may be diluted out.) | y be diluted out.) | | | |
| 63 | | <10% | low | high | | | Þ |
| C:0 | Positives | Γ | 7 | X | | | < |
| | Non-detects | R | UL | No action | | | |
| 6.4 | Has the internal standard area count been met f | d area count been met for | all quality control and field samp | for all quality control and field samples? (50%-200%) If not, (J+/UJ-) | | × | |
| 3 7 | Is the internal standard | retention time for every (| C criteria and sample been met? | Is the internal standard retention time for every QC criteria and sample been met? (±60 seconds from retention time | • | | |
| 6.0 | of the IS from the ICAL mid-point standard)? | | If no, samples should be reanalyzed. | | 4 | | |

Notes:

| 7.0 Matrix § | 7.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) | Yes | No | NA |
|--------------|--|----------|----|----|
| 7.1 | Were matrix spikes analyzed at required frequency (one per 20 samples per batch) for each matrix? | X | | |
| 7.2 | Are there any %R for matrix spike and matrix spike duplicate recoveries outside the laboratory QC limits? | × | | |
| ! | J-(+)/R(-) J-(+)/UJ(-) | | | |
| 7.3 | Are there any RPD for matrix spike and matrix spike duplicate recoveries outside the QC limits? (±30%) | > | | |
| C./ | Action: No action is required based on MS/MSd failure alone. Note in the report and use professional judgement. | * | | |
| Notes: | | | | |
| | | | | |
| | | | | |
| 8.0 Field/La | 8.0 Field/Laboratory Duplicates | Yes | No | NA |
| 8.1 | Evaluate field duplicate results? If no, J(+) parent sample/field duplicate only. | | X | |
| Notes: | | | | |
| | | | | |
| 9.0 Compou | 9.0 Compound Identification/Tune and Detection Limit Verification | Yes | No | NA |
| 0 1 | Do detection limits meet those required by the project QAPP and were they properly adjusted for dilution factors and | A | | |
| 7.1 | moisture (including adjustment of wet weight aliquot)? | V | | |
| 9.5 | Was a mass calibration performed daily prior to analysis? | X | | |
| Notes: | | | | |
| | | | | |
| 10.0 Data C | 10.0 Data Completeness | Yes | No | NA |
| 10.1 | Is % completeness within the control limits? (Control limit 95% _{aq} and 90% _{so}) | X | | |
| 10.1.1 | Number of samples: 88 | | | |
| 10.1.2 | Number of target compounds in each analysis: 6 | | | |
| 10.1.3 | Number of results rejected or not reported: 0 | | | |
| | % Completeness = $(10.1.1 \times 10.1.2 - 10.1.3) \times 100/(10.1.1 \times 10.1.2)$ | | | |
| | % Completeness = 100% | | | |
| | | | | |



FORM 06A DOD - EPA 537 mod QSM 5.1 table B-15 INITIAL CALIBRATION RESPONSE FACTOR SUMMARY LC/MS/MS

SDG No.: FSA88

Instrument ID: 24960

Init. Calib. Date/Times: 04/17/2018 15:10

04/17/2018 16:37

Lab File Names: CAL1=18APR16MCAL-02.WIFF; CAL2=18APR16MCAL-03.WIFF; CAL3=18APR16MCAL-

04.WIFF;

CAL4=18APR16MCAL-05.WIFF; CAL5=18APR16MCAL-06.WIFF; CAL6=18APR16MCAL-

07.WIFF;

CAL7=18APR16MCAL-08.WIFF;

| | | | | RF | | | | RF 🕏 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|--------|
| Analyte | CAL1 | CAL2 | CAL3 | CAL4 | -CAL5 | CAL6 | CAL7 | -%RSD- |
| Perfluorobutanesulfonate | 1.112 | 0.966 | 1.011 | 1.025 | 1.118 | 1.009 | 1.021 | 5 |
| Perfluorohexanesulfonate | 1.106 | 1.034 | 1.030 | 1.040 | 1.123 | 1.019 | 1.020 | 4 |
| Perfluoroheptanoic acid | 1.096 | 1.091 | 1.091 | 1.132 | 1.100 | 0.989 | 0.971 | 5 |
| Perfluorooctanoic acid | 1.173 | 1.066 | 1.028 | 1.026 | 1.067 | 0.976 | 0.972 | 6 |
| Perfluoro- | 1.184 | 1.016 | 1.060 | 1.056 | 1.090 | 0.987 | 1.010 | 6 |
| octanesulfonate | | | | | | | | |
| Perfluorononanoic acid | 1.426 | 1.211 | 1.292 | 1.339 | 1.295 | 1.131 | 1.102 | 9 |

⁻⁻⁻ Calibration point does not apply

^{* = %} RSD > 20

Lancaster Laboratories Environmental

FORM 07

CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSA88

Instrument ID: 24960

Lab File ID: 18APR16MCAL-12.WIFF

Date/Time Analyzed: 04/17/2018 17:35 Lab Sample ID: CCV1_CAL3

Init. Calib. Date/Times: 04/17/2018 15:10 04/17/2018 16:37

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
|--------------------------|---------------------|----------------------|-----------------|-------|
| Perfluorobutanesulfonate | 1.77 | 1.76 | -0.76 | ±30 |
| Perfluorohexanesulfonate | 1.89 | 1.89 | -0.11 | ±30 |
| Perfluoroheptanoic acid | 2.00 | 2.13 | 6.44 | ±30 |
| Perfluorooctanoic acid | 2.00 | 1.99 | -0.74 | ±30 |
| Perfluoro- | 1.91 | 1.84 | -3.45 | ±30 |
| octanesulfonate | | | | |
| Perfluorononanoic acid | 2.00 | 2.23 | 11.52 | ±30 |

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Environmental

FORM 07
Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY
Environmental T.C./MC./MC

LC/MS/MS

SDG No.: FSA88

Instrument ID: 24960

Lab File ID: 18APR18-67.WIFF

Date/Time Analyzed: 04/18/2018 22:50 Lab Sample ID: CCV6_CAL3

Init. Calib. Date/Times: 04/17/2018 15:10 04/17/2018 16:37

| Analytes | Specified Amount | Calculated Amount | % Difference > | Limit | |
|--------------------------|---------------------|----------------------|-------------------|-------|-----|
| Perfluorobutanesulfonate | 1.77 | 1.78 | 0.75 | | ±30 |
| Perfluorohexanesulfonate | 1.89 | 1.79 | -5.48 | | ±30 |
| Perfluoroheptanoic acid | 2.00 | 2.15 | 7.54 | | ±30 |
| Perfluorooctanoic acid | 2.00 | 2.08 | 3.78 | | ±30 |
| Perfluoro- | 1.91 | 1.87 | -1.94 | | ±30 |
| octanesulfonate | | | | | |
| Perfluorononanoic acid | 2.00 | 2.29 | 14.47 | | ±30 |

Lancaster Laboratories Environmental

FORM 07

CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSA88

Instrument ID: 24960

Lab File ID: 18APR18-78.WIFF

Date/Time Analyzed: 04/19/2018 01:30 Lab Sample ID: CCV7_CAL1

Init. Calib. Date/Times: 04/17/2018 15:10 04/17/2018 16:37

| Analytes | Specified Amount | Calculated Amount | % Difference | Limi | t |
|-------------------------------|---------------------|----------------------|-----------------|------|-----|
| Perfluorobutanesulfonate | 0.17 | 0.18 | 5.69 | | ±30 |
| Perfluorohexanesulfonate | 0.19 | 0.20 | 7.43 | | ±30 |
| Perfluoroheptanoic acid | 0.20 | 0.23 | 16.14 | | ±30 |
| Perfluorooctanoic acid | 0.20 | 0.24 | 17.72 | | ±30 |
| Perfluoro- octanesulfonate | 0.19 | 0.20 | 3.55 | | ±30 |
| Perfluorononanoic acid | 0.20 | 0.25 | 25.00 | | ±30 |



FORM 08A

INTERNAL STANDARDS

LC/MS/MS

SDG No.: FSA88 Matrix: WATER

| 18107005 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|---------------|------------------|-----------|-----------|-----------|-----------|
| 10107003 | 1107003 | | Area | Area | Area |
| Averag | ge ICAL Response | 750681 | 690610 | 1246021 | 472107 |
| - 1 . | UPPER LIMIT | 1126022 | 1035915 | 1869032 | 708161 |
| | LOWER LIMIT | 375341 | 345305 | 623011 | 236054 |
| LAB SAMPLE ID | DATE ANALYZED | | | | |
| LCS107005 | 04/19/18 00:17 | 1011005 | 942195 | 1671620 | 594143 |
| LCSDA | 04/19/18 00:32 | 1023447 | 932835 | 1746073 | 612895 |
| BLK107005 | 04/19/18 01:01 | 1040095 | 991651 | 1761230 | 605298 |

AREA:

Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

* Outside QC Limits



FORM 06A DOD - EPA 537 mod QSM 5.1 table B-15 INITIAL CALIBRATION RESPONSE FACTOR SUMMARY LC/MS/MS

SDG No.: FSA88

Instrument ID: 24960

Init. Calib. Date/Times: 04/22/2018 06:37

04/22/2018 08:04

Lab File Names: CAL1=18APR22MCAL-04.WIFF; CAL2=18APR22MCAL-05.WIFF; CAL3=18APR22MCAL-

06.WIFF;

CAL4=18APR22MCAL-07.WIFF; CAL5=18APR22MCAL-08.WIFF; CAL6=18APR22MCAL-

09.WIFF;

CAL7=18APR22MCAL-10.WIFF;

| | | RF | | | | | | |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|--------|
| Analyte | CAL1 | CAL2 | CAL3 | CAL4 | CAL5 | CAL6 | CAL7 | -%RSD- |
| Perfluorobutanesulfonate | 1.200 | 1.020 | 1.055 | 1.057 | 1.098 | 0.990 | 1.011 | 6 |
| Perfluorohexanesulfonate | 1.045 | 1.043 | 1.098 | 1.048 | 1.100 | 0.986 | 1.011 | 4 |
| Perfluoroheptanoic acid | 1.379 | 1.229 | 1.127 | 1.181 | 1.300 | 1.133 | 1.028 | 9 |
| Perfluorooctanoic acid | 1.144 | 1.110 | 1.097 | 1.010 | 1.117 | 0.975 | 0.954 | . 7 |
| Perfluoro- | 1.117 | 0.994 | 0.971 | 1.016 | 1.101 | 0.982 | 1.002 | 5 |
| octanesulfonate | | | | | | | | |
| Perfluorononanoic acid | 1.723 | 1.576 | 1.453 | 1.511 | 1.609 | 1.305 | | 9 |

⁻⁻⁻ Calibration point does not apply

* = % RSD > 20

Environmental

FORM 07

FORM 07

Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSA88

Instrument ID: 24960

Lab File ID: 18APR22MCAL-14.WIFF

Date/Time Analyzed: 04/22/2018 09:02

Lab Sample ID: CCV1_CAL3

Init. Calib. Date/Times: 04/22/2018 06:37 04/22/2018 08:04

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
|--------------------------|---------------------|----------------------|-----------------|-------|
| Perfluorobutanesulfonate | 1.77 | 1.83 | 3.52 | ±30 |
| Perfluorohexanesulfonate | 1.89 | 2.00 | 5.82 | ±30 |
| Perfluoroheptanoic acid | 2.00 | 2.09 | 4.49 | ±30 |
| Perfluorooctanoic acid | 2.00 | 2.03 | 1.47 | ±30 |
| Perfluoro- | 1.91 | 1.86 | -2.55 | ±30 |
| octanesulfonate | | | | |
| Perfluorononanoic acid | 2.00 | 2.17 | 8.56 | ±30 |

🔅 eurofins

Environmental

FORM 07
Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY
Environmental TO /MC /MC

LC/MS/MS

SDG No.: FSA88

Instrument ID: 24960

Lab File ID: 18APR23-01.WIFF

Date/Time Analyzed: 04/23/2018 06:52 Lab Sample ID: CCV1_CAL1

Init. Calib. Date/Times: 04/22/2018 06:37 04/22/2018 08:04

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
|--------------------------|---------------------|----------------------|-----------------|-------|
| Perfluorobutanesulfonate | 0.17 | 0.19 | 14.32 | ±30 |
| Perfluorohexanesulfonate | 0.19 | 0.21 | 10.40 | ±30 |
| Perfluoroheptanoic acid | 0.20 | 0.24 | 17.93 | ±30 |
| Perfluorooctanoic acid | 0.20 | 0.26 | 32.03 | ±30 |
| Perfluoro- | 0.19 | 0.20 | 6.87 | ±30 |
| octanesulfonate | | | | |
| Perfluorononanoic acid | 0.20 | 0.23 | 13.59 | ±30 |

Lancaster Laboratories Environmental

FORM 07
CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSA88

Instrument ID: 24960

Lab File ID: 18APR23-13.WIFF

Date/Time Analyzed: 04/23/2018 09:46 Lab Sample ID: CCV2_CAL2

Init. Calib. Date/Times: 04/22/2018 06:37 04/22/2018 08:04

| Analytes | Specified Amount | Calculated Amount | % / | Limit | |
|--------------------------|---------------------|----------------------|-------|-------|-----|
| Perfluorobutanesulfonate | 0.53 | 0.55 | 4.51 | | ±30 |
| Perfluorohexanesulfonate | 0.57 | 0.56 | -1.70 | | ±30 |
| Perfluoroheptanoic acid | 0.60 | 0.62 | 3.50 | | ±30 |
| Perfluorooctanoic acid | 0.60 | 0.63 | 5.48 | | ±30 |
| Perfluoro- | 0.57 | 0.59 | 3.48 | | ±30 |
| octanesulfonate | | | | | |
| Perfluorononanoic acid | 0.60 | 0.73 | 21.55 | | ±30 |





FORM 08A

INTERNAL STANDARDS

LC/MS/MS

SDG No.: FSA88 Matrix: WATER

| 18107005 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS | |
|---------------|------------------|---|-----------|-----------|-----------|--|
| .0107003 | | Area | Area Area | | Area | |
| Avera | ge ICAL Response | nse 743214 669745 1471609 MIT 1114821 1004618 2207414 | | 516407 | | |
| | UPPER LIMIT | 1114821 | 1004618 | 2207414 | 774611 | |
| | LOWER LIMIT | 371607 | 334873 | 735805 | 258204 | |
| LAB SAMPLE ID | DATE ANALYZED | | | | | |
| 9555124 | 04/23/18 09:17 | 828718 | 791823 | 1228642 | 564847 | |

AREA:

Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

* Outside QC Limits



FORM 06A DOD - EPA 537 mod QSM 5.1 table B-15 INITIAL CALIBRATION RESPONSE FACTOR SUMMARY LC/MS/MS

SDG No.: FSB16

Instrument ID: 24743

Init. Calib. Date/Times: 06/13/2018 17:37

06/13/2018 19:10

Lab File Names: CAL1=18JUN13MCAL-03.WIFF; CAL2=18JUN13MCAL-04.WIFF; CAL3=18JUN13MCAL-

05.WIFF;

CAL4=18JUN13MCAL-06.WIFF; CAL5=18JUN13MCAL-07.WIFF; CAL6=18JUN13MCAL-

08.WIFF;

CAL7=18JUN13MCAL-09.WIFF;

| | | RF | | | | | | |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|------|
| Analyte | CAL1 | CAL2 | CAL3 | CAL4 | CAL5 | CAL6 | CAL7 | %RSD |
| Perfluorobutanesulfonate | 1.140 | 1.084 | 1.025 | 1.016 | 1.024 | | | 5 |
| Perfluorohexanesulfonate | 1.070 | 0.958 | 0.873 | 0.928 | 0.909 | 0.827 | 0.866 | 8 |
| Perfluoroheptanoic acid | 1.426 | 1.313 | 1.306 | 1.309 | 1.261 | | | 4 |
| Perfluorooctanoic acid | 1.043 | 0.969 | 0.994 | 0.940 | 0.968 | 0.831 | 0.816 | 8 |
| Perfluoro- octanesulfonate | 1.155 | 1.164 | 1.093 | 1.016 | 1.129 | 0.995 | 1.019 | 6 |
| Perfluorononanoic acid | 1.757 | 1.586 | 1.676 | 1.630 | 1.550 | | | 4 |

⁻⁻⁻ Calibration point does not apply

^{* = %} RSD > 20

Lancaster Laboratories Environmental

FORM 07

CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB16

Instrument ID:

24743

Lab File ID: 18JUN13MCAL-13.WIFF

Date/Time Analyzed: 06/13/2018 20:12 Lab Sample ID: CCV1_CAL3

| Analytes | Specified Amount | Calculated Amount | % , Difference | Limit |
|--------------------------|---------------------|----------------------|-------------------|-------|
| Perfluorobutanesulfonate | 1.77 | 1.83 | 3.27 | ±30 |
| Perfluorohexanesulfonate | 1.89 | 2.02 | 6.95 | ±30 |
| Perfluoroheptanoic acid | 2.00 | 2.18 | 9.20 | ±30 |
| Perfluorooctanoic acid | 2.00 | 2.34 | 16.78 | ±30 |
| Perfluoro- | 1.91 | 2.13 | 11.47 | ±30 |
| octanesulfonate | | | | |
| Perfluorononanoic acid | 2.00 | 2.08 | 4.23 | ±30 |

Lancaster Laboratories Environmental

FORM 07
CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB16

Instrument ID: 24743

Lab File ID: 18JUN18-39.WIFF

Date/Time Analyzed: 06/18/2018 22:09 Lab Sample ID: CCV4_ISC_CAL1

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
|--------------------------|---------------------|----------------------|-----------------|-------|
| Perfluorobutanesulfonate | 0.17 | 0.19 | 10.70 | ±30 |
| Perfluorohexanesulfonate | 0.19 | 0.22 | 16.04 | ±30 |
| Perfluoroheptanoic acid | 0.20 | 0.24 | 20.20 | ±30 |
| Perfluorooctanoic acid | 0.20 | 0.26 | 29.06 | ±30 |
| Perfluoro- | 0.19 | 0.22 | 15.19 | ±30 |
| octanesulfonate | | | | |
| Perfluorononanoic acid | 0.20 | 0.22 | 10.15 | ±30 |

Lancaster Laboratories Environmental

FORM 07

CALIBRATION VERIFICATION SUMMARY

SDG No.: FSB16

Instrument ID: 24743

Lab File ID: 18JUN18-52.WIFF

Date/Time Analyzed: 06/19/2018 01:31 Lab Sample ID: CCV5 CAL2

| Analytes | Specified Amount | Calculated Amount | % , | Limit | |
|--------------------------|---------------------|----------------------|-------|-------|-----|
| Perfluorobutanesulfonate | 0.53 | 0.51 | -3.28 | | ±30 |
| Perfluorohexanesulfonate | 0.57 | 0.61 | 6.25 | | ±30 |
| Perfluoroheptanoic acid | 0.60 | 0.62 | 2.74 | | ±30 |
| Perfluorooctanoic acid | 0.60 | 0.67 | 11.72 | | ±30 |
| Perfluoro- | 0.57 | 0.66 | 15.65 | | ±30 |
| octanesulfonate | | | | | |
| Perfluorononanoic acid | 0.60 | 0.61 | 1.50 | | ±30 |

Environmental

FORM 07
Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY
Environmental

SDG No.: FSB16

Instrument ID: 24743

Lab File ID: 18JUN18-63.WIFF

Date/Time Analyzed: 06/19/2018 04:22 Lab Sample ID: CCV6_CAL3

| Analytes | Specified Amount | Calculated Amount | % / | Limit |
|-------------------------------|---------------------|----------------------|-------|-------|
| Perfluorobutanesulfonate | 1.77 | 1.80 | 1.45 | ±30 |
| Perfluorohexanesulfonate | 1.89 | 2.06 | 8.91 | ±30 |
| Perfluoroheptanoic acid | 2.00 | 2.05 | 2.39 | ±30 |
| Perfluorooctanoic acid | 2.00 | 2.26 | 12.91 | ±30 |
| Perfluoro- octanesulfonate | 1.91 | 2.00 | 4.45 | ±30 |
| Perfluorononanoic acid | 2.00 | 2.14 | 7.17 | ±30 |

Lancaster Laboratories Environmental

FORM 07
CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB16

Instrument ID: 24743

Lab File ID: 18JUN18-74.WIFF

Date/Time Analyzed: 06/19/2018 07:13 Lab Sample ID: CCV7_ISC_CAL1

| | | | | / ' |
|--------------------------|---------------------|----------------------|-----------------|-------|
| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
| Perfluorobutanesulfonate | 0.17 | 0.19 | 11.47 | ±30 |
| Perfluorohexanesulfonate | 0.19 | 0.22 | 16.76 | ±30 |
| Perfluoroheptanoic acid | 0.20 | 0.22 | 9.56 | ±30 |
| Perfluorooctanoic acid | 0.20 | 0.25 | 26.72 | ±30 |
| Perfluoro- | 0.19 | 0.20 | 4.74 | ±30 |
| octanesulfonate | | | | |
| Perfluorononanoic acid | 0.20 | 0.22 | 11.45 | ±30 |



FORM 08A

INTERNAL STANDARDS

LC/MS/MS

SDG No.: FSB18
Matrix: WATER

| 18166004 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|-----------------------|----------------|-----------|-----------|-----------|-----------|
| 10100004 | | Area | Area | Area | Area |
| Average ICAL Response | | 1472204 | 1402276 | 1488844 | 315884 |
| UPPER LIMIT | | 2208306 | 2103414 | 2233266 | 473826 |
| | LOWER LIMIT | 736102 | 701138/ | 744422 | / 157942 |
| LAB SAMPLE ID | DATE ANALYZED | | | | |
| LCS166004 | 06/18/18 22:41 | 1288244 | 1317146 | 1494598 | 285516 |
| LCSDA | 06/18/18 22:56 | 1325341 | 1385559 | 1520275 | 315670 |
| BLK166004 | 06/18/18 23:12 | 1307932 | 1325059 | 1491917 | 302172 |
| 9659306 | 06/19/18 00:14 | 1343906 | 1396637 | 1509830 | 297295 |

AREA: Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

^{*} Outside QC Limits



FORM 08A

INTERNAL STANDARDS

LC/MS/MS

SDG No.: FSB16 Matrix: SOIL

| 18166010 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|-------------------------|----------------|-----------|-----------|-----------|-----------|
| | | Area | Area | Area | Area |
| Average ICAL Response | | 1472204 | 1402276 | 1488844 | 315884 |
| UPPER LIMIT LOWER LIMIT | | 2208306 | 2103414 | 2233266 | 473826 |
| | | 736102 | 701138 | 744422 / | 157942 |
| LAB SAMPLE ID | DATE ANALYZED | | 1 | 1 | |
| LCS166010 | 06/19/18 00:45 | 1327089 | 1256525 | 1536695 | 301855 |
| LCSDA | 06/19/18 01:00 | 1253117 | 1325992 | 1496976 | 316683 |
| BLK166010 | 06/19/18 01:16 | 1359145 | 1445016 | 1550389 | 310851 |
| 9659169 | 06/19/18 01:47 | 1299459 | 1331320 | 1519744 | 302176 |
| 9659169MS | 06/19/18 02:03 | 1438057 | 1480482 | 1685775 | 336213 |
| 9659170 | 06/19/18 02:18 | 1357130 | 1407665 | 1529420 | 302745 |
| 9659171 | 06/19/18 02:34 | 1387709 | 1364706 | 1600685 | 338441 |
| 9659172 | 06/19/18 02:49 | 1378271 | 1390330 | 1634565 | 335769 |
| 9659173 | 06/19/18 03:05 | 1340267 | 1464916 | 1585299 | 322589 |
| 9659174 | 06/19/18 03:20 | 1395244 | 1438255 | 1587606 | 314687 |
| 9659175 | 06/19/18 03:36 | 1395752 | 1468404 | 1591990 | 323638 |
| 9659176 | 06/19/18 03:51 | 1352004 | 1420677 | 1571193 | 316274 |
| 9659177 | 06/19/18 04:07 | 1353224 | 1451212 | 1602802 | 318717 |
| 9659178 | 06/19/18 04:38 | 1337908 | 1446186 | 1542059 | 325832 |
| 9659179 | 06/19/18 04:53 | 1413249 | 1472366 | 1631923 | 336096 |
| 9659180 | 06/19/18 05:09 | 1354809 | 1396904 | 1599957 | 321663 |
| 9659181 | 06/19/18 05:25 | 1350717 | 1411190 | 1599101 | 319297 |
| 9659182 | 06/19/18 05:40 | 1481448 | 1463183 | 1667314 | 338553 |
| 9659183 | 06/19/18 05:56 | 1336095 | 1438940 | 1541631 | 311694 |
| 9659184 | 06/19/18 06:11 | 1439358 | 1409717 | 1623882 | 324286 |

AREA: Upper limit: 150% of the internal standard area.

Lower Limit: 50% of the internal standard area.

* Outside QC Limits



FORM 08A

INTERNAL STANDARDS

LC/MS/MS

SDG No.: FSB16 Matrix: SOIL

| 18166 | 5010 | | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|----------|--------|-------|------------------|-----------|-----------|-----------|-----------|
| 10100010 | | | at year control | Area | Area | Area | Area |
| | . 2 | Avera | ge ICAL Response | 1472204 | 1402276 | 1488844 | 315884 |
| | | | UPPER LIMIT | 2208306 | 2103414 | 2233266 | 473826 |
| | | | LOWER LIMIT | 736102 | 701138 | 744422 | 157942 |
| LAB S | SAMPLE | ID | DATE ANALYZED | ✓ | | ./ | 1 |
| 96591 | L85 | | 06/19/18 06:27 | 1386028 | 1486398 | 1624839 | 327577 |
| 96591 | L86 | | 06/19/18 06:42 | 1443850 | 1435512 | 1661748 | 325316 |
| 96591 | L87 | | 06/19/18 06:58 | 1360905 | 1381619 | 1580102 | 325187 |

AREA: Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

^{*} Outside QC Limits

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Lancaster Laboratories Environmental

FORM 07
CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB18

Instrument ID: 24743

Lab File ID: 18JUN19-44.WIFF

Date/Time Analyzed: 06/19/2018 21:58 Lab Sample ID: CCV4_ISC_CAL1

Init. Calib. Date/Times: 06/13/2018 17:37

06/13/2018 19:10

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit | |
|--------------------------|---------------------|----------------------|-----------------|-------|-----|
| Perfluorobutanesulfonate | 0.17 | 0.19 | 12.24 | | ±30 |
| Perfluorohexanesulfonate | 0.19 | 0.24 | 27.99 | | ±30 |
| Perfluoroheptanoic acid | 0.20 | 0.23 | 13.12 | | ±30 |
| Perfluorooctanoic acid | 0.20 | 0.24 | 20.00 | | ±30 |
| Perfluoro- | 0.19 | 0.22 | 14.12 | | ±30 |
| octanesulfonate | | | | | = = |
| Perfluorononanoic acid | 0.20 | 0.22 | 8.22 | | ±30 |

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FORM 07 CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB18

Instrument ID: 24743

Lab File ID: 18JUN19-56.WIFF

Date/Time Analyzed: 06/20/2018 01:05 Lab Sample ID: CCV5_CAL2

Init. Calib. Date/Times: 06/13/2018 17:37

06/13/2018 19:10

| Analytes | Specified Amount | Calculated Amount | % Difference | | Limit | 22-22 |
|--------------------------|---------------------|----------------------|-----------------|---|-------|-------|
| Perfluorobutanesulfonate | 0.53 | 0.53 | -0.47 | | | ±30 |
| Perfluorohexanesulfonate | 0.57 | 0.61 | 7.48 | | | ±30 |
| Perfluoroheptanoic acid | 0.60 | 0.59 | -0.92 | | | ±30 |
| Perfluorooctanoic acid | 0.60 | 0.67 | 11.30 | Ì | | ±30 |
| Perfluoro- | 0.57 | 0.63 | 11.22 | | | ±30 |
| octanesulfonate | | | | | | |
| Perfluorononanoic acid | 0.60 | 0.57 | -5.66 | | | ±30 |

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FORM 07
CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB18

Instrument ID: 24743

Lab File ID: 18JUN19-67.WIFF

Date/Time Analyzed: 06/20/2018 03:55 Lab Sample ID: CCV6_CAL3

| Analytes | Specified Amount | Calculated Amount | % Difference ` | Limit |
|--------------------------|---------------------|----------------------|-------------------|-------|
| Perfluorobutanesulfonate | 1.77 | 1.73 | -2.08 | ±3 |
| Perfluorohexanesulfonate | 1.89 | 2.13 | 12.73 | ±3 |
| Perfluoroheptanoic acid | 2.00 | 2.05 | 2.56 | ±3 |
| Perfluorooctanoic acid | 2.00 | 2.40 | 19.85 | ±3 |
| Perfluoro- | 1.91 | 2.08 | 9.15 | ±3 |
| octanesulfonate | | | | |
| Perfluorononanoic acid | 2.00 | 2.08 | 4.03 | ±3 |

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FORM 07
Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY
Environmental

LC/MS/MS

SDG No.: FSB18

Instrument ID: 24743

Lab File ID: 18JUN19-75.WIFF

Date/Time Analyzed: 06/20/2018 06:00 Lab Sample ID: CCV7_ISC_CAL1

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
|--------------------------|---------------------|----------------------|-----------------|-------|
| Perfluorobutanesulfonate | 0.17 | 0.18 | 6.00 | ±30 |
| Perfluorohexanesulfonate | 0.19 | 0.22 | 17.79 | ±30 |
| Perfluoroheptanoic acid | 0.20 | 0.21 | 7.16 | ±30 |
| Perfluorooctanoic acid | 0.20 | 0.25 | 27.08 | ±30 |
| Perfluoro- | 0.19 | 0.21 | 9.84 | ±30 |
| octanesulfonate | | | | |
| Perfluorononanoic acid | 0.20 | 0.23 | 12.76 | ±30 |



FORM 08A

INTERNAL STANDARDS

LC/MS/MS

SDG No.: FSB18 Matrix: WATER

| 18168002 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|---------------|-------------------|-----------|-----------|-----------|-----------|
| 10100002 | | Area | Area | Area | Area |
| Avera | age ICAL Response | 1472204 | 1402276 | 1488844 | 315884 |
| | UPPER LIMIT | 2208306 | 2103414 | 2233266 | 473826 |
| | LOWER LIMIT | 736102 / | 701138 | 744422 | 157942 |
| LAB SAMPLE ID | DATE ANALYZED | | / | / | / |
| LCS168002 | 06/19/18 23:32 | 1636308 | 1560381 | 1590431 | 345756 |
| BLK168002 | 06/19/18 23:47 | 1659940 | 1633268 | 1620207 | 332578 |
| 9659291 | 06/20/18 00:03 | 1547421 | 1619084 | 1659751 | 359867 |
| 9659292 | 06/20/18 00:18 | 1599631 | 1646438 | 1649163 | 350272 |
| 9659293 | 06/20/18 00:34 | 1662919 | 1644992 | 1607547 | 339266 |
| 9659294 | 06/20/18 00:49 | 1630386 | 1669513 | 1618629 | 338641 |
| 9659295 | 06/20/18 01:20 | 1798073 | 1636616 | 1615384 | 350624 |
| 9659296 | 06/20/18 01:36 | 1698835 | 1640386 | 1608187 | 340770 |
| 9659297 | 06/20/18 01:51 | 1601592 | 1598219 | 1674220 | 357171 |
| 9659298 | 06/20/18 02:07 | 1615573 | 1677843 | 1721205 | 378718 |
| 9659299 | 06/20/18 02:22 | 1608733 | 1633491 | 1592654 | 327166 |
| 9659300 | 06/20/18 02:38 | 1689978 | 1649895 | 1625843 | 366229 |
| 9659301 | 06/20/18 02:53 | 1685122 | 1713436 | 1652113 | 367819 |
| 9659302 | 06/20/18 03:09 | 1795162 | 1707331 | 1657402 | 371477 |
| 9659303 | 06/20/18 03:24 | 1602134 | 1657513 | 1681664 | 352818 |
| 9659304 | -06/20/18 03:40 | 1661633 | 1590414 | 1667728 | 346526 |
| 9659305 | 06/20/18 04:11 | 1698323 | 1631334 | 1671384 | 352388 |
| 9659307 | 06/20/18 04:26 | 1609325 | 1628633 | 1634018 | 326714 |
| 9659308 | 06/20/18 04:42 | 1656083 | 1627468 | 1629063 | 342106 |
| 9659309MS | 06/20/18 04:58 | 1727874 | 1710618 | 1657811 | 342057 |

AREA: Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

^{*} Outside QC Limits



FORM 08A

INTERNAL STANDARDS

LC/MS/MS

SDG No.: FSB18 Matrix: WATER

| 18168002 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|------------------|---------------|-----------|-----------|-----------|-----------|
| 10100002 | | Area | Area | Area | Area |
| Average | ICAL Response | 1472204 | 1402276 | 1488844 | 315884 |
| <u> </u> | UPPER LIMIT | 2208306 | 2103414 | 2233266 | 473826 |
| | LOWER LIMIT | 736102 | 701138 | 744422 | 157942 |
| LAB SAMPLE ID DA | ATE ANALYZED | | | 1 | 1 |
| 9659310MSD 0 | 6/20/18 05:13 | 1597884 | 1670861 | 1616247 | 344664 |
| 9659311 0 | 6/20/18 05:29 | 1627092 | 1599684 | 1659603 | 330286 |
| 9659312 0 | 6/20/18 05:44 | 1604344 | 1589209 | 1623577 | 359226 |

AREA: Upper limit: 150% of the internal standard area.

Lower Limit: 50% of the internal standard area.

* Outside QC Limits

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FORM 07 CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB17

Instrument ID: 24743

Lab File ID: 18JUN23-40.WIFF

Date/Time Analyzed: 06/22/2018 08:28 Lab Sample ID: CCV5_CAL2

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
|--------------------------|---------------------|----------------------|-----------------|-------|
| Perfluorobutanesulfonate | 0.53 | 0.54 | 1.62 | ±30 |
| Perfluorohexanesulfonate | 0.57 | 0.62 | 9.64 | ±30 |
| Perfluoroheptanoic acid | 0.60 | 0.59 | -2.20 | ±30 |
| Perfluorooctanoic acid | 0.60 | 0.69 | 15.13 | ±30 |
| Perfluoro- | 0.57 | 0.62 | 9.33 | ±30 |
| octanesulfonate | | | | |
| Perfluorononanoic acid | 0.60 | 0.61 | 1.77 | ±30 |

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Lancaster Laboratories Environmental

FORM 07
CALIBRATION VERIFICATION SUMMARY

LC/MS/MS '

SDG No.: FSB17

Instrument ID: 24743

Lab File ID: 18JUN23-51.WIFF

Date/Time Analyzed: 06/22/2018 11:18 Lab Sample ID: CCV6_CAL3

| Analytes | Specified Amount | Calculated Amount | % / Difference | Limit |
|--------------------------|---------------------|----------------------|----------------|-------|
| Perfluorobutanesulfonate | 1.77 | 1.73 | -2.03 | ±30 |
| Perfluorohexanesulfonate | 1.89 | 2.07 | 9.43 | ±30 |
| Perfluoroheptanoic acid | 2.00 | 2.06 | 3.07 | ±30 |
| Perfluorooctanoic acid | 2.00 | 2.41 | 20.30 | ±30 |
| Perfluoro- | 1.91 | 2.15 | 12.63 | ±30 |
| octanesulfonate | | | | |
| Perfluorononanoic acid | 2.00 | 2.20 | 9.81 | ±30 |

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Lancaster Laboratories Environmental

FORM 07
CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB17

Instrument ID: 24743

Lab File ID: 18JUN23-61.WIFF

Date/Time Analyzed: 06/22/2018 13:54 Lab Sample ID: CCV7_ISC_CAL1

| Analytes | Amount | Calculated Amount | % / Difference | Limit |
|--------------------------|--------|----------------------|-------------------|-------|
| Perfluorobutanesulfonate | | 0.20 | 17.04 | ±30 |
| Perfluorohexanesulfonate | 0.19 | 0.22 | 16.01 | ±30 |
| Perfluoroheptanoic acid | 0.20 | 0.22 | 9.21 | ±30 |
| Perfluorooctanoic acid | 0.20 | 0.26 | 28.14 | ±30 |
| Perfluoro- | 0.19 | 0.23 | 19.66 | ±30 |
| octanesulfonate | | | | |
| Perfluorononanoic acid | 0.20 | 0.22 | 10.26 | ±30 |



FORM 08A INTERNAL STANDARDS LC/MS/MS

SDG No.: FSB17 Matrix: SOIL

| 18171018 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|---------------|-------------------|-----------|-----------|-----------|-----------|
| 101/1010 | | Area | Area | Area | Area |
| Avera | age ICAL Response | 1472204 | 1402276 | 1488844 | 315884 |
| | UPPER LIMIT | 2208306 | 2103414 | 2233266 | 473826 |
| | LOWER LIMIT | 736102 | 701138 | 744422 | 157942 |
| LAB SAMPLE ID | DATE ANALYZED | | / | | / |
| BLK171018 | 06/22/18 08:43 | 1573021 | 1684465 | 1674254 | 377984 |
| LCS171018 | 06/22/18 08:59 | 1469823 | 1702915 | 1668062 | 381267 |
| LCSDA | 06/22/18 09:14 | 1513427 | 1597000 | 1641252 | 374788 |
| 9659230 | 06/22/18 09:30 | 1523877 | 1708751 | 1718664 | 386676 |
| 9659231 | 06/22/18 09:45 | 1720500 | 1830262 | 1817683 | 413679 |
| 9659232 | 06/22/18 10:01 | 1594504 | 1655971 | 1701920 | 379671 |
| 9659233 | 06/22/18 10:16 | 1605066 | 1701192 | 1697897 | 360337 |
| 9659234 | 06/22/18 10:32 | 1411513 | 1647890 | 1666570 | 369319 |
| 9659235 | 06/22/18 10:47 | 1693215 | 1782816 | 1717610 | 396102 |
| 9659236 | 06/22/18 11:03 | 1509536 | 1721780 | 1671415 | 380021 |
| 9659237 | 06/22/18 11:34 | 1536857 | 1650231 | 1690257 | 369320 |
| 9659238 | 06/22/18 11:50 | 1524686 | 1741045 | 1722825 | 367604 |
| 9659239 | 06/22/18 12:05 | 1654716 | 1676690 | 1693850 | 362917 |
| 9659240 | 06/22/18 12:21 | 1552781 | 1716563 | 1727189 | 368843 |
| 9659241 | 06/22/18 12:36 | 1609974 | 1660624 | 1720610 | 372575 |
| 9659242 | 06/22/18 12:52 | 1737592 | 1726170 | 1749346 | 404453 |
| 9659243 | 06/22/18 13:07 | 1628281 | 1721269 | 1713857 | 307927 |
| 9659244 | 06/22/18 13:23 | 1433118 | 1591426 | 1727107 | 370898 |
| 9659230MS | 06/22/18 13:38 | 1584790 | 1709895 | 1700962 | 376587 |

AREA: Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

^{*} Outside QC Limits



FORM 06A DOD - EPA 537 mod QSM 5.1 table B-15 INITIAL CALIBRATION RESPONSE FACTOR SUMMARY LC/MS/MS

SDG No.: FSB17

Instrument ID: 24743

Init. Calib. Date/Times: 06/23/2018 15:53

06/23/2018 17:26

Lab File Names: CAL1=18JUN22MCAL-49.WIFF; CAL2=18JUN22MCAL-50.WIFF; CAL3=18JUN22MCAL-

51.WIFF;

CAL4=18JUN22MCAL-52.WIFF; CAL5=18JUN22MCAL-53.WIFF; CAL6=18JUN22MCAL-

54.WIFF;

CAL7=18JUN22MCAL-55.WIFF;

| | | | | RF | | | | RF |
|-----------------------------|--------|-------|-------|-------|-------|-------|-------|------|
| Analyte | CAL1_ | CAL2 | CAL3 | CAL4 | CAL5 | CAL6 | CAL7 | %RSD |
| Perfluorobutanoic acid | 0.982 | 0.897 | 0.920 | 0.893 | 0.891 | | | 4 |
| Perfluoropentanoic acid | 1.149 | 1.032 | 1.051 | 1.071 | 1.038 | | | 4 |
| Perfluorobutanesulfonate | 1.142 | 1.031 | 1.055 | 0.973 | 0.974 | | | 6 |
| 4:2 fluorotelomersulfonate | 0.941 | 0.941 | 0.907 | 0.935 | 0.870 | | | 3 |
| Perfluorohexanoic acid | 1.180 | 1.073 | 1.088 | 1.100 | 1.072 | | | 4 |
| Perfluoropentanesulfonate | 0.489 | 0.468 | 0.505 | 0.443 | 0.478 | 0.439 | 0.443 | 5 |
| Perfluorohexanesulfonate | 1.002 | 0.962 | 0.922 | 0.887 | 0.929 | 0.855 | 0.899 | 5 |
| Perfluoroheptanoic acid | 1.465 | 1.245 | 1.324 | 1.267 | 1.278 | | | 6 |
| 6:2 fluorotelomersulfonate | 1.364 | 1.251 | 1.328 | 1.242 | 1.199 | | | 5 |
| Perfluoroheptanesulfonate | 0.758 | 0.677 | 0.688 | 0.617 | 0.654 | | | 7 |
| Perfluorooctanoic acid | 1.052 | 0.962 | 1.060 | 0.915 | 0.957 | 0.815 | 0.841 | 9 |
| Perfluoro-octanesulfonate | 1.242 | 1.170 | 1.167 | 1.067 | 1.099 | 0.990 | 1.051 | 7 |
| Perfluorononanoic acid | 1.815 | 1.697 | 1.742 | 1.616 | 1.582 | | | 5 |
| Perfluorooctanesulfonamide | .1.320 | 1.120 | 1.218 | 1.170 | 1.220 | 1.203 | 1.208 | 5 |
| Perfluorononanesulfonate | 0.832 | 0.737 | 0.895 | 0.790 | 0.815 | 0.735 | 0.751 | 7 |
| Perfluorodecanoic acid | 1.146 | 1.066 | 1.076 | 1.020 | 1.079 | | | 4 |
| 8:2 fluorotelomersulfonate | 0.929 | 0.915 | 0.929 | 0.897 | 0.897 | | | 2 |
| NMePFOSAE | 2.018 | 1.644 | 1.691 | 1.607 | 1.642 | | | 9 |
| NMePFOSA | 0.973 | 0.783 | 0.934 | 0.925 | 0.924 | 0.921 | 0.906 | 6 |
| NMeFOSAA | 1.143 | 1.009 | 1.215 | 1.148 | 1.195 | 1.062 | 0.985 | 8 |
| NETPFOSAE | 1.280 | 1.175 | 1.433 | 1.364 | 1.461 | 1.334 | 1.280 | 7 |
| NETPFOSA | 1.336 | 1.117 | 1.136 | 1.218 | 1.247 | 1.316 | 1.207 | 6 |
| Perfluorodecanesulfonate | 0.693 | 0.643 | 0.639 | 0.624 | 0.619 | 0.588 | | 5 |
| Perfluoroundecanoic acid | 1.857 | 1.742 | 1.670 | 1.614 | 1.484 | | | 7 |
| NETFOSAA | 1.232 | 1.002 | 1.110 | 1.145 | 1.110 | 1.103 | 1.055 | 6 |
| Perfluorododecanoic acid | 1.227 | 1.085 | 1.110 | 1.080 | 1.049 | | | 6 |
| 10:2- | 1.059 | 1.060 | 1.169 | 1.058 | 1.187 | | | 5 |
| fluorotelomersulfonate | | | | | | | | |
| Perfluorododecanesulfonate | 0.377 | 0.359 | 0.371 | 0.330 | 0.341 | 0.323 | 0.322 | - 6 |
| Perfluorotridecanoic acid | 1.174 | 1.039 | 0.985 | 1.049 | 0.930 | | | 8 |
| Perfluorotetradecanoic acid | 0.972 | 0.879 | 0.919 | 0.870 | 0.893 | | | 4 |
| Perfluorooctadecanoic acid | 0.507 | 0.476 | 0.513 | 0.477 | 0.502 | 0.427 | 0.475 | 6 |

⁻⁻⁻ Calibration point does not apply

^{* = %} RSD > 20

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FORM 07
CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB17

Instrument ID: 24743

Lab File ID: 18JUN22MCAL-59.WIFF

Date/Time Analyzed: 06/23/2018 18:28 Lab Sample ID: CCV1_CAL3

| | 240 | | | |
|----------------------------|-----------|------------|------------|-------|
| Analytes | Specified | Calculated | | Limit |
| | Amount | Amount | Difference | |
| Perfluorobutanoic acid | 2.00 | 2.05 | 2.31 | ±30 |
| Perfluoropentanoic acid | 2.00 | 2.05 | 2.72 | ±30 |
| Perfluorobutanesulfonate | 1.77 | 1.83 | 3.17 | ±30 |
| 4:2 fluorotelomersulfonate | 4.90 | 4.92 | 0.46 | ±30 |
| Perfluorohexanoic acid | 2.00 | 2.01 | 0.27 | ±30 |
| Perfluoropentanesulfonate | 1.88 | 2.04 | 8.69 | ±30 |
| Perfluorohexanesulfonate | 1.89 | 2.01 | 6.42 | ±30 |
| Perfluoroheptanoic acid | 2.00 | 2.01 | 0.26 | ±30 |
| 6:2 fluorotelomersulfonate | 5.21 | 5.52 | 5.86 | ±30 |
| Perfluoroheptanesulfonate | 1.90 | 2.05 | 7.77 | ±30 |
| Perfluorooctanoic acid | 2.00 | 2.29 | 14.56 | ±30 |
| Perfluoro-octanesulfonate | 1.91 | 2.10 | 10.16 | ±30 |
| Perfluorononanoic acid | 2.00 | 2.19 | 9.56 | ±30 |
| Perfluorooctanesulfonamide | 2.00 | 1.93 | -3.58 | ±30 |
| Perfluorononanesulfonate | 1.92 | 2.06 | 7.17 | ±30 |
| Perfluorodecanoic acid | 2.00 | 1.90 | -5.23 | ±30 |
| 8:2 fluorotelomersulfonate | 5.27 | 5.56 | 5.42 | ±30 |
| NMePFOSAE | 2.00 | 2.04 | 2.13 | ±30 |
| NMePFOSA | 2.00 | 1.99 | -0.60 | ±30 |
| NMeFOSAA | 2.00 | 2.30 | 14.98 | ±30 |
| NETPFOSAE | 2.00 | 2.12 | 5.87 | ±30 |
| NETPFOSA | 2.00 | 2.01 | 0.33 | ±30 |
| Perfluorodecanesulfonate | 1.93 | 1.89 | -2.06 | ±30 |
| Perfluoroundecanoic acid | 2.00 | 2.18 | 9.15 | ±30 |
| NETFOSAA | 2.00 | 2.00 | 0.03 | ±30 |
| Perfluorododecanoic acid | 2.00 | 2.11 | 5.39 | ±30 |
| 10:2- | 5.30 | 5.18 | -2.29 | ±30 |
| fluorotelomersulfonate | | | | |
| Perfluorododecanesulfonate | 1.94 | 2.02 | 4.31 | ±30 |
| Perfluorotridecanoic acid | 2.00 | 2.21 | 10.65 | ±30 |
| Perfluorotetradecanoic | 2.00 | 2.12 | 6.23 | ±30 |
| acid | | | | |
| Perfluorohexadecanoic acid | 2.00 | 0 | -100.00 * | ±30 |
| Perfluorooctadecanoic acid | 2.00 | 2.12 | 6.16 | ±30 |

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Environmental

FORM 07
Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY
Environmental LC/MS/MS

SDG No.: FSB17

Instrument ID: 24743

Lab File ID: 18JUN25-08.WIFF

Date/Time Analyzed: 06/25/2018 09:26 Lab Sample ID: CCV1_ISC_CAL1

| Analytes | Specified | Calculated | 8 | Limit |
|----------------------------|-----------|------------|---------------------|-------|
| | Amount | Amount | Difference | |
| Perfluorobutanoic acid | 0.20 | 0.22 | 8.40 | ±30 |
| Perfluoropentanoic acid | 0.20 | 0.23 | 13.92 | ±30 |
| Perfluorobutanesulfonate | 0.17 | 0.19 | 12.43 | ±30 |
| 4:2 fluorotelomersulfonate | 0.58 | 0.64 | 10.04 | ±30 |
| Perfluorohexanoic acid | 0.20 | 0.22 | 8.58 | ±30 |
| Perfluoropentanesulfonate | 0.19 | 0.23 | 21.53 | ±30 |
| Perfluorohexanesulfonate | 0.19 | 0.24 | 24.57 | ±30 |
| Perfluoroheptanoic acid | 0.20 | 0.21 | 4.51 | ±30 |
| 6:2 fluorotelomersulfonate | 1.30 | 1.39 | 6.84 | ±30 |
| Perfluoroheptanesulfonate | 0.19 | 0.25 | 32 05 * | ±30 |
| Perfluorooctanoic acid | 0.20 | 0.26 | 28.23 | ±30 |
| Perfluoro-octanesulfonate | 0.19 | 0.22 | 14.57 | ±30 |
| Perfluorononanoic acid | 0.20 | 0.22 | 7.94 | ±30 |
| Perfluorooctanesulfonamide | 0.20 | 0.21 | 5.88 | ±30 |
| Perfluorononanesulfonate | 0.19 | 0.22 | 17.84 | ±30 |
| Perfluorodecanoic acid | 0.20 | 0.22 | 8.82 | ±30 |
| 8:2 fluorotelomersulfonate | 1.32 | 1.34 | 1.66 | ±30 |
| NMePFOSAE | 0.20 | 0.19 | -6.45 | ±30 |
| NMePFOSA | 0.20 | 0.19 | -3.89 | ±30 |
| NMeFOSAA | 0.20 | 0.21 | 3.14 | ±30 |
| NETPFOSAE | 0.20 | 0.21 | 5.19 | ±30 |
| NETPFOSA | 0.20 | 0.21 | 5.97 | ±30 |
| Perfluorodecanesulfonate | 0.19 | 0.23 | 22.81 | ±30 |
| Perfluoroundecanoic acid | 0.20 | 0.24 | 22.43 | ±30 |
| NEtFOSAA | 0.20 | 0.19 | -5.77 | ±30 |
| Perfluorododecanoic acid | 0.20 | 0.28 | 39,24 * | ±30 |
| 10:2- | 1.33 | 1.42 | 7.07 | ±30 |
| fluorotelomersulfonate | | | | / |
| Perfluorododecanesulfonate | 0.19 | 0 | -100.00/ | ±30 |
| Perfluorotridecanoic acid | 0.20 | 0 | -100.00 * | ±30 |
| Perfluorotetradecanoic | 0.20 | 0 | -100 ./ 00 * | ±30 |
| acid | | <u> </u> | | |
| Perfluorohexadecanoic acid | | 0 | -10,0.00 * | ±30 |
| Perfluorooctadecanoic acid | 0.20 | 0 | -1/00.00 * | ±30 |

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Lancaster Laboratories Environmental

FORM 07
CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB17

Instrument ID: 24743

Lab File ID: 18JUN25-20.WIFF

Date/Time Analyzed: 06/25/2018 12:33 Lab Sample ID: CCV2_CAL2

| Analytes | Specified Amount | Calculated Amount | § Difference | Limit |
|-----------------------------|---------------------|----------------------|-----------------|-------|
| Perfluorobutanoic acid | 0.60 | 0.61 | 0.99 | ±30 |
| Perfluoropentanoic acid | 0.60 | | 8.02 | ±30 |
| Perfluorobutanesulfonate | 0.53 | 0.52 | -1.66 | ±30 |
| 4:2 fluorotelomersulfonate | 1.98 | | 4.80 | ±30 |
| Perfluorohexanoic acid | 0.60 | 0.57 | -4.58 | ±30 |
| Perfluoropentanesulfonate | 0.56 | 0.60 | 7.31 | ±30 |
| Perfluorohexanesulfonate | 0.57 | 0.63 | 10.42 | ±30 |
| Perfluoroheptanoic acid | 0.60 | 0.59 | -1.39 | ±30 |
| 6:2 fluorotelomersulfonate | 2.09 | 1.99 | -4.63 | ±30 |
| Perfluoroheptanesulfonate | 0.57 | 0.64 | 11.80 | ±30 |
| Perfluorooctanoic acid | 0.60 | 0.68 | 13.59 | ±30 |
| Perfluoro-octanesulfonate | 0.57 | 0.58 | 2.46 | ±30 |
| Perfluorononanoic acid | 0.60 | 0.57 | -4.54 | ±30 |
| Perfluorooctanesulfonamide | 0.60 | | -4.74 | ±30 |
| Perfluorononanesulfonate | 0.58 | 0.64 | 10.36 | ±30 |
| Perfluorodecanoic acid | 0.60 | 0.57 | -4.17 | ±30 |
| 8:2 fluorotelomersulfonate | 2.11 | 2.07 | -1.76 | ±30 |
| NMePFOSAE | 0.60 | 0.55 | -8.36 | ±30 |
| NMePFOSA | 0.60 | 0.58 | -3.92 | ±30 |
| NMeFOSAA | 0.60 | 0.54 | -10.61 | ±30 |
| NETPFOSAE | 0.60 | 0.53 | -12.26 | ±30 |
| NETPFOSA | 0.60 | 0.54 | -9.58 | ±30 |
| Perfluorodecanesulfonate | 0.58 | 0.64 | 10.23 | ±30 |
| Perfluoroundecanoic acid | 0.60 | 0.60 | 0.67 | ±30 |
| NETFOSAA | 0.60 | L | -12.50 | ±30 |
| Perfluorododecanoic acid | 0.60 | 0.74 | 24.09 | ±30 |
| 10:2- | 2.12 | 2.06 | -2.63 | ±30 |
| fluorotelomersulfonate | | | | |
| Perfluorododecanesulfonate | 0.58 | | 3.29 | ±30 |
| Perfluorotridecanoic acid | 0.60 | | 12.28 | ±30 |
| Perfluorotetradecanoic acid | 0.60 | 0.61 | 0.88 | ±30 |
| Perfluorohexadecanoic acid | 0.60 | | -100/00 * | ±30 |
| Perfluorooctadecanoic acid | 0.60 | 0.57 | 4.35 | ±30 |



FORM 07
CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB17

Instrument ID: 24743

Lab File ID: 18JUN25-57.WIFF

Date/Time Analyzed: 06/25/2018 22:07 Lab Sample ID: CCV6_ISC_CAL1

Init. Calib. Date/Times: 06/23/2018 15:53

06/23/2018 17:26

| | | | . / | |
|--------------------------------|------------------|----------------------|-----------------|-------|
| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
| Perfluorobutanoic acid | 0.20 | 0.22 | | ±30 |
| Perfluoropentanoic acid | 0.20 | 0.22 | | ±30 |
| Perfluorobutanesulfonate | 0.17 | 0.19 | | ±30 |
| 4:2 fluorotelomersulfonate | 0.58 | 0.63 | 8.95 | ±30 |
| Perfluorohexanoic acid | 0.20 | 0.22 | 9.81 | ±30 |
| Perfluoropentanesulfonate | 0.19 | 0.21 | 8.77 | ±30 |
| Perfluorohexanesulfonate | 0.19 | 0.21 | 8.46 | ±30 |
| Perfluoroheptanoic acid | 0.20 | 0.22 | 8.83 | ±30 |
| 6:2 fluorotelomersulfonate | 1.30 | 1.36 | 4.47 | ±30 |
| Perfluoroheptanesulfonate | 0.19 | 0.23 | 22.68 | ±30 |
| Perfluorooctanoic acid | 0.20 | 0.25 | 25.52 | ±30 |
| Perfluoro-octanesulfonate | 0.19 | 0.23 | 22.10 | ±30 |
| Perfluorononanoic acid | 0.20 | 0.22 | 10.45 | ±30 |
| Perfluorooctanesulfonamide | 0.20 | 0.21 | 5.28 | ±30 |
| Perfluorononanesulfonate | 0.19 | 0.24 | 25.73 | ±30 |
| Perfluorodecanoic acid | 0.20 | 0.21 | 6.17 | ±30 |
| 8:2 fluorotelomersulfonate | 1.32 | 1.39 | 5.00 | ±30 |
| NMePFOSAE | 0.20 | 0.21 | 2.87 | ±30 |
| NMePFOSA | 0.20 | 0.18 | -12.30 | ±30 |
| NMeFOSAA | 0.20 | 0.21 | 4.04 | ±30 |
| NETPFOSAE | 0.20 | 0.19 | -2.79 | ±30 |
| NEtPFOSA | 0.20 | 0.19 | -3.56 | ±30 |
| Perfluorodecanesulfonate | 0.19 | 0.26 | 34,49 * | ±30 |
| Perfluoroundecanoic acid | 0.20 | 0.23 | 14.95 | ±30 |
| NEtFOSAA | 0.20 | • 0.21 | 6.34 | ±30 |
| Perfluorododecanoic acid | 0.20 | 0.22 | 11.86 | ±30 |
| 10:2- | 1.33 | 1.23 | -7.69 | ±30 |
| fluorotelomersulfonate | | | | |
| Perfluorododecanesulfonate | 0.19 | 0.22 | 15.75 | ±30 |
| Perfluorotridecanoic acid | 0.20 | 0.20 | -0.64 | ±30 |
| Perfluorotetradecanoic acid | 0.20 | 0.22 | 11.30 | ±30 |
| Perfluorohexadecanoic acid | 0.20 | 0 | -100.00* | ±30 |
| Perfluorooctadecanoic acid | 0.20 | 0.27 | 35/.34 * | ±30 |
| | | | 7 | |

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Lancaster Laboratories Environmental

FORM 07

CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.:

FSB17

Instrument ID: 24743

Lab File ID: 18JUN25-70.WIFF

Date/Time Analyzed: 06/26/2018 01:29

Lab Sample ID: CCV7_CAL2

| Analytes | Specified Amount | Calculated Amount | % / Difference | Limit |
|--------------------------------|------------------|----------------------|--------------------|-------|
| Perfluorobutanoic acid | 0.60 | 0.60 | | ±30 |
| Perfluoropentanoic acid | 0.60 | 0.59 | | ±30 |
| Perfluorobutanesulfonate | 0.53 | 0.54 | 1.96 | ±30 |
| 4:2 fluorotelomersulfonate | 1.98 | 1.99 | 0.61 | ±30 |
| Perfluorohexanoic acid | 0.60 | 0.56 | -6.65 | ±30 |
| Perfluoropentanesulfonate | 0.56 | 0.57 | 2.17 | ±30 |
| Perfluorohexanesulfonate | 0.57 | 0.60 | 5.81 | ±30 |
| Perfluoroheptanoic acid | 0.60 | 0.59 | -0.93 | ±30 |
| 6:2 fluorotelomersulfonate | 2.09 | 2.09 | 0.22 | ±30 |
| Perfluoroheptanesulfonate | 0.57 | 0.64 | 12.74 | ±30 |
| Perfluorooctanoic acid | 0.60 | 0.67 | 10.92 | ±30 |
| Perfluoro-octanesulfonate | 0.57 | 0.60 | 5.08 | ±30 |
| Perfluorononanoic acid | 0.60 | 0.62 | 2.54 | ±30 |
| Perfluorooctanesulfonamide | 0.60 | 0.55 | -7.52 | ±30 |
| Perfluorononanesulfonate | 0.58 | 0.67 | 15.37 | ±30 |
| Perfluorodecanoic acid | 0.60 | 0.60 | 0.09 | ±30 |
| 8:2 fluorotelomersulfonate | 2.11 | 2.17 | 2.75 | ±30 |
| NMePFOSAE | 0.60 | 0.50 | -16.12 | ±30 |
| NMePFOSA | 0.60 | 0.51 | -15.50 | ±30 |
| NMeFOSAA | 0.60 | 0.57 | -5.37 | ±30 |
| NETPFOSAE | 0.60 | 0.61 | 1.85 | ±30 |
| NETPFOSA | 0.60 | 0.56 | -6.31 | ±30 |
| Perfluorodecanesulfonate | 0.58 | 0.60 | 3.96 | ±30 |
| Perfluoroundecanoic acid | 0.60 | 0.61 | 1.69 | ±30 |
| NEtFOSAA | 0.60 | 0.54 | -9.89 | ±30 |
| Perfluorododecanoic acid | 0.60 | 0.60 | 0.74 | ±30 |
| 10:2- | 2.12 | 1.96 | -7.45 | ±30 |
| fluorotelomersulfonate | | | | |
| Perfluorododecanesulfonate | 0.58 | 0.57 | -1.97 | ±30 |
| Perfluorotridecanoic acid | 0.60 | 0.55 | -7.76 | ±30 |
| Perfluorotetradecanoic acid | 0.60 | 0.59 | -1.04 | ±30 |
| Perfluorohexadecanoic acid | 0.60 | 0 | -10 0. 00 * | ±30 |
| Perfluorooctadecanoic acid | 0.60 | 0.68 | 13.37 | ±30 |



FORM 07

CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.:

FSB17

Instrument ID: 24743

Lab File ID: 18JUN25-82.WIFF

Date/Time Analyzed: 06/26/2018 04:36

Lab Sample ID: CCV8_CAL3

| Analytes | Specified Amount | Calculated Amount | % Difference | Limit |
|-----------------------------|---------------------|----------------------|-----------------|-------|
| Perfluorobutanoic acid | 2.00 | | 0.36 | ±30 |
| Perfluoropentanoic acid | 2.00 | 2.05 | 2.40 | ±30 |
| Perfluorobutanesulfonate | 1.77 | 1.76 | -0.36 | ±30 |
| 4:2 fluorotelomersulfonate | | | 0.62 | ±30 |
| Perfluorohexanoic acid | 2.00 | | 2.54 | ±30 |
| Perfluoropentanesulfonate | 1.88 | | 1.66 | ±30 |
| Perfluorohexanesulfonate | 1.89 | 2.00 | 6.03 | ±30 |
| Perfluoroheptanoic acid | 2.00 | 2.03 | 1.28 | ±30 |
| 6:2 fluorotelomersulfonate | 5.21 | 5.42 | 3.95 | ±30 |
| Perfluoroheptanesulfonate | 1.90 | 2.06 | 8.38 | ±30 |
| Perfluorooctanoic acid | 2.00 | 2.34 | 16.98 | ±30 |
| Perfluoro-octanesulfonate | 1.91 | 1.90 | -0.60 | ±30 |
| Perfluorononanoic acid | 2.00 | 1.95 | -2.29 | ±30 |
| Perfluorooctanesulfonamide | 2.00 | 2.00 | 0.20 | ±30 |
| Perfluorononanesulfonate | 1.92 | 1.99 | 3.87 | ±30 |
| Perfluorodecanoic acid | 2.00 | 2.05 | 2.59 | ±30 |
| 8:2 fluorotelomersulfonate | 5.27 | 5.59 | 6.05 | ' ±30 |
| NMePFOSAE | 2.00 | 1.96 | -1.88 | ±30 |
| NMePFOSA | 2.00 | 1.86 | -6.85 | ±30 |
| NMeFOSAA | 2.00 | 2.06 | 2.83 | ±30 |
| NETPFOSAE | 2.00 | 2.10 | 4.81 | ±30 |
| NETPFOSA | 2.00 | 1.90 | -4.81 | ±30 |
| Perfluorodecanesulfonate | 1.93 | 1.89 | -2.02 | ±30 |
| Perfluoroundecanoic acid | 2.00 | 2.13 | 6.52 | ±30 |
| NETFOSAA | 2.00 | 2.10 | 4.98 | ±30 |
| Perfluorododecanoic acid | 2.00 | 2.09 | 4.52 | ±30 |
| 10:2- | 5.30 | 4.82 | -9.13 | ±30 |
| fluorotelomersulfonate | | | | |
| Perfluorododecanesulfonate | | 1.91 | -1.30 | ±30 |
| Perfluorotridecanoic acid | 2.00 | | -2.54 | ±30 |
| Perfluorotetradecanoic acid | 2.00 | 2.10 | 5.18 | ±30 |
| Perfluorohexadecanoic acid | 2.00 | 0 | -1.00.00 * | ±30 |
| Perfluorooctadecanoic acid | 2.00 | 2.22 | 11.20 | ±30 |

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Lancaster Laboratories Environmental

FORM 07

CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB17

Instrument ID: 24743

Lab File ID: 18JUN26-05.WIFF

Date/Time Analyzed: 06/26/2018 16:31 Lab Sample ID: CCV1_ISC_CAL1

| Analytes | Specified Amount | Calculated Amount | % / | Limit |
|-----------------------------|---------------------|----------------------|-----------|-------|
| Perfluorobutanoic acid | 0.20 | | 10.32 | ±30 |
| Perfluoropentanoic acid | 0.20 | 0.21 | 5.90 | ±30 |
| Perfluorobutanesulfonate | 0.17 | 0.19 | 12.79 | ±30 |
| 4:2 fluorotelomersulfonate | 0.58 | | 1.11 | ±30 |
| Perfluorohexanoic acid | 0.20 | 0.21 | 4.21 | ±30 |
| Perfluoropentanesulfonate | 0.19 | 0.21 | 11.39 | ±30 |
| Perfluorohexanesulfonate | 0.19 | 0.22 | 14.28 | ±30 |
| Perfluoroheptanoic acid | 0.20 | 0.22 | 8.00 | ±30 |
| 6:2 fluorotelomersulfonate | 1.30 | 1.35 | 3.66 | ±30 |
| Perfluoroheptanesulfonate | 0.19 | 0.23 | 19.09 | ±30 |
| Perfluorooctanoic acid | 0.20 | 0.26 | 27.86 | ±30 |
| Perfluoro-octanesulfonate | 0.19 | 0.23 | 19.26 | ±30 |
| Perfluorononanoic acid | 0.20 | 0.22 | 7.65 | ±30 |
| Perfluorooctanesulfonamide | 0.20 | 0.21 | 4.40 | ±30 |
| Perfluorononanesulfonate | 0.19 | 0.25 | 29.41 | ±30 |
| Perfluorodecanoic acid | 0.20 | 0.22 | 11.27 | ±30 |
| 8:2 fluorotelomersulfonate | 1.32 | 1.44 | 9.10 | ' ±30 |
| NMePFOSAE | 0.20 | 0.20 | -2.29 | ±30 |
| NMePFOSA | 0.20 | 0.22 | 11.76 | ±30 |
| NMeFOSAA | 0.20 | 0.24 | 19.38 | ±30 |
| NETPFOSAE | 0.20 | 0.20 | 1.97 | ±30 |
| NETPFOSA | 0.20 | 0.20 | 0.89 | ±30 |
| Perfluorodecanesulfonate | 0.19 | 0.19 | -1.47 | ±30 |
| Perfluoroundecanoic acid | 0.20 | 0.21 | 5.30 | ±30 |
| NEtFOSAA | 0.20 | 0.22 | 8.04 | ±30 |
| Perfluorododecanoic acid | 0.20 | 0.25 | 23.58 | ±30 |
| 10:2- | 1.33 | 1.22 | -8.60 | ±30 |
| fluorotelomersulfonate | | | | |
| Perfluorododecanesulfonate | 0.19 | 0.24 | 24.10 | ±30 |
| Perfluorotridecanoic acid | 0.20 | 0.21 | 5.81 | ±30 |
| Perfluorotetradecanoic acid | 0.20 | 0.22 | 10.38 | ±30 |
| Perfluorohexadecanoic acid | 0.20 | 0 | -100.00 * | ±30 |
| Perfluorooctadecanoic acid | 0.20 | 0.22 | 11.35 | ±30 |

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FORM 07

Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB17

Instrument ID: 24743

Lab File ID: 18JUN26-11.WIFF

Date/Time Analyzed: 06/26/2018 18:04 Lab Sample ID: CCV2_CAL2

| Analytes | _ | Calculated | | Limit |
|----------------------------|--------|------------|------------|-------|
| Daniel III. | Amount | Amount | Difference | |
| Perfluorobutanoic acid | 0.60 | | | ±30 |
| Perfluoropentanoic acid | 0.60 | | | ±30 |
| Perfluorobutanesulfonate | 0.53 | | | ±30 |
| 4:2 fluorotelomersulfonate | | | | ±30 |
| Perfluorohexanoic acid | 0.60 | | | ±30 |
| Perfluoropentanesulfonate | 0.56 | | | ±30 |
| Perfluorohexanesulfonate | 0.57 | 0.59 | | ±30 |
| Perfluoroheptanoic acid | 0.60 | | <u> </u> | ±30 |
| 6:2 fluorotelomersulfonate | | | <u> </u> | ±30 |
| Perfluoroheptanesulfonate | 0.57 | 0.62 | | ±30 |
| Perfluorooctanoic acid | 0.60 | | | ±30 |
| Perfluoro-octanesulfonate | 0.57 | 0.64 | L | ±30 |
| Perfluorononanoic acid | 0.60 | 0.55 | -8.78 | ±30 |
| Perfluorooctanesulfonamide | 0.60 | 0.52 | -12.87 | ±30 |
| Perfluorononanesulfonate | 0.58 | 0.66 | 13.54 | ±30 |
| Perfluorodecanoic acid | 0.60 | 0.57 | -4.25 | ±30 |
| 8:2 fluorotelomersulfonate | 2.11 | 2.27 | 7.65 | * ±30 |
| NMePFOSAE | 0.60 | 0.54 | -10.46 | ±30 |
| NMePFOSA | 0.60 | 0.52 | -12.99 | ±30 |
| NMeFOSAA | 0.60 | 0.56 | -6.07 | ±30 |
| NETPFOSAE | 0.60 | 0.56 | -6.29 | ±30 |
| NETPFOSA | 0.60 | 0.60 | 0.05 | ±30 |
| Perfluorodecanesulfonate | 0.58 | 0.58 | 0.24 | ±30 |
| Perfluoroundecanoic acid | 0.60 | 0.57 | -5.65 | ±30 |
| NEtFOSAA | 0.60 | 0.58 | -2.86 | ±30 |
| Perfluorododecanoic acid | 0.60 | 0.61 | 2.38 | ±30 |
| 10:2- | 2.12 | 2.10 | | ±30 |
| fluorotelomersulfonate | | | | |
| Perfluorododecanesulfonate | 0.58 | 0.57 | -2.13 | ±30 |
| Perfluorotridecanoic acid | 0.60 | 0.61 | 2.11 | ±30 |
| Perfluorotetradecanoic | 0.60 | 0.60 | | ±30 |
| acid | | | | |
| Perfluorohexadecanoic acid | 0.60 | 0 | -100.00 * | ±30 |
| Perfluorooctadecanoic acid | | | | ±30 |



FORM 08A

INTERNAL STANDARDS

LC/MS/MS

SDG No.: FSB17 Matrix: SOIL

| 18170012 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS | |
|---------------|-------------------|------------|-----------|-----------|-----------|--|
| | | Area | Area | Area | Area | |
| Aver | age ICAL Response | 1132330 | 1488851 | 1276615 | 323436 | |
| | UPPER LIMIT | 1698495 | / 2233277 | 1914923 | 485154 | |
| | LOWER LIMIT | 566165/ | 744426 | 638308 | 161718 | |
| LAB SAMPLE ID | DATE ANALYZED | 1 | | | | |
| BLK170012 | 06/25/18 22:54 | 1457577 | 1899094 | 1365987 | 427601 | |
| LCS170012 | 06/25/18 23:10 | 1387145 | 1806189 | 1376266 | 421980 | |
| LCSDA | 06/25/18 23:25 | 1514380 | 1868078 | 1371724 | 429912 | |
| 9659222 | 06/25/18 23:41 | 1499917 | 1939855 | 1396746 | 399385 | |
| 9659223 | 06/25/18 23:56 | 1322017 | 1896434 | 1402729 | 378749 | |
| 9659224 | 06/26/18 00:12 | 1573371 | 1914404 | 1437679 | 455367 | |
| 9659225 | 06/26/18 00:27 | 1478450 | 1928794 | 1398058 | 403790 | |
| 9659226 | 06/26/18 00:43 | 1545401 | 2044514 | 1442681 | 443315 | |
| 9659227 | 06/26/18 00:58 | 1581311 | 1932726 | 1445024 | 461986 | |
| 9659228 | 06/26/18 01:14 | 1502710 | 2003650 | 1438315 | 431776 | |
| 9659229 | 06/26/18 01:45 | 1563096 | 2067829 | 1425303 | 441901 | |
| 9659222MS | 06/26/18 02:01 | 1469730 | 1929131 | 1437649 | 414269 | |
| 9659223DL | 06/26/18 17:02 | (1857360 * | 2256979 * | 1842802 | 485665 | |

AREA:

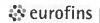
Upper limit: 150% of the internal standard area

Lower Limit: 50% of the internal standard area.

* Outside QC Limits

Form 08A - EPA 537 mod QSM

Page 1 of 1



FORM 08A

INTERNAL STANDARDS

LC/MS/MS

SDG No.: FSB17
Matrix: SOIL

| 18171018 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS | |
|---------------|-----------------|-----------|-----------|-----------|-----------|--|
| | 1018 | | Area | Area | Area | |
| Averag | e ICAL Response | 1132330 | 1488851 | 1276615 | 323436 | |
| | UPPER LIMIT | 1698495 | 2233277 | 1914923 | 485154 | |
| | LOWER LIMIT | 566165 | 744426 | 638308 | 161718 | |
| LAB SAMPLE ID | DATE ANALYZED | | 98 22 | | | |
| 9659243DL | 06/25/18 12:17 | 1404649 | 1941438 | 1766911 | 441376 | |

AREA:

Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

* Outside QC Limits



FORM 06A DOD - EPA 537 mod QSM 5.1 table B-15 INITIAL CALIBRATION RESPONSE FACTOR SUMMARY LC/MS/MS

SDG No.: FSB29

Instrument ID: 27631

Init. Calib. Date/Times: 07/27/2018 10:12 07/27/2

07/27/2018 11:06

Lab File Names: CAL1=18JUL27MCAL-10.WIFF; CAL2=18JUL27MCAL-11.WIFF; CAL3=18JUL27MCAL-

12.WIFF;

CAL4=18JUL27MCAL-13.WIFF; CAL5=18JUL27MCAL-14.WIFF; CAL6=18JUL27MCAL-

15.WIFF;

CAL7=18JUL27MCAL-16.WIFF;

| | | | | RF | | | | RF |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|------|
| Analyte | CAL1 | CAL2 | CAL3 | CAL4 | CAL5 | CAL6 | CAL7 | %RSD |
| Perfluorobutanoic acid | 1.079 | 1.091 | 1.008 | 1.000 | 1.033 | 0.925 | 0.930 | 6 |
| Perfluoropentanoic acid | 1.031 | 1.044 | 1.013 | 0.959 | 1.031 | 0.877 | 0.930 | 6 |
| Perfluorobutanesulfonate | 1.256 | 1.112 | 1.068 | 1.038 | 1.069 | 0.989 | 1.020 | 7 |
| 4:2 fluorotelomersulfonate | | 1.794 | 1.857 | 1.851 | 1.724 | 1.804 | | |
| Perfluorohexanoic acid | 1.241 | 1.303 | 1.164 | 1.146 | 1.176 | 1.019 | 1.030 | 8 |
| Perfluoropentanesulfonate | 0.550 | 0.571 | 0.542 | 0.562 | 0.572 | 0.502 | 0.533 | 4 |
| Perfluorohexanesulfonate | 1.181 | 0.914 | 0.980 | 0.976 | 1.067 | 0.938 | 1.002 | 8 |
| Perfluoroheptanoic acid | 1.522 | 1.422 | 1.375 | 1.429 | 1.385 | 1.230 | 1.207 | 8 |
| 6:2 fluorotelomersulfonate | | 2.299 | 2.086 | 2.278 | 2.136 | 2.185 | | |
| Perfluoroheptanesulfonate | 1.158 | 1.056 | 1.116 | 1.034 | 1.132 | 0.974 | 1.053 | 6 |
| Perfluorooctanoic acid | 1.115 | 1.185 | 1.087 | 1.029 | 0.999 | 0.977 | 0.959 | 7 |
| Perfluoro-octanesulfonate | 1.354 | 1.005 | 1.059 | 1.052 | 1.045 | 1.035 | 1.038 | 10 |
| Perfluorononanoic acid | 1.363 | 1.355 | 1.321 | 1.342 | 1.284 | 1.169 | 1.094 | 8 |
| Perfluorononanesulfonate | 0.870 | 0.678 | 0.743 | 0.768 | 0.734 | 0.698 | 0.732 | 8 |
| Perfluorodecanoic acid | 1.031 | 1:000 | 1.015 | 1.004 | 0.977 | 0.881 | 0.892 | 6 |
| 8:2 fluorotelomersulfonate | | 2.678 | 2.703 | 2.622 | 2.693 | 2.635 | | |
| Perfluorooctanesulfonamide | 0.938 | 1.014 | 1.049 | 0.951 | 1.035 | 1.037 | 0.942 | 5 |
| NMeFOSAA | 0.795 | 0.948 | 0.839 | 0.876 | 0.905 | 0.891 | 0.795 | 6 |
| Perfluorodecanesulfonate | 0.769 | 0.635 | 0.679 | 0.671 | 0.652 | 0.640 | 0.702 | 6 |
| Perfluoroundecanoic acid | 1.481 | 1.646 | 1.809 | 1.583 | 1.484 | 1.365 | 1.356 | 10 |
| NEtFOSAA | 1.067 | 1.074 | 1.050 | 1.154 | 1.033 | 1.019 | 1.030 | 4 |
| Perfluorododecanoic acid | 1.022 | 1.143 | 1.165 | 0.971 | 1.068 | 0.932 | | 8 |
| 10:2- | | 2.395 | 2.181 | 2.147 | 2.195 | 2.406 | | |
| fluorotelomersulfonate | | | | | | | | |
| NMePFOSAE | 1.567 | 1.672 | 1.511 | 1.451 | 1.385 | 1.388 | 1.316 | 8 |
| NMePFOSA | 0.870 | 1.305 | 1.046 | 0.954 | 0.990 | 1.012 | | 13 |
| Perfluorododecanesulfonate | 0.345 | 0.354 | 0.336 | 0.306 | 0.322 | 0.318 | 0.343 | 5 |
| NETPFOSAE | 1.630 | 1.685 | 1.441 | 1.371 | 1.349 | 1.296 | | 10 |
| NEtPFOSA | 1.501 | 1.425 | 1.462 | 1.285 | 1.317 | 1.242 | 1.300 | 7 |
| Perfluorotridecanoic acid | 1.001 | 1.054 | 1.123 | 0.945 | 1.032 | 0.865 | | 8 |
| Perfluorotetradecanoic acid | 1.042 | 1.000 | 1.045 | 0.936 | 1.004 | 0.912 | 0.835 | 7 |
| Perfluorohexadecanoic acid | 0.633 | 0.527 | 0.580 | 0.574 | 0.547 | 0.531 | 0.505 | 7 |
| Perfluorooctadecanoic acid | 0.522 | 0.503 | 0.512 | 0.507 | 0.538 | 0.490 | 0.483 | 3 |

⁻⁻⁻ Calibration point does not apply

^{* = %} RSD > 20

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FORM 07

Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY
Environmental I.C/MS/MS

SDG No.: FSB29

Instrument ID: 27631 Lab File ID: 18JUL27-05.WIFF
Date/Time Analyzed: 07/27/2018 12:36 Lab Sample ID: CCV1_ISC_CAL2

| Analytes | Specified | Calculated | 8 1 | Limit |
|----------------------------|-----------|------------|------------|-------|
| | Amount | Amount | Difference | |
| Perfluorobutanoic acid | 0.50 | | 10.67 | ±30 |
| Perfluoropentanoic acid | 0.50 | 0.55 | 10.00 | ±30 |
| Perfluorobutanesulfonate | 0.44 | 0.45 | 1.93 | ±30 |
| 4:2 fluorotelomersulfonate | 0.58 | 0.59 | 1.03 | ±30 |
| Perfluorohexanoic acid | 0.50 | 0.60 | 20.60 | ±30 |
| Perfluoropentanesulfonate | 0.47 | 0.49 | 3.95 | ±30 |
| Perfluorohexanesulfonate | 0.47 | 0.52 | 9.71 | ±30 |
| Perfluoroheptanoic acid | 0.50 | 0.57 | 14.55 | ±30 |
| 6:2 fluorotelomersulfonate | 1.30 | 1.39 | 6.78 | ±30 |
| Perfluoroheptanesulfonate | 0.48 | 0.51 | 6.85 | ±30 |
| Perfluorooctanoic acid | 0.50 | 0.57 | 14.87 | ±30 |
| Perfluoro-octanesulfonate | 0.48 | 0.52 | 7.96 | ±30 |
| Perfluorononanoic acid | 0.50 | 0.56 | 11.06 | ±30 |
| Perfluorononanesulfonate | 0.48 | 0.47 | -2.86 | ±30 |
| Perfluorodecanoic acid | 0.50 | 0.58 | 15.88 | ±30 |
| 8:2 fluorotelomersulfonate | 1.32 | 1.08 | -17.85 | ±30 |
| Perfluoròoctanesulfonamide | 0.50 | 0.51 | 2:17 | ±30 |
| NMeFOSAA | 0.50 | 0.58 | 16.98 | ±30 |
| Perfluorodecanesulfonate | 0.48 | 0.44 | -8.06 | ±30 |
| Perfluoroundecanoic acid | 0.50 | 0.57 | 13.79 | ±30 |
| NEtFOSAA | 0.50 | 0.59 | 17.43 | ±30 |
| Perfluorododecanoic acid | 0.50 | 0.53 | 5.84 | ±30 |
| 10:2- | 1.33 | 1.25 | -6.12 | ±30 |
| fluorotelomersulfonate | | | | |
| NMePFOSAE | 0.50 | 0.60 | 20.14 | ±30 |
| NMePFOSA | 0.50 | 0.56 | 11.78 | ±30 |
| Perfluorododecanesulfonate | 0.48 | 0.42 | -13.07 | ±30 |
| NETPFOSAE | 0.50 | 0.55 | 10.02 | ±30 |
| NETPFOSA | 0.50 | 0.51 | 2.56 | ±30 |
| Perfluorotridecanoic acid | 0.50 | 0.51 | 1.57 | ±30 |
| Perfluorotetradecanoic | 0.50 | 0.65 | 29.79 | ±30 |
| acid | | | - v - | |
| Perfluorohexadecanoic acid | | 0.56 | 12.90 | ±30 |
| Perfluorooctadecanoic acid | 0.50 | 0.56 | 12.88 | ±30 |

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FORM 07
Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY
Environmental I.C/MS/MS

LC/MS/MS

SDG No.: FSB29

Instrument ID: 27631

Instrument ID: 27631 Lab File ID: 18JUL27-17.WIFF Date/Time Analyzed: 07/27/2018 14:24 Lab Sample ID: CCV2_CAL3

| Analytes | Specified | Calculated | . / | Limit |
|-----------------------------|-----------|------------|------------|-------|
| I mary ceb | Amount | Amount | Difference | DIMIT |
| Perfluorobutanoic acid | 2.00 | 2.11 | 5.71 | ±30 |
| Perfluoropentanoic acid | 2.00 | 2.18 | 9.11 | ±30 |
| Perfluorobutanesulfonate | 1.77 | 1.77 | 0.03 | ±30 |
| 4:2 fluorotelomersulfonate | 1.98 | 2.14 | 8.09 | ±30 |
| Perfluorohexanoic acid | 2.00 | 2.31 | 15.50 | ±30 |
| Perfluoropentanesulfonate | 1.88 | 1.96 | 4.52 | ±30 |
| Perfluorohexanesulfonate | 1.89 | 1.99 | 5.25 | ±30 |
| Perfluoroheptanoic acid | 2.00 | 2.28 | 14.16 | ±30 |
| 6:2 fluorotelomersulfonate | 2.09 | 1.78 | -14.91 | ±30 |
| Perfluoroheptanesulfonate | 1.90 | 2.01 | 5.98 | ±30 |
| Perfluorooctanoic acid | 2.00 | 2.21 | 10.75 | ±30 |
| Perfluoro-octanesulfonate | 1.91 | 1.97 | 2.96 | ±30 |
| Perfluorononanoic acid | 2.00 | 2.42 | 21.23 | ±30 |
| Perfluorononanesulfonate | 1.92 | 2.00 | 3.92 | ±30 |
| Perfluorodecanoic acid | 2.00 | 2.10 | 4.79 | ±30 |
| 8:2 fluorotelomersulfonate | 2.11 | 2.05 | -3.05 | ±30 |
| Perfluorooctanesulfonamide | 2.00 | 2.10 | 4.80 | ±30 |
| NMeFOSAA | 2.00 | 2.22 | 11.08 | ±30 |
| Perfluorodecanesulfonate | 1.93 | 1.91 | -0.80 | ±30 |
| Perfluoroundecanoic acid | 2.00 | 2.31 | 15.26 | ±30 |
| NEtFOSAA | 2.00 | 2.04 | 2.19 | ±30 |
| Perfluorododecanoic acid | 2.00 | 2.08 | 3.94 | ±30 |
| 10:2- | 2.12 | 2.00 | -5.71 | ±30 |
| fluorotelomersulfonate | | | | |
| NMePFOSAE | 2.00 | | 11.71 | ±30 |
| NMePFOSA | 2.00 | 2.22 | 10.89 | ±30 |
| Perfluorododecanesulfonate | 1.94 | 2.07 | 6.64 | ±30 |
| NETPFOSAE | 2.00 | | 6.05 | ±30 |
| NETPFOSA | 2.00 | | 13.50 | ±30 |
| Perfluorotridecanoic acid | 2.00 | 2.15 | 7.73 | ±30 |
| Perfluorotetradecanoic acid | 2.00 | 2.40 | 19.78 | ±30 |
| Perfluorohexadecanoic acid | 2.00 | 2.23 | 11.27 | ±30 |
| Perfluorooctadecanoic acid | 2.00 | 2.22 | 11.06 | ±30 |

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FORM 07

CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB29

Instrument ID: 27631

Lab File ID: 18JUL27-28.WIFF

Date/Time Analyzed: 07/27/2018 16:03 Lab Sample ID: CCV3_CAL4

| Analytes | Specified Amount | Calculated Amount | % / | Limit |
|---------------------------------|---------------------|----------------------|-------|-------|
| Perfluorobutanoic acid | 8.00 | 8.59 | 7.40 | ±30 |
| Perfluoropentanoic acid | 8.00 | 8.44 | 5.45 | ±30 |
| Perfluorobutanesulfonate | 7.08 | 7.13 | 0.78 | ±30 |
| 4:2 fluorotelomersulfonate | 4.90 | 4.98 | 1.72 | ±30 |
| Perfluorohexanoic acid | 8.00 | 8.94 | 11.70 | ±30 |
| Perfluoropentanesulfonate | 7.50 | 7.83 | 4.37 | ±30 |
| Perfluorohexanesulfonate | 7.56 | 7.52 | -0.50 | ±30 |
| Perfluoroheptanoic acid | 8.00 | 8.71 | 8.86 | ±30 |
| 6:2 fluorotelomersulfonate | 5.21 | 5.31 | 1.99 | ±30 |
| Perfluoroheptanesulfonate | 7.61 | 7.81 | 2.66 | ±30 |
| Perfluorooctanoic acid | 8.00 | 8.90 | 11.27 | ±30 |
| Perfluoro-octanesulfonate | 7.65 | 7.69 | 0.57 | ±30 |
| Perfluorononanoic acid | 8.00 | 9.51 | 18.90 | ±30 |
| Perfluorononanesulfonate | 7.68 | 7.79 | 1.44 | ±30 |
| Perfluorodecanoic acid | 8.00 | 8.13 | 1.61 | ±30 |
| 8:2 fluorotelomersulfonate | 5.27 | 4.84 | -8.09 | ±30 |
| Perfluorooctanesulfonamide | 8.00 | 7.87 | -1.60 | ±30 |
| NMeFOSAA | 8.00 | 7.63 | -4.64 | ±30 |
| Perfluorodecanesulfonate | 7.70 | 7.95 | 3.25 | ±30 |
| Perfluoroundecanoic acid | 8.00 | 9.10 | 13.69 | ±30 |
| NEtFOSAA | 8.00 | 8.39 | 4.85 | ±30 |
| Perfluorododecanoic acid | 8.00 | 7.89 | -1.38 | ±30 |
| 10:2- fluorotelomersulfonate | 5.30 | 4.97 | -6.31 | ±30 |
| NMePFOSAE | 8.00 | 8.42 | 5.29 | ±30 |
| NMePFOSA | 8.00 | 7.76 | -2.98 | ±30 |
| Perfluorododecanesulfonate | 7.74 | 7.48 | -3.30 | ±30 |
| NETPFOSAE | 8.00 | 8.40 | 5.01 | ±30 |
| NETPFOSA | 8.00 | 8.35 | 4.41 | ±30 |
| Perfluorotridecanoic acid | 8.00 | 7.29 | -8.86 | ±30 |
| Perfluorotetradecanoic acid | 8.00 | 8.34 | 4.27 | ±30 |
| Perfluorohexadecanoic acid | 8.00 | 9.08 | 13.47 | ±30 |
| Perfluorooctadecanoic acid | 8.00 | 8.10 | 1.29 | ±30 |

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FORM 07
Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB29

Instrument ID: 27631 Lab File ID: 18JUL27-39.WIFF
Date/Time Analyzed: 07/27/2018 17:42 Lab Sample ID: CCV4_ISC_CAL2

| Analytes | Coordina | | / | |
|------------------------------|----------|----------------------|----------------------|-------|
| | Amount | Calculated Amount | % \square Difference | Limit |
| erfluorobutanoic acid | 0.50 | 0.57 | 13.42 | ±30 |
| erfluoropentanoic acid | 0.50 | 0.56 | 12.07 | ±30 |
| erfluorobutanesulfonate | 0.44 | 0.48 | | ±30 |
| :2 fluorotelomersulfonate | 0.58 | 0.65 | | ±30 |
| erfluorohexanoic acid | 0.50 | 0.57 | 14.53 | ±30 |
| erfluoropentanesulfonate | 0.47 | 0.55 | 16.77 | ±30 |
| erfluorohexanesulfonate | 0.47 | 0.51 | 7.96 | ±30 |
| erfluoroheptanoic acid | 0.50 | 0.62 | 23.18 | ±30 |
| :2 fluorotelomersulfonate | 1.30 | 1.31 | 0.79 | ±30 |
| erfluoroheptanesulfonate | 0.48 | 0.49 | 3.58 | ±30 |
| erfluorooctanoic acid | 0.50 | 0.57 | 13.50 | ±30 |
| erfluoro-octanesulfonate | 0.48 | 0.53 | 9.99 | ±30 |
| erfluorononanoic acid | 0.50 | 0.60 | 20.48 | ±30 |
| erfluorononanesulfonate | 0.48 | 0.50 | 3.36 | ±30 |
| erfluorodecanoic acid | 0.50 | 0.56 | 12.72 | ±30 |
| :2 fluorotelomersulfonate | 1.32 | 1.16 | -12.02 | ±30 |
| erfluorooctanesulfonamide | 0.50 | 0.53 | 6.55 | ±30 |
| MeFOSAA | 0.50 | 0.61 | 22.22 | ±30 |
| erfluorodecanesulfonate | 0.48 | 0.47 | -3.20 | ±30 |
| erfluoroundecanoic acid | 0.50 | 0.65 | 29.23 | ±30 |
| EtFOSAA | 0.50 | 0.46 | -8.70 | ±30 |
| erfluorododecanoic acid | 0.50 | 0.56 | 11.91 | ±30 |
| 0:2- | 1.33 | 1.10 | -17.08 | ±30 |
| luorotelomersulfonate | | | | - |
| MePFOSAE | 0.50 | 0.57 | 13.61 | ±30 |
| MePFOSA | 0.50 | 0.56 | 11.87 | ±30 |
| erfluorododecanesulfonate | 0.48 | 0.46 | -4.48 | ±30 |
| EtPFOSAE | 0.50 | 0.56 | 12.10 | ±30 |
| EtPFOSA | 0.50 | 0.49 | -2.72 | ±30 |
| erfluorotridecanoic acid | 0.50 | 0.54 | 8.26 | ±30 |
| erfluorotetradecanoic cid | 0.50 | 0.57 | 14.70 | ±30 |
| erfluorohexadecanoic acid | 0.50 | 0.60 | 20.50 | ±30. |
| erfluorooctadecanoic acid | 0.50 | 0.52 | 4.61 | ±30 |

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FORM 07

CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB29

Instrument ID: 27631

Lab File ID: 18JUL27-42.WIFF

Date/Time Analyzed: 07/27/2018 18:09 Lab Sample ID: CCV5_CAL3

| Analytes | _ | Calculated | 8 / | Limit |
|----------------------------|--------|------------|------------|-------|
| | Amount | Amount | Difference | |
| Perfluorobutanoic acid | 2.00 | 2.20 | | ±30 |
| Perfluoropentanoic acid | 2.00 | | 6.10 | ±30 |
| Perfluorobutanesulfonate | 1.77 | 1.94 | 9.69 | ±30 |
| 4:2 fluorotelomersulfonate | | | 4.23 | ±30 |
| Perfluorohexanoic acid | 2.00 | | 10.71 | ±30 |
| Perfluoropentanesulfonate | 1.88 | | | ±30 |
| Perfluorohexanesulfonate | 1.89 | | | ±30 |
| Perfluoroheptanoic acid | 2.00 | | 13.00 | ±30 |
| 6:2 fluorotelomersulfonate | 2.09 | 1.93 | -7.49 | ±30 |
| Perfluoroheptanesulfonate | 1.90 | 1.96 | 3.40 | ±30 |
| Perfluorooctanoic acid | 2.00 | 2.14 | 6.94 | ±30 |
| Perfluoro-octanesulfonate | 1.91 | 1.88 | -1.70 | ±30 |
| Perfluorononanoic acid | 2.00 | 2.42 | 21.06 | ±30 |
| Perfluorononanesulfonate | 1.92 | 1.92 | 0.25 | ±30 |
| Perfluorodecanoic acid | 2.00 | 2.20 | 9.99 | ±30 |
| 8:2 fluorotelomersulfonate | 2.11 | 2.21 | 4.61 | ±30 |
| Perfluorooctanesulfonamide | 2.00 | * 2.22 | 11.03 | ±30 |
| NMeFOSAA | 2.00 | 2.25 | 12.25 | ±30 |
| Perfluorodecanesulfonate | 1.93 | 1.70 | -11.77 | ±30 |
| Perfluoroundecanoic acid | 2.00 | 2.42 | 20.90 | ±30 |
| NETFOSAA | 2.00 | 2.14 | 6.86 | ±30 |
| Perfluorododecanoic acid | 2.00 | 2.12 | 5.75 | ±30 |
| 10:2- | 2.12 | 1.73 | -18.35 | ±30 |
| fluorotelomersulfonate | | | | |
| NMePFOSAE | 2.00 | 2.04 | 1.99 | ±30 |
| NMePFOSA | 2.00 | 2.00 | 0.20 | ±30 |
| Perfluorododecanesulfonate | 1.94 | 1.89 | -2.65 | ±30 |
| NETPFOSAE | 2.00 | 2.19 | 9.36 | ±30 |
| NEtPFOSA | 2.00 | 2.07 | 3.29 | ±30 |
| Perfluorotridecanoic acid | 2.00 | 2.12 | 6.02 | ±30 |
| Perfluorotetradecanoic | 2.00 | 2.44 | 21.83 | ±30 |
| acid | | | | |
| Perfluorohexadecanoic acid | | 2.31 | 15.48 | ±30 |
| Perfluorooctadecanoic acid | 2.00 | 2.19 | 9.31 | ±30 |

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FORM 07

CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB29

Instrument ID: 27631

Lab File ID: 18JUL27MCAL-20.WIFF

Date/Time Analyzed: 07/27/2018 11:42 Lab Sample ID: CCV1_CAL3

| Analytes | _ | Calculated | | Limit | |
|----------------------------|--------|------------|------------|-------|--|
| | Amount | Amount | Difference | | |
| Perfluorobutanoic acid | 2.00 | | 7.82 | ±30 | |
| Perfluoropentanoic acid | 2.00 | 2.13 | 6.70 | ±30 | |
| Perfluorobutanesulfonate | 1.77 | 1.79 | 1.28 | ±30 | |
| 4:2 fluorotelomersulfonate | 1.98 | 2.18 | 10.11 | ±30 | |
| Perfluorohexanoic acid | 2.00 | 2.28 | 14.06 | ±30 | |
| Perfluoropentanesulfonate | 1.88 | 2.03 | 8.08 | ±30 | |
| Perfluorohexanesulfonate | 1.89 | 1.93 | 1.88 | ±30 | |
| Perfluoroheptanoic acid | 2.00 | 2.26 | 12.81 | ±30 | |
| 6:2 fluorotelomersulfonate | 2.09 | 2.13 | 1.81 | ±30 | |
| Perfluoroheptanesulfonate | 1.90 | 1.93 | 1.53 | ±30 | |
| Perfluorooctanoic acid | 2.00 | 2.13 | 6.63 | ±30 | |
| Perfluoro-octanesulfonate | 1.91 | 1.97 | 3.20 | ±30 | |
| Perfluorononanoic acid | 2.00 | 2.30 | 14.91 | ±30 | |
| Perfluorononanesulfonate | 1.92 | 1.87 | -2.56 | ±30 | |
| Perfluorodecanoic acid | 2.00 | 2.20 | 9.76 | ±30 | |
| 8:2 fluorotelomersulfonate | 2.11 | 1.96 | -6.97 | ±30 | |
| Perfluorooctanesulfonamide | 2.00 | 2.08 | 4.08 | ±30 | |
| NMeFOSAA | 2.00 | 2.26 | 13.06 | ±30 | |
| Perfluorodecanesulfonate | 1.93 | 1.75 | -9.10 | ±30 | |
| Perfluoroundecanoic acid | 2.00 | 2.35 | 17.26 | ±30 | |
| NETFOSAA | 2.00 | 2.08 | 3.81 | ±30 | |
| Perfluorododecanoic acid | 2.00 | 2.13 | 6.52 | ±30 | |
| 10:2- | 2.12 | 1.74 | -17.75 | ±30 | |
| fluorotelomersulfonate | | | | | |
| NMePFOSAE | 2.00 | 2.28 | 13.76 | ±30 | |
| NMePFOSA | 2.00 | 1.97 | -1.53 | ±30 | |
| Perfluorododecanesulfonate | 1.94 | 1.89 | -2.39 | ±30 | |
| NETPFOSAE | 2.00 | 2.18 | 8.93 | ±30 | |
| NETPFOSA | 2.00 | 1.96 | -2.08 | ±30 | |
| Perfluorotridecanoic acid | 2.00 | 2.20 | 10.11 | ±30 | |
| Perfluorotetradecanoic | 2.00 | 2.26 | 13.20 | ±30 | |
| acid | | | | | |
| Perfluorohexadecanoic acid | 2.00 | 2.17 | 8.54 | ±30 | |
| Perfluorooctadecanoic acid | 2.00 | 2.16 | 7.81 | ±30 | |

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FORM 07

Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY
Environmental LC/MS/MS

SDG No.: FSB29

Instrument ID: 27631

Lab File ID: 18JUL30-25.WIFF

Date/Time Analyzed: 07/30/2018 17:01 Lab Sample ID: CCV1_ISC_CAL2

| Analytes | Specified | Calculated | · · | Limit |
|----------------------------------|-----------|------------|------------|-------|
| | Amount | Amount | Difference | |
| Perfluorobutanoic acid | 0.50 | 0.56 | 11.50 | ±30 |
| Perfluoropentanoic acid | 0.50 | 0.55 | 9.88 | ±30 |
| Perfluorobutanesulfonate | 0.44 | 0.48 | 8.47 | ±30 |
| 4:2 fluorotelomersulfonate | 0.58 | 0.56 | -3.71 | ±30 |
| Perfluorohexanoic acid | 0.50 | 0.59 | 17.45 | ±30 |
| Perfluoropentanesulfonate | 0.47 | 0.45 | -4.98 | ±30 |
| Perfluorohexanesulfonate | 0.47 | 0.48 | 1.94 | ±30 |
| Perfluoroheptanoic acid | 0.50 | 0.55 | 10.41 | ±30 |
| 6:2 fluorotelomersulfonate | 1.30 | 1.28 | -1.90 | ±30 |
| Perfluoroheptanesulfonate | 0.48 | 0.43 | -10.24 | ±30 |
| Perfluorooctanoic acid | 0.50 | 0.56 | 12.41 | ±30 |
| Perfluoro-octanesulfonate | 0.48 | 0.46 | -3.43 | ±30 |
| Perfluorononanoic acid | 0.50 | 0.58 | 15.73 | ±30 |
| Perfluorononanesulfonate | 0.48 | 0.44 | -9.24 | ±30 |
| Perfluorodecanoic acid | 0.50 | 0.56 | 12.92 | ±30 |
| 8:2 fluorotelomersulfonate | 1.32 | 1.13 | -13.99 | ±30 |
| Perfluorooctanesulfonamide | 0.50 | 0.54 | 8.70 | ±30 |
| NMeFOSAA | 0.50 | 0.55 | 10.71 | ±30 |
| Perfluorodecanesulfonate | 0.48 | 0.43 | -11.73 | ±30 |
| Perfluoroundecanoic acid | 0.50 | 0.54 | 8.98 | ±30 |
| NEtFOSAA | 0.50 | 0.53 | 5.83 | ±30 |
| Perfluorododecanoic acid | 0.50 | 0.49 | -1.01 | ±30 |
| 10:2- | 1.33 | 1.11 | -16.35 | ±30 |
| fluorotelomersulfonate | | | | |
| NMePFOSAE | 0.50 | 0.54 | 7.42 | ±30 |
| NMePFOSA | 0.50 | 0.52 | 3.59 | ±30 |
| Perfluorododecanesulfonate | 0.48 | 0.48 | -0.07 | ±30 |
| NEtPFOSAE | 0.50 | 0.53 | 5.22 | ±30 |
| NETPFOSA | 0.50 | 0.57 | 14.77 | ±30 |
| Perfluorotridecanoic acid | 0.50 | 0.65 | 29.32 | ±30 |
| Perfluorotetradecanoic acid | 0.50 | 0.61 | 22.20 | ±30 |
| Perfluorohexadecanoic acid | 0.50 | 0.60 | 20.08 | ±30 |
| Perfluorooctadecanoic acid | | | 7.09 | ±30 |
| profitation of the second sector | 0.30 | 0.54 | 1.09 | ±30 |

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Environmental

FORM 07

Lancaster Laboratories CALIBRATION VERIFICATION SUMMARY
Environmental LC/MS/MS

LC/MS/MS

SDG No.: FSB29

Instrument ID: 27631 Lab File ID: 18JUL30-37.WIFF
Date/Time Analyzed: 07/30/2018 18:49 Lab Sample ID: CCV2_CAL3

| Analytes Perfluorobutanoic acid Perfluoropentanoic acid Perfluorobutanesulfonate | Amount 2.00 2.00 1.77 | Calculated Amount 2.23 | Difference | Limit |
|---|-----------------------|------------------------------|------------|-------|
| Perfluoropentanoic acid | 2.00 | | 11 61 | |
| | | | TT • QT | ±30 |
| Perfluorobutanesulfonate | 1 77 | 2.23 | 11.68 | ±30 |
| . CITIAOIODACANEBATIONALE | 1 | 1.84 | 3.80 | ±30 |
| 4:2 fluorotelomersulfonate | 1.98 | 1.95 | -1.59 | ±30 |
| Perfluorohexanoic acid | 2.00 | 2.30 | 15.10 | ±30 |
| Perfluoropentanesulfonate | 1.88 | 2.05 | 9.11 | ±30 |
| Perfluorohexanesulfonate | 1.89 | 1.98 | 4.66 | ±30 |
| Perfluoroheptanoic acid | 2.00 | 2.33 | 16.50 | ±30 |
| 6:2 fluorotelomersulfonate | 2.09 | 2.06 | -1.44 | ±30 |
| Perfluoroheptanesulfonate | 1.90 | 2.00 | 5.19 | ±30 |
| Perfluorooctanoic acid | 2.00 | 2.17 | 8.38 | ±30 |
| Perfluoro-octanesulfonate | 1.91 | 2.05 | 7.30 | ±30 |
| Perfluorononanoic acid | 2.00 | 2.36 | 17.95 | ±30 |
| Perfluorononanesulfonate | 1.92 | 1.93 | 0.49 | ±30 |
| Perfluorodecanoic acid | 2.00 | 2.19 | 9.36 | ±30 |
| 3:2 fluorotelomersulfonate | 2.11 | 1.92 | -8.95 | ±30 |
| Perfluorooctanesulfonamide | 2.00 | 2.21 | 10.60 | ±30 |
| MeFOSAA | 2.00 | 2.21 | 10.32 | ±30 |
| Perfluorodecanesulfonate | 1.93 | 1.97 | 2.15 | ±30 |
| Perfluoroundecanoic acid | 2.00 | 2.58 | 28.91 | ±30 |
| NETFOSAA | 2.00 | 2.04 | 2.08 | ±30 |
| Perfluorododecanoic acid | 2.00 | 2.10 | 4.79 | ±30 |
| 10:2- | 2.12 | 2.02 | -4.87 | ±30 |
| fluorotelomersulfonate | | | , | |
| NMePFOSAE | 2.00 | 2.31 | 15.72 | ±30 |
| MePFOSA | 2.00 | 2.20 | 9.85 | ±30 |
| Perfluorododecanesulfonate | 1.94 | 2.02 | 4.30 | ±30 |
| NETPFOSAE | 2.00 | 2.26 | 12.88 | ±30 |
| NETPFOSA | 2.00 | 2.17 | 8.45 | ±30 |
| Perfluorotridecanoic acid | 2.00 | 2.09 | 4.31 | ±30 |
| Perfluorotetradecanoic | 2.00 | 2.33 | 16.58 | ±30 |
| Perfluorohexadecanoic acid | 2.00 | 2.24 | 11.77 | ±30 |
| Perfluorooctadecanoic acid | | 2.22 | 11.24 | ±30 |

eurofins :

Lancaster Laboratories Environmental

FORM 07 CALIBRATION VERIFICATION SUMMARY

LC/MS/MS

SDG No.: FSB29

Instrument ID: 27631

Lab File ID: 18JUL30-45.WIFF

Date/Time Analyzed: 07/30/2018 20:01 Lab Sample ID: CCV3_CAL4

| Analytes | Specified Amount | Calculated Amount | Difference | Limit |
|-----------------------------|---------------------|----------------------|------------|-------|
| Perfluorobutanoic acid | 8.00 | 8.60 | 7.44 | ±30 |
| Perfluoropentanoic acid | 8.00 | 8.51 | 6.34 | ±30 |
| Perfluorobutanesulfonate | 7.08 | 7.07 | -0.08 | ±30 |
| 4:2 fluorotelomersulfonate | 4.90 | 5.13 | 4.69 | ±30 |
| Perfluorohexanoic acid | 8.00 | 8.97 | 12.10 | ±30 |
| Perfluoropentanesulfonate | 7.50 | 7.99 | 6.57 | ±30 |
| Perfluorohexanesulfonate | 7.56 | 7.99 | 5.71 | ±30 |
| Perfluoroheptanoic acid | 8.00 | 8.50 | 6.21 | ±30 |
| 6:2 fluorotelomersulfonate | 5.21 | 5.03 | -3.41 | ±30 |
| Perfluoroheptanesulfonate | 7.61 | 7.59 | | ±30 |
| Perfluorooctanoic acid | 8.00 | 8.50 | 6.30 | ±30 |
| Perfluoro-octanesulfonate | 7.65 | 7.73 | 1.00 | ±30 |
| Perfluorononanoic acid | 8.00 | 9.18 | 14.76 | ±30 |
| Perfluorononanesulfonate | 7.68 | 7.67 | -0.15 | ±30 |
| Perfluorodecanoic acid | 8.00 | 9.19 | 14.87 | ±30 |
| 8:2 fluorotelomersulfonate | 5.27 | 4.98 | -5.46 | ±30 |
| Perfluorooctanesulfonamide | 8.00 | 7.52 | -6.02 | ±30 |
| NMeFOSAA | 8.00 | 8.00 | -0.05 | ±30 |
| Perfluorodecanesulfonate | 7.70 | 7.39 | -3.99 | ±30 |
| Perfluoroundecanoic acid | 8.00 | 9.56 | 19.47 | ±30 |
| NETFOSAA | 8.00 | 7.74 | -3.23 | ±30 |
| Perfluorododecanoic acid | 8.00 | 9.31 | 16.44 | ±30 |
| 10:2- | 5.30 | 4.86 | -8.35 | ±30 |
| fluorotelomersulfonate | | | | |
| NMePFOSAE | 8.00 | 8.16 | 1.99 | ±30 |
| NMePFOSA | 8.00 | 7.79 | -2.62 | ±30 |
| Perfluorododecanesulfonate | 7.74 | 7.94 | 2.59 | ±30 |
| NETPFOSAE | 8.00 | 8.31 | 3.91 | ±30 |
| NETPFOSA | 8.00 | 7.78 | -2.72 | ±30 |
| Perfluorotridecanoic acid | 8.00 | 8.84 | 10.50 | ±30 |
| Perfluorotetradecanoic acid | 8.00 | 9.02 | 12.80 | ±30 |
| Perfluorohexadecanoic acid | 8.00 | 8.69 | 8.63 | ±30 |
| Perfluorooctadecanoic acid | 8.00 | 8.68 | 8.49 | ±30 |



FORM 08A DOD INTERNAL STANDARDS LC/MS/MS

SDG No.: FSB29 Matrix: WATER

| Batch: 18206014 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|---------------------|----------------|-----------|-----------|-----------|-----------|
| File Name:18JUL | 27MCAL-12.WIFF | Area | Area | Area | Area |
| CAL3 Area/ CCV Area | | 482694 | 606232 | 11739 | 227739 |
| | LOWER LIMIT | 241347 | 303116 | 5870 | 113870 |
| | UPPER LIMIT | 724041 | 909348 | 17609 | 341609 |
| LAB SAMPLE ID | DATE ANALYZED | / | | | |
| BLK206014 | 07/27/18 12:54 | 577383 | 769914 | 10309 | 310685 |
| LCS206014 | 07/27/18 13:03 | 648693 | 823053 | 10607 | 331969 |
| 9714891 | 07/27/18 13:12 | 561940 | 790506 | 8463 | 214857 |
| 9714895 | 07/27/18 13:30 | 612315 | 804208 | 10954 | 308309 |
| 9714896 | 07/27/18 13:39 | 597986 | 838968 | 8857 | 274324 |
| 9714898 | 07/27/18 13:48 | 648077 | 881182 | 8101 | 290763 |
| 9714899 | 07/27/18 13:57 | 623640 | 834723 | 8777 | 271640 |
| 9714900 | 07/27/18 14:06 | 627807 | 808528 | 8521 | 315618 |
| 9714892MS | 07/27/18 15:54 | 632373 | 801487 | 7968 | 214374 |
| 9714893MSD | 07/27/18 16:12 | 618706 | 806609 | 8260 | 219686 |
| 9714891DL | 07/30/18 17:55 | 555570 | 700483 | 14235 | 276789 |
| 9714894 | 07/30/18 18:13 | 622842 | 903547 | 8683 | 255341 |
| 9714894DL | 07/30/18 18:31 | 588457 | 770673 | 13695 | 296158 |
| 9714896DL | 07/30/18 18:40 | 580500 | 738189 | 12988 | 276620 |
| 9714898DL | 07/30/18 18:58 | 553032 | 709231 | 12950 | 310960 |
| 9714899DL | 07/30/18 19:07 | 557559 | 710717 | 13319 | 281980 |

AREA: Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

^{*} Outside QC Limits



FORM 08A DOD INTERNAL STANDARDS LC/MS/MS

SDG No.: FSB30 Matrix: WATER

| Batch: 18206014 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|-----------------|------------------|-----------|-----------|-----------|-----------|
| File Name:18JUI | 27MCAL-12.WIFF | Area | Area | Area | Area |
| CAI | 3 Area/ CCV Area | 482694 | 606232 | 11739 | 227739 |
| | LOWER LIMIT | 241347 | 303116 | 5870 | 11387,0 |
| | UPPER LIMIT | 724041 | 909348 | 17609 | 3416/09 |
| LAB SAMPLE ID | DATE ANALYZED | 1 | | | |
| BLK206014 | 07/27/18 12:54 | 577383 | 769914 | 10309 | 310685 |
| LCS206014 | 07/27/18 13:03 | 648693 | 823053 | 10607 | 331969 |
| 9715813 | 07/27/18 14:15 | 644625 | 863627 | 8620 | 323652 |
| 9715814 | 07/27/18 14:33 | 625734 | 834455 | 10353 | 323986 |
| 9715817 | 07/27/18 14:51 | 651455 | 846199 | 9146 | 319340 |
| 9715818 | 07/27/18 15:00 | 670852 | 808836 | 8518 | 322261 |
| 9715820 | 07/27/18 15:09 | 638569 | 855693 | 10951 | 327236 |
| 9715823 | 07/27/18 15:18 | 645336 | 829478 | 9166 | 336530 |
| 9715824 | 07/27/18 15:27 | 560215 | 445488 | 6814 | 184094 |
| 9715826 | 07/27/18 15:36 | 643919 | 846477 | 10443 | 329367 |
| 9715827 | 07/27/18 15:45 | 673251 | 912297 * | 8344 | 333860 |
| 9715815 | 07/30/18 19:25 | 621389 | 842589 | 5892 | 297146 |
| 9715818DL | 07/30/18 19:34 | 582267 | 767015 | 12678 | 313609 |
| 9715824DL | 07/30/18 19:52 | 593651 | 730449 | 13193 | 293263 |

AREA:

Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

* Outside QC Limits

Modela



FORM 08A DOD INTERNAL STANDARDS LC/MS/MS

SDG No.: FSB29 Matrix: WATER

| Batch: 18207006 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|-------------------------------|------------------|-----------|-----------|-----------|-----------|
| File Name:18JUL27MCAL-12.WIFF | | Area | Area | Area | Area |
| CAL | 3 Area/ CCV Area | 482694 | 606232 | 11739 | 227739 |
| | LOWER LIMIT | 241347 | 303116 | 5870 | 113870 |
| | UPPER LIMIT | 724041 | 909348 | 17609/ | 341608 |
| LAB SAMPLE ID | DATE ANALYZED | | | | |
| BLK207006 | 07/27/18 16:30 | 486135 | 657649 | 10802 | 269336 |
| LCS207006 | 07/27/18 16:39 | 523425 | 684329 | 10757 | 268753 |
| LCSDA | 07/27/18 16:48 | 526468 | 667434 | 10303 | 269546 |
| 9714897 | 07/27/18 16:57 | 506416 | 653553 | 8627 | 265047 |
| 9714897MS | 07/27/18 18:00 | 497000 | 681627 | 9611 | 269782 |

Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area. AREA:

^{*} Outside QC Limits



FORM 08A DOD INTERNAL STANDARDS LC/MS/MS

SDG No.: FSB30
Matrix: WATER

| Batch: 18207006 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS | |
|---------------------|-------------------------------|-----------|-----------|-----------|-----------|--|
| File Name:18JUL2 | File Name:18JUL27MCAL-12.WIFF | | Area | Area | Area | |
| CAL3 Area/ CCV Area | | 482694 | 606232 | 11739 | 227739 | |
| | LOWER LIMIT | 241347 | 303116 | 5870 | 113870 | |
| | UPPER LIMIT | 724041 | 909348 | / 17609 / | 341609 | |
| LAB SAMPLE ID | DATE ANALYZED | | | | | |
| BLK207006 | 07/27/18 16:30 | 486135 | 657649 | 10802 | 269336 | |
| LCS207006 | 07/27/18 16:39 | 523425 | 684329 | 10757 | 268753 | |
| LCSDA | 07/27/18 16:48 | 526468 | 667434 | 10303 | 269546 | |
| 9715816 | 07/27/18 17:06 | 500566 | 648189 | 9571 | 269401 | |
| 9715819 | 07/27/18 17:15 | 512779 | 631506 | 9191 | 266068 | |
| 9715821 | 07/27/18 17:24 | 537620 | 685577 | 8609 | 271107 | |
| 9715822 | 07/27/18 17:33 | 532268 | 669896 | 9615 | 269605 | |
| 9715825 | 07/27/18 17:51 | 520102 | 667911 | 10601 | 270764 | |

AREA: Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

^{*} Outside QC Limits



FORM 08A DOD INTERNAL STANDARDS LC/MS/MS

SDG No.: FSB29
Matrix: WATER

| Batch: 18206014 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|-----------------|------------------|-----------|-----------|-----------|-----------|
| File Name:18JUL | 30-25.WIFF | Area | Area | Area | Area |
| CAL | 3 Area/ CCV Area | 490570 | 626836 | 11808 | 253200 |
| | LOWER LIMIT | 245285 | 313418 | 5904 | 126600 |
| | UPPER LIMIT | 735855 | 940254/ | 17712/ | 379800 / |
| LAB SAMPLE ID | DATE ANALYZED | | | | |
| BLK206014 | 07/27/18 12:54 | 577383 | 769914 | 10309 | 310685 |
| LCS206014 | 07/27/18 13:03 | 648693 | 823053 | 10607 | 331969 |
| 9714891 | 07/27/18 13:12 | 561940 | 790506 | 8463 | 214857 |
| 9714895 | 07/27/18 13:30 | 612315 | 804208 | 10954 | 308309 |
| 9714896 | 07/27/18 13:39 | 597986 | 838968 | 8857 | 274324 |
| 9714898 | 07/27/18 13:48 | 648077 | 881182 | 8101 | 290763 |
| 9714899 | 07/27/18 13:57 | 623640 | 834723 | 8777 | 271640 |
| 9714900 | 07/27/18 14:06 | 627807 | 808528 | 8521 | 315618 |
| 9714892MS | 07/27/18 15:54 | 632373 | 801487 | 7968 | 214374 |
| 9714893MSD | 07/27/18 16:12 | 618706 | 806609 | 8260 | 219686 |
| 9714891DL | 07/30/18 17:55 | 555570 | 700483 | 14235 | 276789 |
| 9714894 | 07/30/18 18:13 | 622842 | 903547 | 8683 | 255341 |
| 9714894DL | 07/30/18 18:31 | 588457 | 770673 | 13695 | 296158 |
| 9714896DL | 07/30/18 18:40 | 580500 | 738189 | 12988 | 276620 |
| 9714898DL | 07/30/18 18:58 | 553032 | 709231 | 12950 | 310960 |
| 9714899DL · | 07/30/18 19:07 | 557559 | 710717 | • 13319 | 281980 |

AREA: Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

^{*} Outside QC Limits



FORM 08A DOD INTERNAL STANDARDS LC/MS/MS

SDG No.: FSB30 Matrix: WATER

| Batch: 18206014 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|------------------|----------------|-----------|-----------|-----------|-----------|
| File Name:18JUL3 | 0-25.WIFF | Area | Area | Area | Area |
| CAL3 | Area/ CCV Area | 490570 | 626836 | 11808 | 253200 |
| | LOWER LIMIT | 245285 | 313418 | 5904 | 126600 |
| | UPPER LIMIT | 735855 | 940254/ | 17712 | 379800 |
| LAB SAMPLE ID | DATE ANALYZED | | / | | / |
| BLK206014 | 07/27/18 12:54 | 577383 | 7.69914 | 10309 | 310685 |
| LCS206014 | 07/27/18 13:03 | 648693 | 823053 | 10607 | 331969 |
| 9715813 | 07/27/18 14:15 | 644625 | 863627 | 8620 | 323652 |
| 9715814 | 07/27/18 14:33 | 625734 | 834455 | 10353 | 323986 |
| 9715817 | 07/27/18 14:51 | 651455 | 846199 | 9146 | 319340 |
| 9715818 | 07/27/18 15:00 | 670852 | 808836 | 8518 | 322261 |
| 9715820 | 07/27/18 15:09 | 638569 | 855693 | 10951 | 327236 |
| 9715823 | 07/27/18 15:18 | 645336 | 829478 | 9166 | 336530 |
| 9715824 | 07/27/18 15:27 | 560215 | 445488 | 6814 | 184094 |
| 9715826 | 07/27/18 15:36 | 643919 | 846477 | 10443 | 329367 |
| 9715827 | 07/27/18 15:45 | 673251 | 912297 | 8344 | 333860 |
| 9715815 | 07/30/18 19:25 | 621389 | 842589 | 5892 | 297146 |
| 9715818DL | 07/30/18 19:34 | 582267 | 767015 | 12678 | 313609 |
| 9715824DL | 07/30/18 19:52 | 593651 | 730449 | 13193 | 293263 |

AREA:

Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

* Outside QC Limits

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FORM 08A DOD INTERNAL STANDARDS LC/MS/MS

SDG No.: FSB29 Matrix: WATER

| Batch: 18207006 | 06 13C2-PFDA 13C2-PFOA 13C3-PFBA 13C | | | 13C4-PFOS |
|-----------------------------|--------------------------------------|----------|-------|-----------|
| File Name:18JUL30-25.WIFF | Area | Area | Area | Area |
| CAL3 Area/ CCV Area | 490570 | / 626836 | 11808 | 253200 |
| LOWER LIMIT | 245285 | 313418 | 5904 | / 126600 |
| UPPER LIMIT | 735855 | 940254 / | 17712 | 379800 |
| LAB SAMPLE ID DATE ANALYZED | | | | • |
| BLK207006 07/27/18 16:30 | 486135 | 657649 | 10802 | 269336 |
| LCS207006 07/27/18 16:39 | 523425 | 684329 | 10757 | 268753 |
| LCSDA 07/27/18 16:48 | 526468 | 667434 | 10303 | 269546 |
| 9714897 07/27/18 16:57 | 506416 | 653553 | 8627 | 265047 |
| 9714897MS 07/27/18 18:00 | 497000 | 681627 | 9611 | 269782 |

AREA: Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

^{*} Outside QC Limits



FORM 08A DOD INTERNAL STANDARDS LC/MS/MS

SDG No.: FSB30
Matrix: WATER

| Batch: 18207006 | | 13C2-PFDA | 13C2-PFOA | 13C3-PFBA | 13C4-PFOS |
|------------------|------------------|-----------|-----------|-----------|-----------|
| File Name:18JUL3 | 30-25.WIFF | Area | Area | Area | Area |
| CAL: | 3 Area/ CCV Area | 490570 | 626836 | 11808 | 253200 |
| | LOWER LIMIT | 245285 | 313418 | 5904 | 126600 |
| | UPPER LIMIT | 735855 | 940254 / | 17712 / | 379800/ |
| LAB SAMPLE ID | DATE ANALYZED | (| | , | |
| DAB SAMPLE ID | DATE ANALIZED | | | | |
| BLK207006 | 07/27/18 16:30 | 486135 | 657649 | 10802 | 269336 |
| LCS207006 | 07/27/18 16:39 | 523425 | 684329 | 10757 | 268753 |
| LCSDA | 07/27/18 16:48 | 526468 | 667434 | 10303 | 269546 |
| 9715816 | 07/27/18 17:06 | 500566 | 648189 | 9571 | 269401 |
| 9715819 | 07/27/18 17:15 | 512779 | 631506 | 9191 | 266068 |
| 9715821 | 07/27/18 17:24 | 537620 | 685577 | 8609 | 271107 |
| 9715822 | 07/27/18 17:33 | 532268 | 669896 | 9615 | 269605 |
| 9715825 | 07/27/18 17:51 | 520102 | 667911 | 10601 | 270764 |

AREA: Upper limit: 150% of the internal standard area. Lower Limit: 50% of the internal standard area.

^{*} Outside QC Limits



Quality Control Reference List PFAS Group

CLIENT: AECOM SDG: FSA88

Fraction: PFAS by LC/MS/MS

Analysis

PFAS in Water by LC/MS/MS-DoD

Batch Number

18107005

Sample Number BLK107005B LCS107005Q

LCSDAY 9555124

Analysis Date

04/19/2018 01:01:00 04/19/2018 00:17:00 04/19/2018 00:32:00 04/23/2018 09:17:00



FORM 02A SURROGATES LC/MS/MS

SDG No.: FSA88
Matrix: WATER

| 18107005 | | 13C3-PFBS | 13C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
|---------------|----------------|------------|------------|------------|------------|------------|
| 18107005 | Limits | 50-150 | 50-150 | 50-150 | 50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery |
| LCS107005 | 04/19/18 00:17 | 76 | 74 | 78 | 79 | 82 |
| LCSDA | 04/19/18 00:32 | 72 | 79 | 80 | 84 | 81 |
| BLK107005 | 04/19/18 01:01 | 7.1 | 71 | 76 | 76 | 82 |

^{*} Outside QC Limits



FORM 02A SURROGATES LC/MS/MS

SDG No.: FSA88
Matrix: WATER

| 18107005 | | 13C9-PFNA |
|-----------|-----------------|------------|
| 18107003 | Limits | 50-150 |
| | DATE/TIME | % Recovery |
| LCS107005 | 04/19/18 00:17 | 84 |
| LCSDA | 04/19/18 00:32 | 80 |
| BLK107005 | 04/19/18-01:01- | 81 |

^{*} Outside QC Limits









ANALYSIS REPORT

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 AECOM Suite 150 12420 Milestone Center Drive Germantown MD 20876

Report Date: July 31, 2018 16:51

Project: Schenectady ANGB

Account #: 42343 Group Number: 1968367 SDG: FSB30 PO Number: 60520893 State of Sample Origin: NY

Electronic Copy To AECOM Electronic Copy To AECOM Electronic Copy To AECOM Attn: Mike Myers Attn: Naoum Tavantzis Attn: John Santacroce

Respectfully Submitted,

Kay Mour Kay Hower

(717) 556-7364

To view our laboratory's current scopes of accreditation please go to http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/. Historical copies may be requested through your project manager.









SAMPLE INFORMATION

| Client Sample Description | Sample Collection | ELLE# |
|---|-------------------|---------|
| CO ARR MINOR OZOGRO Cook Cook distriction | Date/Time | 0745040 |
| SC-APR-MW01 072018 Grab Groundwater | 07/20/2018 08:30 | 9715813 |
| Field Blank 2 072018 Grab Water | 07/20/2018 08:45 | 9715814 |
| SC-APR-MW03 072018 Grab Groundwater | 07/20/2018 09:38 | 9715815 |
| SC-OF5-SD01 072018 Grab Soil | 07/20/2018 09:56 | 9715816 |
| SC-OF5-SW01 072018 Grab Groundwater | 07/20/2018 09:55 | 9715817 |
| SC-OF3-SW01 072018 Grab Groundwater | 07/20/2018 10:00 | 9715818 |
| SC-OF3-SD01 072018 Grab Soil | 07/20/2018 10:02 | 9715819 |
| SC-OF4-SW01 072018 Grab Groundwater | 07/20/2018 10:15 | 9715820 |
| SC-OF4-SD01 072018 Grab Soil | 07/20/2018 10:20 | 9715821 |
| SC-OF2-SD01 072018 Grab Soil | 07/20/2018 10:45 | 9715822 |
| SC-B35-MW01 072018 Grab Groundwater | 07/20/2018 10:55 | 9715823 |
| SC-B02-MW01 072018 Grab Groundwater | 07/20/2018 11:20 | 9715824 |
| SC-OF1-SD01 072018 Grab Soil | 07/20/2018 12:05 | 9715825 |
| EQ Blank Grab Water | 07/20/2018 11:35 | 9715826 |
| DUP 02 Grab Groundwater | NA | 9715827 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.





Project Name: Schenectady ANGB

ELLE Group #: 1968367

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9715815

The following analytes were manually integrated due to incorrect integrations: Perfluorobutanesulfonate, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9715814, 9715816

The following analytes were manually integrated due to incorrect integrations: Perfluoro-octanesulfonate

Sample #s: 9715813, 9715818, 9715820, 9715822, 9715827

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluoroheptanoic

Sample #s: 9715819, 9715825

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9715817, 9715821, 9715823, 9715824

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluoronanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate





SM 2540 G-1997 %Moisture Calc, Wet Chemistry

Batch #: 18205820006B (Sample number(s): 9715816, 9715819, 9715821-9715822, 9715825 BKG: 9715819)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture



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Sample Description: SC-APR-MW01 072018 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00 Collection Date/Time: 07/20/2018 08:30

SDG#: FSB30-01

| • | |
|---|--|
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| | |

ELLE Sample #: WW 9715813 ELLE Group #: 1968367

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS | MS Miscellaneous EPA 537 r/ table B-15 | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 3.3 J | 0.50 | 1.8 | 3.3 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 5.1 | 0.67 | 2.0 | 3.3 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 13 | 0.67 | 1.8 | 3.3 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.67 | 2.0 | 3.3 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 23 | 0.83 | 2.0 | 3.3 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 7.7 | 0.83 | 2.0 | 3.3 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 14:15 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: Field Blank 2 072018 Grab Water

Schenectady ANGB

Project Name: Schenectady ANGB

 Submittal Date/Time:
 07/21/2018 10:00

 Collection Date/Time:
 07/20/2018 08:45

 SDG#:
 FSB30-02FB

AECOM

ELLE Sample #: WW 9715814 ELLE Group #: 1968367

Matrix: Water

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS | /MS Miscellaneous EPA 537 r table B-15 | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.26 | 0.94 | 1.7 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.34 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.34 | 0.94 | 1.7 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.34 | 1.0 | 1.7 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.43 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.43 | 1.0 | 1.7 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 14:33 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-APR-MW03 072018 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00 Collection Date/Time: 07/20/2018 09:38

SDG#: FSB30-03

AECOM

ELLE Sample #: WW 9715815 ELLE Group #: 1968367

Matrix: Groundwater

| CAT No. | Analysis Name /MS Miscellaneous EPA 537 m | CAS Number | Result | Detection Limit* ng/l | Limit of Detection ng/I | Limit of Quantitation ng/I | DF |
|------------|--|------------|--------|-----------------------------|-------------------------------|----------------------------------|----|
| | table B-15 | | | | | | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 14 | 0.28 | 1.0 | 1.9 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 49 | 0.38 | 1.1 | 1.9 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 250 | 0.38 | 1.0 | 1.9 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 13 | 0.38 | 1.1 | 1.9 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 74 | 0.47 | 1.1 | 1.9 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 95 | 0.47 | 1.1 | 1.9 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|-------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 19:25 | Joshua P Trost | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-OF5-SD01 072018 Grab Soil

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00 Collection Date/Time: 07/20/2018 09:56

SDG#: FSB30-04

| A | E | C | U | IVI | |
|---|---|---|---|-----|--|
| | | | | | |

ELLE Sample #: SW 9715816 ELLE Group #: 1968367

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.23 | 0.70 | 0.94 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.23 | 0.80 | 0.94 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.23 | 0.75 | 0.94 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.23 | 0.80 | 0.94 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.46 J | 0.23 | 0.76 | 0.94 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.23 | 0.80 | 0.94 | 1 |
| Wet Ch | Wet Chemistry SM 2540 G-1997 %Moisture Calc | | % | % | % | % | |
| 00111 | Moisture | n.a. | 19.5 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

State of New York Certification No. 10670

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 17:06 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18205820006B | 07/24/2018 22:18 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-OF5-SW01 072018 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00 Collection Date/Time: 07/20/2018 09:55

SDG#: FSB30-05

| | | O | RЛ |
|---|---|-----------|-----|
| A | ヒ | \cdot U | IVI |

ELLE Sample #: WW 9715817 ELLE Group #: 1968367

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|-------------------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS | MS Miscellaneous EPA 53/ table B | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 9.9 | 0.26 | 0.97 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 15 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 72 | 0.35 | 0.97 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 2.6 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 63 | 0.44 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 13 | 0.44 | 1.1 | 1.8 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 14:51 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-OF3-SW01 072018 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00 Collection Date/Time: 07/20/2018 10:00

SDG#: FSB30-06

AECOM

ELLE Sample #: WW 9715818 ELLE Group #: 1968367

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---|------------|--------|---------------------|--------------------|--------------------------|----|
| LC/MS | MS Miscellaneous EPA 537 n/ table B-15 | ng/l | ng/l | ng/l | ng/l | | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 39 | 0.27 | 0.98 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 40 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 280 | 0.36 | 0.98 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 4.9 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 340 | 4.5 | 11 | 18 | 10 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 40 | 0.45 | 1.1 | 1.8 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:00 | Marissa C Drexinger | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 19:34 | Joshua P Trost | 10 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-OF3-SD01 072018 Grab Soil

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00 Collection Date/Time: 07/20/2018 10:02

SDG#: FSB30-07

AECOM

ELLE Sample #: SW 9715819 ELLE Group #: 1968367

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.60 | 1.8 | 2.4 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.60 | 2.0 | 2.4 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.85 J | 0.60 | 1.9 | 2.4 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.60 | 2.0 | 2.4 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 8.3 | 0.60 | 1.9 | 2.4 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.60 | 2.0 | 2.4 | 1 |
| Wet Ch | | 40 G-1997 ture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 66.5 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

State of New York Certification No. 10670

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 17:15 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18205820006B | 07/24/2018 22:18 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-OF4-SW01 072018 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00 Collection Date/Time: 07/20/2018 10:15

SDG#: FSB30-08

| FCO | IVI | | |
|-----|--------|----|-----|
| IIE | Sample | #. | VA. |

ELLE Sample #: WW 9715820 **ELLE Group #:** 1968367

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|---|---------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 18 | 0.26 | 0.96 | 1.7 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 9.3 | 0.35 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 130 | 0.35 | 0.96 | 1.7 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 1.7 J | 0.35 | 1.0 | 1.7 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 190 | 0.44 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 10 | 0.44 | 1.0 | 1.7 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:09 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-OF4-SD01 072018 Grab Soil

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00 Collection Date/Time: 07/20/2018 10:20

SDG#: FSB30-09

AECOM

ELLE Sample #: SW 9715821 ELLE Group #: 1968367

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|-------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.24 | 0.73 | 0.97 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.42 J | 0.24 | 0.83 | 0.97 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.59 J | 0.24 | 0.78 | 0.97 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.53 J | 0.24 | 0.83 | 0.97 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 5.2 | 0.24 | 0.79 | 0.97 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.95 J | 0.24 | 0.83 | 0.97 | 1 |
| Wet Ch | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 20.3 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

State of New York Certification No. 10670

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 17:24 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18205820006B | 07/24/2018 22:18 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-OF2-SD01 072018 Grab Soil

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00 Collection Date/Time: 07/20/2018 10:45

SDG#: FSB30-10

| A | EC | C | IVI | |
|---|----|---|-----|--|
| | | | | |

ELLE Sample #: SW 9715822 ELLE Group #: 1968367

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|--------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 5 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.24 | 0.73 | 0.98 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.38 J | 0.24 | 0.83 | 0.98 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.36 J | 0.24 | 0.78 | 0.98 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.30 J | 0.24 | 0.83 | 0.98 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 5.7 | 0.24 | 0.79 | 0.98 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.53 J | 0.24 | 0.83 | 0.98 | 1 |
| Vet Ch | | 540 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 21.9 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in w 103 - 105 degrees Celsius. The r as-received basis. | | | | | | |

Sample Comments

State of New York Certification No. 10670

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 17:33 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18205820006B | 07/24/2018 22:18 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B35-MW01 072018 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00 Collection Date/Time: 07/20/2018 10:55

SDG#: FSB30-11

AECOM

ELLE Sample #: WW 9715823 ELLE Group #: 1968367

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS/ | /MS Miscellaneous EPA 537 r table B-15 | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 34 | 0.26 | 0.94 | 1.7 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 15 | 0.34 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 69 | 0.34 | 0.94 | 1.7 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 1.6 J | 0.34 | 1.0 | 1.7 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 32 | 0.43 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 12 | 0.43 | 1.0 | 1.7 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:18 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B02-MW01 072018 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00 Collection Date/Time: 07/20/2018 11:20

SDG#: FSB30-12

AECOM

ELLE Sample #: WW 9715824 ELLE Group #: 1968367

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---|------------|--------|---------------------|-----------------------|--------------------------|-----|
| LC/MS | /MS Miscellaneous EPA 537 r table B-15 | ng/l | ng/l | ng/l | ng/l | | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 160 | 0.27 | 0.99 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 300 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 2,100 | 36 | 99 | 180 | 100 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 9.6 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 5,300 | 45 | 110 | 180 | 100 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 310 | 45 | 110 | 180 | 100 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:27 | Marissa C Drexinger | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 19:52 | Joshua P Trost | 100 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



SW 9715825

1968367

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description: SC-OF1-SD01 072018 Grab Soil

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00
Collection Date/Time: 07/20/2018 12:05

SDG#: FSB30-13

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|------------------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA table | 537 mod QSM 5.1 B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.24 | 0.73 | 0.97 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.24 | 0.82 | 0.97 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.86 J | 0.24 | 0.78 | 0.97 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.24 | 0.82 | 0.97 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 12 | 0.24 | 0.79 | 0.97 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.24 | 0.82 | 0.97 | 1 |
| Wet C | | 540 G-1997 isture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in v | n.a. weight of the sample after | , , | 0.50 | 0.50 | 0.50 | 1 |

Moisture represents the loss in weight of the sample after oven drying a 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

State of New York Certification No. 10670

| | Laboratory Sample Analysis Record | | | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 17:51 | Joshua P Trost | 1 | | | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 | | | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18205820006B | 07/24/2018 22:18 | Scott W Freisher | 1 | | | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: EQ Blank Grab Water

Schenectady ANGB

Project Name: Schenectady ANGB

 Submittal Date/Time:
 07/21/2018 10:00

 Collection Date/Time:
 07/20/2018 11:35

 SDG#:
 FSB30-14EB

AECOM

ELLE Sample #: WW 9715826 ELLE Group #: 1968367

Matrix: Water

| CAT No. LC/MS/ | Analysis Name /MS Miscellaneous EPA 537 m | CAS Number | Result | Detection Limit* ng/I | Limit of Detection ng/I | Limit of Quantitation ng/I | DF |
|----------------------|--|------------|--------|-----------------------------|-------------------------------|----------------------------------|----|
| | table B-15 | | | | | | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.27 | 0.98 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.36 | 0.98 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.45 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.45 | 1.1 | 1.8 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:36 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: DUP 02 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/21/2018 10:00

Collection Date/Time: n.a.

SDG#: FSB30-15FD

AECOM

ELLE Sample #: WW 9715827 ELLE Group #: 1968367

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|--|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS/ | MS Miscellaneous EPA 537 m table B-15 | od QSM 5.1 | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 3.3 J | 0.50 | 1.8 | 3.3 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 5.2 | 0.67 | 2.0 | 3.3 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 13 | 0.67 | 1.8 | 3.3 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.67 | 2.0 | 3.3 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 24 | 0.83 | 2.0 | 3.3 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 7.6 | 0.83 | 2.0 | 3.3 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:45 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: AECOM Group Number: 1968367

Reported: 07/31/2018 16:51

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

| Analysis Name | Result | DL** | LOD | LOQ | |
|---------------------------|------------|-----------------|---------------------------|--------------------|-------------------|
| | ng/g | ng/g | ng/g | ng/g | |
| Batch number: 18207006 | Sample num | ber(s): 9715816 | 6,9715819,97 ⁻ | 15821-9715822,9715 | 5825 |
| Perfluorobutanesulfonate | N.D. | 0.20 | 0.60 | 0.80 | |
| Perfluoroheptanoic acid | N.D. | 0.20 | 0.68 | 0.80 | |
| Perfluorohexanesulfonate | N.D. | 0.20 | 0.64 | 0.80 | |
| Perfluorononanoic acid | N.D. | 0.20 | 0.68 | 0.80 | |
| Perfluoro-octanesulfonate | N.D. | 0.20 | 0.65 | 0.80 | |
| Perfluorooctanoic acid | N.D. | 0.20 | 0.68 | 0.80 | |
| | ng/l | ng/l | ng/l | ng/l | |
| Batch number: 18206014 | Sample num | ber(s): 971581 | 3-9715815,97 | 15817-9715818,9715 | 5820,9715823-9715 |
| Perfluorobutanesulfonate | N.D. | 0.30 | 1.1 | 2.0 | |
| Perfluoroheptanoic acid | N.D. | 0.40 | 1.2 | 2.0 | |
| Perfluorohexanesulfonate | N.D. | 0.40 | 1.1 | 2.0 | |
| Perfluorononanoic acid | N.D. | 0.40 | 1.2 | 2.0 | |
| Perfluoro-octanesulfonate | N.D. | 0.50 | 1.2 | 2.0 | |
| Perfluorooctanoic acid | N.D. | 0.50 | 1.2 | 2.0 | |

LCS/LCSD

| Analysis Name | LCS Spike Added ng/g | LCS Conc ng/g | LCSD Spike Added ng/g | LCSD Conc ng/g | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---------------------------|----------------------------|---------------------|-----------------------------|----------------------|-------------|--------------|--------------------|------|------------|
| Batch number: 18207006 | Sample number(| s): 9715816,9 | 9715819,9715821-9 | 715822,971 | 5825 | | | | |
| Perfluorobutanesulfonate | 1.20 | 1.24 | 1.20 | 1.30 | 103 | 108 | 70-130 | 4 | 30 |
| Perfluoroheptanoic acid | 1.36 | 1.56 | 1.36 | 1.47 | 115 | 108 | 70-130 | 6 | 30 |
| Perfluorohexanesulfonate | 1.29 | 1.29 | 1.29 | 1.36 | 100 | 106 | 70-130 | 6 | 30 |
| Perfluorononanoic acid | 1.36 | 1.56 | 1.36 | 1.69 | 115 | 124 | 70-130 | 8 | 30 |
| Perfluoro-octanesulfonate | 1.30 | 1.25 | 1.30 | 1.30 | 96 | 100 | 70-130 | 4 | 30 |
| Perfluorooctanoic acid | 1.36 | 1.48 | 1.36 | 1.53 | 109 | 113 | 70-130 | 4 | 30 |
| | ng/l | ng/l | ng/l | ng/l | | | | | |
| Batch number: 18206014 | Sample number(| s): 9715813-9 | 9715815,9715817-9 | 715818,971 | 5820,97158 | 23-971582 | 4,9715826-971 | 5827 | |
| Perfluorobutanesulfonate | 4.81 | 5.17 | | | 107 | | 72-127 | | |
| Perfluoroheptanoic acid | 5.44 | 6.63 | | | 122 | | 75-139 | | |
| Perfluorohexanesulfonate | 5.14 | 5.30 | | | 103 | | 71-130 | | |
| Perfluorononanoic acid | 5.44 | 6.75 | | | 124 | | 73-144 | | |
| Perfluoro-octanesulfonate | 5.20 | 5.24 | | | 101 | | 67-134 | | |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: AECOM Group Number: 1968367

Reported: 07/31/2018 16:51

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added ng/l | LCS Conc ng/l | LCSD Spike Added ng/l | LCSD Conc ng/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|----------------------------|----------------------------|---------------------|-----------------------------|----------------------|-------------|--------------|--------------------|-----|------------|
| Perfluorooctanoic acid | 5.44 | 5.85 | | | 107 | | 76-136 | | |
| | % | % | % | % | | | | | |
| Batch number: 18205820006B | Sample number(| s): 9715816,9 | 715819,9715821-9 | 715822,971 | 5825 | | | | |
| Moisture | 89.5 | 89.42 | | | 100 | | 99-101 | | |

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

 Analysis Name
 BKG Conc
 DUP Conc
 DUP RPD
 DUP RPD Max

 %
 %
 %

 Batch number: 18205820006B
 Sample number(s): 9715816,9715819,9715821-9715822,9715825
 BKG: 9715819

 Moisture
 66.46
 61.75
 7*
 5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Water by LC/MS/MS-DoD

Batch number: 18206014

| | 13C3-l | PFBS | 13C3-F | PFHxS | 13C4-F | PFHpA | 13C8-I | PFOA | 13C8-F | PFOS | 13C9-F | PFNA | |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|
| | %Rec | LOD | %Rec | LOD | %Rec | LÓD | %Rec | LOD | %Rec | LOD | %Rec | LOD | |
| | | (ng/l) | |
| 9715813 | 125 | 17 | 64 | 17 | 70 | 3.3 | 70 | 3.3 | 75 | 17 | 72 | 3.3 | _ |
| 9715814 | 94 | 8.6 | 61 | 8.6 | 63 | 1.7 | 64 | 1.7 | 62 | 8.6 | 62 | 1.7 | |
| 9715815 | 148 | 9.5 | 58 | 9.5 | 71 | 1.9 | 64 | 1.9 | 72 | 9.5 | 89 | 1.9 | |
| 9715817 | 110 | 8.8 | 62 | 8.8 | 65 | 1.8 | 61 | 1.8 | 63 | 8.8 | 68 | 1.8 | |
| 9715818 | 109 | 8.9 | 57 | 8.9 | 59 | 1.8 | 57 | 1.8 | 59 | 8.9 | 56 | 1.8 | |
| 9715820 | 100 | 8.7 | 63 | 8.7 | 68 | 1.7 | 67 | 1.7 | 67 | 8.7 | 72 | 1.7 | |
| 9715823 | 111 | 8.5 | 58 | 8.5 | 64 | 1.7 | 60 | 1.7 | 52 | 8.5 | 54 | 1.7 | |
| 9715824 | 122 | 9.0 | 67 | 9.0 | 71 | 1.8 | 51 | 1.8 | 73 | 9.0 | 84 | 1.8 | |
| 9715826 | 90 | 8.9 | 61 | 8.9 | 59 | 1.8 | 62 | 1.8 | 61 | 8.9 | 63 | 1.8 | |
| 9715827 | 124 | 17 | 64 | 17 | 65 | 3.3 | 64 | 3.3 | 66 | 17 | 67 | 3.3 | |
| Blank | 98 | 10 | 66 | 10 | 68 | 2.0 | 70 | 2.0 | 72 | 10 | 72 | 2.0 | |
| LCS | 97 | 10 | 64 | 10 | 63 | 2.0 | 69 | 2.0 | 63 | 10 | 62 | 2.0 | |
| Limits: | 50-15 | 50 | 50-15 | 0 | 50-15 | 0 | 50-15 | 50 | 50-15 | 0 | 50-15 | 0 | |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: AECOM Group Number: 1968367

Reported: 07/31/2018 16:51

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Soil by LC/MS/MS-DoD

Batch number: 18207006

| 2010111101110 | 13C3- | | 13C3-l | PEHyS | 13C4-F | PFHnΔ | 13C8-F | PFΩΔ | 13C8-F | PEOS | 13C9-F | FNΔ |
|---------------|-------|------|--------|-------|--------|---------------|--------|---------------|--------|---------------|--------|---------------|
| | %Rec | | %Rec | | %Rec | LOD (ng/g) | %Rec | LOD (ng/g) | %Rec | LOD (ng/g) | %Rec | LOD (ng/g) |
| 9715816 | 101 | 0.57 | 78 | 0.57 | 78 | 0.57 | 79 | 0.57 | 75 | 0.85 | 75 | 0.38 |
| 9715819 | 100 | 1.2 | 81 | 1.2 | 80 | 1.2 | 78 | 1.2 | 75 | 1.8 | 74 | 0.80 |
| 9715821 | 102 | 0.58 | 71 | 0.58 | 70 | 0.58 | 72 | 0.58 | 74 | 0.87 | 71 | 0.39 |
| 9715822 | 100 | 0.57 | 73 | 0.57 | 72 | 0.57 | 76 | 0.57 | 80 | 0.86 | 72 | 0.38 |
| 9715825 | 98 | 0.56 | 83 | 0.56 | 83 | 0.56 | 85 | 0.56 | 83 | 0.84 | 84 | 0.37 |
| Blank | 102 | 1.2 | 88 | 1.2 | 87 | 1.2 | 88 | 1.2 | 86 | 1.8 | 84 | 0.80 |
| LCS | 97 | 1.2 | 79 | 1.2 | 78 | 1.2 | 83 | 1.2 | 82 | 1.8 | 83 | 0.80 |
| LCSD | 95 | 1.2 | 79 | 1.2 | 81 | 1.2 | 81 | 1.2 | 82 | 1.8 | 78 | 0.80 |
| Limits: | 50-15 | 50 | 50-15 | 0 | 50-15 | 0 | 50-15 | 0 | 50-15 | 0 | 50-15 | 0 |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Environmental Analysis Request/Chain of Custody

| 86 | | | ~ • | |
|-------|-----|-----|------------|----|
| 0 6 6 | 211 | KU. | tu | nc |
| | Vи | ıυ | 111 | 12 |

For Eurofins Lancaster Laboratories Environmental use only

Lancaster Laboratories

Acct. # 4343 Group # 1968367 Sample # 4715813 - 27

COC # 562317

| Client Information | | | | | | Matrix | | | | | Δ | nalys | is R | eques | sted | | | For Lab Use Only | | |
|---|--|---|-----------------------|-----------------|------------------|-------------------------|--|-----------------------------------|----------------|------------------------|---|---|--------|--|-------|-------|--|---|---|---|
| Client: | Acct. #: | | Company of the second | Ìr | ٦١٢ | 70 | | 1 | | Pro | eser | /ation | and | Filtrat | ion C | odes | | FSC: | | |
| AECOM | | | | | രം ് | | | | | | ACCIO AL NA SALAMANA | | | | | | | SCR#: | | |
| Project Name/#: 6520893 SChenectudy ANGB | PWSID #: | | | | IIssue | Ground Surface | | | | | | | | | | | | Pres | ervation | |
| SChenectudy ANGB Project Manager: | P.O. #: | | | | ٠ | o iii | | | | | | | | | | | | H=HCI | | Thiosulfate |
| John Sontacroce | 1 .0. #. | | | | | <u> </u> | | ည | | | | | | | | | | N=HNO ₃ | | NaOH |
| Sampler: | Quote #: | | | \dashv |] ع | | | ne | | | | | | | | | | S=H ₂ SO ₄ F=Field F | =e ≕iltered O | H₃PO₄ Other |
| AG . | | | | | Sediment | ခု လူ | | of Containers | | | | | | | | | | | Remark | · AND |
| State where samples were collected: For Compliance: | · | *************************************** | | 0 5 | 0 | Potable NPDES | | ပ္ပြ | | | | | | | | | | NO O | ····· | *************************************** |
| VY Yes □ | No 🗆 | | | Sign | <u>^</u> | g F | | و | 5 | | | | | | | | | 100 bi | z serva | 11000 |
| | Coll | ected | | <u>&</u> L | _ | ō | Ľ | * | 77 | | | | | | | | | | | |
| Sample Identification | Date | Time | Grab | Composite | 100 | Water | Other: | Total # | $\vec{\sigma}$ | | | | | | | | | | | |
| SC ADD-ANNO 522210 | A CONTRACTOR OF THE PARTY OF TH | Time | | | entransa (patei) | • | O | 2 | | Congrammatic | | | | | | | | | | |
| SC-APR-MWO) 072018 | 07/20/18 | 0830 | | - | | <u>6w</u> | | 7 | | | | | | ······································ | _ | _ | | 11 12 22 | DEC | Ere e |
| Field Blank 2 072018 | | | | _ | | <u>5W</u> | | 2 | ., | | | | | | _ | _ _ | | 13/ 03/6 | 1 PFC | rec |
| SC-APR-MW03 072018 | | 0938 | | | | GW_ | | 14 | | | | | | | _ | _ | | | | W. W |
| 5C-0F5-5001 072018 | | 0956 | | _ <u>_</u> | D | | | H | | | *************************************** | | | | - | | | | 1200 - 1100 ALOUS AND ADDRESS | |
| SC - 0 F6-SW01 072018 | <u> </u> | 0122 | | | | 9W. | | 2 | | | | | | | | | | | | |
| SC-0F3-SWOI 072018 | - | 1000 | | | | <u>974</u> | , | 2_ | ~ | | | | | | | | | | ************************************** | |
| SC-0F3-5001 072018 | | 1002 | 4 | | 0. | | | 1 | | | | | | | | | | | | |
| SC-6F4-SHO1 072018 | *************************************** | 1015 | | | | (JW) | | 2 | | | | | | | | | | | ***** | *************************************** |
| SC-0F4-SD01 072018 | The second second second | 1020 | 14 | <u>S</u> | | | | 1 | | | | | | | | | | | | |
| <u>SC-0F2-5001 072018</u> | | 1045 | | 5 | | | Cource your surviv | | | | | | | | | | | | | |
| Turnaround Time (TAT) Requested | | le) | Relinqui | | | SCU | 1 | Z. | | Date | - L | Time | R | eceived | by | | | j | Date | Time |
| | ush | | Relinquis | (<u>an</u> | UIU | 1 70 | lae | Λ | | 07/1 | LOPE | Time | | | L | | | | | 17. |
| (Rush TAT is subject to laboratory approval and surcharge | ∍.) | | Reinqui | sned by | | | | | | Date | | ıme | | eceived | Бу | | | | Date | Time |
| Date results are needed:STANDAR_f | > | | Relinqui | shed by | | | ###################################### | -/ | | Date | | Time | R | eceived | by | | | | Date | Time |
| | ae | com. | | | | | , | | | | | | | | • | | | | | |
| E-mail address: John · Santacroce | <u>e</u> c | 000 | Relinquis | shed by | | | - | Olivera Commission of the Polymon | | Date | | Time | R | eceived | | ~~ | <u>, </u> | | Date | Time |
| Data Package Options (circle if re | quired) | | | | | | | | | | | | | | N | a | | | | |
| Type I (EPA Level 3 | Raw Data | Only) | Relinquis | shed by | | | | | | Date | | Time | R | eceived I | [/ | 7. | | | Date | Time |
| Equivalent/non-CLP) | Data | <i>y</i> / | | | | (| en e | | | divinish kalanga panga | | (130 <u>) </u> | | | | Ru | | | Date J W | |
| Type III (Reduced non-CLP) NJ DKQF | тхт | RRP-13 | | | | EDD Req | uired | !? \ | Yes | No | | | F | Relinquished by Commercial Carrier: | | | | | | |
| • | | | | | | rmat: ific QC (l | 10/1 | 4CD/F | June/0 | | | No. | | UPS | | Fe | dEx | Other | | |
| NYSDEC Category A or B MA MCP | CT F | RCP | /1 | | | ITIC QC (I ·QC sampl | | | . , | | | No | | ٦ | Гетр | eratu | re upo | n receipt _ | 3,9 | _°C |
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Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 47 15813 - 27 **COC #** 562322 Lancaster Laboratories Environmental

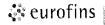
| Client Information | | | | | Matrix | | | | | | F | halys | sis F | Requested | | | | | For Lab Use Only | | |
|---|----------------|-----------|--------|-------------------------|---|--|---|----------|----------|----------|--|---------------------------------|---|------------------------|------------------------|------------------------|---|---|---|--------------------|-----------------------------|
| Client: | Acct. #: | | | | П | MI | | 1 | | Pro | eser | vation | and | Filtr | atior | 1 Co | es | | FSC: | | |
| | | | | | 6 | | | | | | | | | | | | | | SCR#: | | |
| Project Name/#: PCS | PWSID #: | | | | Tissue | Ground Surface | | | | | Al vimusi diplipida o | | | | (no.umbili dilandia ya | e Gros Granous constru | | | Pres | ervation T- | Codes Thiosulfate |
| Project Manager: 5 e C | P.O. #: | | -, | | M | 15 ms | | I | | | | | | | | | | | N=HNO ₃ | | ·MaOH |
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| Sampler: | Quote #: | | | | Sediment | | | tain | | | | | | | | | | | Collegioussessusses | Itered O | |
| State where samples were collected: For Compliance: | | | T | | Ġ. | | | o o | | | | | | | | | | | | Remark | |
| Yes □ | No □ | | | ite | Se | Potable NPDES | | ၌ | 1 | 1 | | | | | | | | | NO P | M Serv | capies |
| Sample Identification | | Collected | | Composite | | er: | Total # of Containers | 12 | | | | | | | | | | | | | |
| | Date | Time | Grab | ပို | Soil | Water | Other: | Tota | 1 | | | | | | | | | | | | |
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| Turnaround Time (TAT) Requeste | d (please circ | le) | Relinq | uished | by | | 00000000 | | ' | Date | erendeleskom). | Time | | Receiv | ed by | | e e constante de la constante | *************************************** | | Date | Time . |
| Standard | Rush | | | | | | | | \angle | | , | | | | | ************ | | | / | | |
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| Date results are needed: | 1 29 | | Reling | uished l | by | | | _ | | Date | | Time | - | Receiv | ed hv | | | \angle | | Date | Time |
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| E-mail address: | | | Relinq | uished | by | $\overline{}$ | | | | Date | | Time | | Receiv | ed by | - | | | Address of the Control of the Contro | Date | Time |
| Data Package Options (circle if | required) | | | | *************************************** | | Mark open plantage | | | | | | | | _ { | <u> </u> | | | | | |
| Type I (EPA Level 3 Type VI (Raw Data Only) Relinquished b | | | | linquished by Date Time | | | | | | | Received by | | | | | Paralles | Time | | | | |
| Type III (Reduced non-CLP) NJ DK0 | QP TX I | RRP-13 | | | _ | ÉDD Req | uirec | ۱? \ | ⁄es | No | | | | | • | ned b | • | | cial Carrie | r: | ` |
| | | | | | | format: | MO." | 100.7 | \\a | | | N I - | | UF | 'S | | FedE | X | Other | | |
| NYSDEC Category A or B MA MC | P CT F | RCP | | | • | ecific QC (I ate QC sample | | | • • | | | No lume) | | | Ter | mper | ature | upon | receipt _ | 5.9 | _°C |
| | | | J | (ii yes, | HIGIGO | are we sample | c and | aupitill | ulhlica | uc salli | hie vo | iui (le.) | | | | (Nontana) | | A CHARLES | | <i>1</i> | |

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The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client. Page 24 of 27

7044 0717

P92052



Sample Administration Receipt Documentation Log

Doc Log ID:

222203

Group Number(s): 1968367

Client: AECOM

Delivery and Receipt Information

Delivery Method:

Fed Ex

Arrival Timestamp:

07/21/2018 10:00

Number of Packages:

1

Number of Projects:

1

State/Province of Origin:

<u>NY</u>

Arrival Condition Summary

Shipping Container Sealed:

Yes

Sample IDs on COC match Containers:

Yes

Custody Seal Present:

No

Sample Date/Times match COC:

Yes N/A

Samples Chilled:

Yes

Total Trip Blank Qty:

0

Paperwork Enclosed:

Yes Yes

Air Quality Samples Present:

VOA Vial Headspace ≥ 6mm:

No

Samples Intact:
Missing Samples:

No

Extra Samples:

No

Discrepancy in Container Qty on COC:

No

Unpacked by Melvin Sanchez (8943) at 13:57 on 07/21/2018

Samples Chilled Details

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

Cooler #

Thermometer ID DT131

3.9

Corrected Temp

Therm. Type
DT

Ice Type Wet Ice Present?

Ice Container Bagged Elevated Temp?

Ν



BMQL

ppb

basis

Dry weight

parts per billion

as-received basis.

Explanation of Symbols and Abbreviations

milliliter(s)

The following defines common symbols and abbreviations used in reporting technical data:

Below Minimum Quantitation Level

| С | degrees Celsius | MPN | Most Probable Number |
|----------|---------------------------------------|---------------------------|--|
| cfu | colony forming units | N.D. | non-detect |
| CP Units | cobalt-chloroplatinate units | ng | nanogram(s) |
| F | degrees Fahrenheit | NTU | nephelometric turbidity units |
| g | gram(s) | pg/L | picogram/liter |
| IU | International Units | RL | Reporting Limit |
| kg | kilogram(s) | TNTC | Too Numerous To Count |
| L | liter(s) | μg | microgram(s) |
| lb. | pound(s) | μL | microliter(s) |
| m3 | cubic meter(s) | umhos/cm | micromhos/cm |
| meq | milliequivalents | MCL | Maximum Contamination Limit |
| mg | milligram(s) | | |
| < | less than | | |
| > | greater than | | |
| ppm | aqueous liquids, ppm is usually taken | to be equivalent to milli | kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weight uivalent to one microliter per liter of gas. |

mL

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Results printed under this heading have been adjusted for moisture content. This increases the analyte weight

concentration to approximate the value present in a similar sample without moisture. All other results are reported on an

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

| Qualifier | Definition |
|----------------|---|
| С | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| K1 | Initial Calibration Blank is above the QC limit and the sample result is ND |
| K2 | Continuing Calibration Blank is above the QC limit and the sample result is ND |
| K3 | Initial Calibration Verification is above the QC limit and the sample result is ND |
| K4 | Continuing Calibration Verification is above the QC limit and the sample result is ND |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised |
| | due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.









ANALYSIS REPORT

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 AECOM Suite 150 12420 Milestone Center Drive Germantown MD 20876

Report Date: July 31, 2018 16:42

Project: Schenectady ANGB

Account #: 42343 Group Number: 1968185 SDG: FSB29 PO Number: 93872 State of Sample Origin: NY

Electronic Copy To AECOM Electronic Copy To AECOM Electronic Copy To AECOM Attn: Mike Myers Attn: Naoum Tavantzis Attn: John Santacroce

Respectfully Submitted,

Kay Mour Kay Hower

(717) 556-7364

To view our laboratory's current scopes of accreditation please go to http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/. Historical copies may be requested through your project manager.









SAMPLE INFORMATION

| Client Sample Description | Sample Collection Date/Time | ELLE# |
|---|-----------------------------|---------|
| SC-B07-MW01 071918 Grab Groundwater | 07/19/2018 10:35 | 9714891 |
| SC-B07-MW01 071918 MS Grab Groundwater | 07/19/2018 10:35 | 9714892 |
| SC-B07-MW01 071918 MSD Grab Groundwater | 07/19/2018 10:35 | 9714893 |
| SC-6MW-24 071918 Grab Groundwater | 07/19/2018 12:10 | 9714894 |
| SC-6MW-20 071918 Grab Groundwater | 07/19/2018 12:30 | 9714895 |
| SC-IPR3-MW01 071918 Grab Groundwater | 07/19/2018 13:50 | 9714896 |
| SC-DRD-SD01 071918 Grab Soil | 07/19/2018 13:55 | 9714897 |
| SC-DRD-SW01 071918 Grab Surface Water | 07/19/2018 14:00 | 9714898 |
| DUP-01 Grab Groundwater | 07/19/2018 | 9714899 |
| Field Blank 1 071918 Grab Groundwater | 07/19/2018 12:15 | 9714900 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.





Project Name: Schenectady ANGB

ELLE Group #: 1968185

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9714896, 9714899

The following analytes were manually integrated due to incorrect integrations: Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9714892, 9714893

The following analytes were manually integrated due to incorrect integrations: Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9714894, 9714895

The following analytes were manually integrated due to incorrect integrations: Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9714891

The following analytes were manually integrated due to incorrect integrations: Perfluorononanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9714897, 9714900

The following analytes were manually integrated due to incorrect integrations: Perfluoro-octanesulfonate

Sample #s: 9714898

The following analytes were manually integrated due to incorrect integrations:



Case Narrative

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Perfluorooctanoic acid, Perfluorononanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Batch #: 18206014 (Sample number(s): 9714891-9714896, 9714898-9714900 UNSPK: 9714891)

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Perfluorobutanesulfonate

Batch #: 18207006 (Sample number(s): 9714897 UNSPK: 9714897)

The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: Perfluorononanoic acid

The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Perfluoro-octanesulfonate



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Sample Description: SC-B07-MW01 071918 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/20/2018 10:00
Collection Date/Time: 07/19/2018 10:35
SDG#: FSB29-01BKG

AECOM

ELLE Sample #: WW 9714891 ELLE Group #: 1968185

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|---|---------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 85 | 0.27 | 0.97 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 210 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 730 | 3.5 | 9.7 | 18 | 10 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 16 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 3,300 | 4.4 | 11 | 18 | 10 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 97 | 0.44 | 1.1 | 1.8 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 13:12 | Marissa C Drexinger | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 17:55 | Joshua P Trost | 10 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B07-MW01 071918 MS Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

 Submittal Date/Time:
 07/20/2018 10:00

 Collection Date/Time:
 07/19/2018 10:35

 SDG#:
 FSB29-01MS

AECOM

ELLE Sample #: WW 9714892 ELLE Group #: 1968185

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---|------------|--------|---|---------------------|-----------------------|--------------------------|----|
| LC/MS/ | /MS Miscellaneous EPA 537 m table B-15 | od QSM 5.1 | ng/l | | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 86 | | 0.27 | 0.98 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 220 | | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 890 | E | 0.35 | 0.98 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 21 | | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 4,400 | E | 0.44 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 110 | | 0.44 | 1.1 | 1.8 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 15:54 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B07-MW01 071918 MSD Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/20/2018 10:00
Collection Date/Time: 07/19/2018 10:35
SDG#: FSB29-01MSD

AECOM

ELLE Sample #: WW 9714893 ELLE Group #: 1968185

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---------------------------------------|------------|--------|---|---------------------|--------------------|-----------------------|----|
| LC/MS/ | /MS Miscellaneous EPA 537 table B- | | ng/l | | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 89 | | 0.27 | 0.98 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 230 | | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 900 | E | 0.36 | 0.98 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 21 | | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 3,900 | E | 0.45 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 110 | | 0.45 | 1.1 | 1.8 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 16:12 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-6MW-24 071918 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/20/2018 10:00 Collection Date/Time: 07/19/2018 12:10

SDG#: FSB29-02

| A | E | CO | М | | |
|---|---|----|---|--|--|
| _ | | _ | _ | | |

ELLE Sample #: WW 9714894 ELLE Group #: 1968185

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|---|---------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 90 | 0.26 | 0.96 | 1.7 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 70 | 0.35 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 520 | 3.5 | 9.6 | 17 | 10 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 14 | 0.35 | 1.0 | 1.7 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 790 | 4.4 | 10 | 17 | 10 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 95 | 0.44 | 1.0 | 1.7 | 1 |

Sample Comments

State of New York Certification No. 10670

| | | | • | | | | |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|-------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 18:13 | Joshua P Trost | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 18:31 | Joshua P Trost | 10 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-6MW-20 071918 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/20/2018 10:00 Collection Date/Time: 07/19/2018 12:30

SDG#: FSB29-03

| _ | | | |
|---|----|-----|-----|
| Δ | EC | :OI | vı |
| | - | · • | VI. |

ELLE Sample #: WW 9714895 ELLE Group #: 1968185

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|---|---------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 24 | 0.26 | 0.97 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 15 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 97 | 0.35 | 0.97 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 1.5 J | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 110 | 0.44 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 17 | 0.44 | 1.1 | 1.8 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 13:30 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-IPR3-MW01 071918 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/20/2018 10:00 Collection Date/Time: 07/19/2018 13:50

SDG#: FSB29-04

AECOM

ELLE Sample #: WW 9714896 ELLE Group #: 1968185

Matrix: Groundwater

| CAT No. | Analysis Name /MS Miscellaneous EPA 537 n | CAS Number | Result | Detection Limit* ng/l | Limit of Detection ng/I | Limit of Quantitation ng/I | DF |
|------------|--|------------|--------|-----------------------------|-------------------------------|----------------------------------|----|
| | table B-15 | | | | | | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 56 | 0.27 | 0.97 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 52 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 460 | 3.5 | 9.7 | 18 | 10 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 9.9 | 0.35 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 960 | 4.4 | 11 | 18 | 10 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 99 | 0.44 | 1.1 | 1.8 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 13:39 | Marissa C Drexinger | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 18:40 | Joshua P Trost | 10 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



SW 9714897

AECOM

ELLE Sample #:

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Sample Description: SC-DRD-SD01 071918 Grab Soil

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/20/2018 10:00 Collection Date/Time: 07/19/2018 13:55

SDG#: FSB29-05

| henectady ANGB | ELLE Group #: Matrix: Soil | 1968185 |
|----------------|-------------------------------|---------|
| | | |

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|-------------------------------------|--------------------------|------------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 53 table B | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.24 | 0.72 | 0.95 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.24 | 0.81 | 0.95 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.58 J | 0.24 | 0.76 | 0.95 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.24 | 0.81 | 0.95 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 5.6 | 0.24 | 0.78 | 0.95 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.24 | 0.81 | 0.95 | 1 |
| Wet Ch | | 10 G-1997 ture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 22.4 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in wei | ight of the sample after | r oven drving at | | | | |

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

State of New York Certification No. 10670

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/27/2018 16:57 | Joshua P Trost | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18207006 | 07/26/2018 11:40 | Courtney J Fatta | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18205820002B | 07/24/2018 12:17 | William C Schwebel | 1 | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-DRD-SW01 071918 Grab Surface Water

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/20/2018 10:00 Collection Date/Time: 07/19/2018 14:00

SDG#: FSB29-06

AECOM

ELLE Sample #: WW 9714898 ELLE Group #: 1968185

Matrix: Surface Water

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|---|---------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/l | ng/l | ng/l | ng/l | | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 39 | 0.27 | 0.99 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 55 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 320 | 3.6 | 9.9 | 18 | 10 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 8.0 | 0.36 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 630 | 4.5 | 11 | 18 | 10 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 64 | 0.45 | 1.1 | 1.8 | 1 |

Sample Comments

State of New York Certification No. 10670

| | | | • | | | | |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 13:48 | Marissa C Drexinger | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 18:58 | Joshua P Trost | 10 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: DUP-01 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

 Submittal Date/Time:
 07/20/2018 10:00

 Collection Date/Time:
 07/19/2018

 SDG#:
 FSB29-07FD

AECOM

ELLE Sample #: WW 9714899 ELLE Group #: 1968185

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|---|---------------------------|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 56 | 0.28 | 1.0 | 1.8 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 53 | 0.37 | 1.1 | 1.8 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 450 | 3.7 | 10 | 18 | 10 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 9.5 | 0.37 | 1.1 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 970 | 4.6 | 11 | 18 | 10 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 100 | 0.46 | 1.1 | 1.8 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 13:57 | Marissa C Drexinger | 1 |
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/30/2018 19:07 | Joshua P Trost | 10 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: Field Blank 1 071918 Grab Groundwater

Schenectady ANGB

Project Name: Schenectady ANGB

Submittal Date/Time: 07/20/2018 10:00
Collection Date/Time: 07/19/2018 12:15
SDG#: FSB29-08FB

AECOM

ELLE Sample #: WW 9714900 ELLE Group #: 1968185

Matrix: Groundwater

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|--|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS | /MS Miscellaneous EPA 537 table B-1 | | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.26 | 0.94 | 1.7 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.34 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.34 | 0.94 | 1.7 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.34 | 1.0 | 1.7 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.43 | 1.0 | 1.7 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.43 | 1.0 | 1.7 | 1 |

Sample Comments

State of New York Certification No. 10670

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|----------------------------------|--------------------------------|--------|----------|---------------------------|---------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/27/2018 14:06 | Marissa C Drexinger | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18206014 | 07/25/2018 16:00 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: AECOM Group Number: 1968185

Reported: 07/31/2018 16:42

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

| Analysis Name | Result | DL** | LOD | LOQ |
|---------------------------|------------|----------------|--------------|---------------|
| | ng/g | ng/g | ng/g | ng/g |
| Batch number: 18207006 | Sample num | ber(s): 971489 | 7 | |
| Perfluorobutanesulfonate | N.D. | 0.20 | 0.60 | 0.80 |
| Perfluoroheptanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| Perfluorohexanesulfonate | N.D. | 0.20 | 0.64 | 0.80 |
| Perfluorononanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| Perfluoro-octanesulfonate | N.D. | 0.20 | 0.65 | 0.80 |
| Perfluorooctanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| | ng/l | ng/l | ng/l | ng/l |
| Batch number: 18206014 | Sample num | ber(s): 971489 | 1-9714896,97 | 14898-9714900 |
| Perfluorobutanesulfonate | N.D. | 0.30 | 1.1 | 2.0 |
| Perfluoroheptanoic acid | N.D. | 0.40 | 1.2 | 2.0 |
| Perfluorohexanesulfonate | N.D. | 0.40 | 1.1 | 2.0 |
| Perfluorononanoic acid | N.D. | 0.40 | 1.2 | 2.0 |
| Perfluoro-octanesulfonate | N.D. | 0.50 | 1.2 | 2.0 |
| Perfluorooctanoic acid | N.D. | 0.50 | 1.2 | 2.0 |

LCS/LCSD

| Analysis Name | LCS Spike Added ng/g | LCS Conc ng/g | LCSD Spike Added ng/g | LCSD Conc ng/g | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---------------------------|----------------------------|---------------------|-----------------------------|----------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: 18207006 | Sample number(| s): 9714897 | | | | | | | |
| Perfluorobutanesulfonate | 1.20 | 1.24 | 1.20 | 1.30 | 103 | 108 | 70-130 | 4 | 30 |
| Perfluoroheptanoic acid | 1.36 | 1.56 | 1.36 | 1.47 | 115 | 108 | 70-130 | 6 | 30 |
| Perfluorohexanesulfonate | 1.29 | 1.29 | 1.29 | 1.36 | 100 | 106 | 70-130 | 6 | 30 |
| Perfluorononanoic acid | 1.36 | 1.56 | 1.36 | 1.69 | 115 | 124 | 70-130 | 8 | 30 |
| Perfluoro-octanesulfonate | 1.30 | 1.25 | 1.30 | 1.30 | 96 | 100 | 70-130 | 4 | 30 |
| Perfluorooctanoic acid | 1.36 | 1.48 | 1.36 | 1.53 | 109 | 113 | 70-130 | 4 | 30 |
| | ng/l | ng/l | ng/l | ng/l | | | | | |
| Batch number: 18206014 | Sample number(| s): 9714891-9 | 9714896,9714898-9 | 714900 | | | | | |
| Perfluorobutanesulfonate | 4.81 | 5.17 | | | 107 | | 72-127 | | |
| Perfluoroheptanoic acid | 5.44 | 6.63 | | | 122 | | 75-139 | | |
| Perfluorohexanesulfonate | 5.14 | 5.30 | | | 103 | | 71-130 | | |
| Perfluorononanoic acid | 5.44 | 6.75 | | | 124 | | 73-144 | | |
| Perfluoro-octanesulfonate | 5.20 | 5.24 | | | 101 | | 67-134 | | |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: AECOM Group Number: 1968185

Reported: 07/31/2018 16:42

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added ng/l | LCS Conc ng/l | LCSD Spike Added ng/l | LCSD Conc ng/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|----------------------------|----------------------------|---------------------|-----------------------------|----------------------|-------------|--------------|--------------------|-----|------------|
| Perfluorooctanoic acid | 5.44 | 5.85 | | | 107 | | 76-136 | | |
| | % | % | % | % | | | | | |
| Batch number: 18205820002B | Sample number(| s): 9714897 | | | | | | | |
| Moisture | 89.5 | 89.4 | | | 100 | | 99-101 | | |

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

| Analysis Name | Unspiked Conc ng/g | MS Spike Added ng/g | MS Conc ng/g | MSD Spike Added ng/g | MSD Conc ng/g | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|---------------------------|--------------------------|---------------------------|--------------------|----------------------------|---------------------|------------|-------------|------------------|-----|------------|
| Batch number: 18207006 | Sample number | er(s): 9714897 | UNSPK: 97 | 14897 | | | | | | |
| Perfluorobutanesulfonate | N.D. | 1.13 | 1.20 | | | 105 | | 70-130 | | |
| Perfluoroheptanoic acid | N.D. | 1.28 | 1.51 | | | 118 | | 70-130 | | |
| Perfluorohexanesulfonate | 0.450 | 1.21 | 1.54 | | | 90 | | 70-130 | | |
| Perfluorononanoic acid | N.D. | 1.28 | 1.69 | | | 132* | | 70-130 | | |
| Perfluoro-octanesulfonate | 4.34 | 1.23 | 3.80 | | | -43* | | 70-130 | | |
| Perfluorooctanoic acid | N.D. | 1.28 | 1.52 | | | 118 | | 70-130 | | |
| | ng/l | ng/l | ng/l | ng/l | ng/l | | | | | |
| Batch number: 18206014 | Sample number | er(s): 9714891- | 9714896,9 | 714898-971490 | UNSPK: 9 | 9714891 | | | | |
| Perfluorobutanesulfonate | 85.2 | 4.27 | 85.98 | 4.28 | 88.55 | 18 (2) | 78 (2) | 72-127 | 3 | 30 |
| Perfluoroheptanoic acid | 208.46 | 4.83 | 218.19 | 4.84 | 227.63 | 202 (2) | 396 (2) | 75-139 | 4 | 30 |
| Perfluorohexanesulfonate | 727.78 | 4.56 | 891.41 | 4.58 | 900.02 | 3587 (2) | 3761 (2) | 71-130 | 1 | 30 |
| Perfluorononanoic acid | 16.36 | 4.83 | 21.4 | 4.84 | 21.46 | 104 | 105 | 73-144 | 0 | 30 |
| Perfluoro-octanesulfonate | 3314.73 | 4.61 | 4351.32 | 4.63 | 3882.19 | 22476 (2) | 12259 (2) | 67-134 | 11 | 30 |
| Perfluorooctanoic acid | 97.36 | 4.83 | 110.12 | 4.84 | 109.68 | 264 (2) | 254 (2) | 76-136 | 0 | 30 |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: AECOM Group Number: 1968185

Reported: 07/31/2018 16:42

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Water by LC/MS/MS-DoD

Batch number: 18206014

| | 13C3-l | PFBS | 13C3-F | PFHxS | 13C4-F | PFHpA | 13C8-F | PFOA | 13C8-F | PFOS | 13C9-F | PFNA | |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|
| | %Rec | LOD | |
| | | (ng/l) | |
| 9714891 | 120 | 8.9 | 58 | 8.9 | 63 | 1.8 | 68 | 1.8 | 70 | 8.9 | 79 | 1.8 | _ |
| 9714892 | 124 | 8.9 | 55 | 8.9 | 57 | 1.8 | 60 | 1.8 | 62 | 8.9 | 76 | 1.8 | |
| 9714893 | 117 | 8.9 | 54 | 8.9 | 56 | 1.8 | 60 | 1.8 | 65 | 8.9 | 74 | 1.8 | |
| 9714894 | 101 | 8.7 | 50 | 8.7 | 58 | 1.7 | 61 | 1.7 | 72 | 8.7 | 83 | 1.7 | |
| 9714895 | 89 | 8.8 | 61 | 8.8 | 64 | 1.8 | 58 | 1.8 | 52 | 8.8 | 59 | 1.8 | |
| 9714896 | 120 | 8.8 | 59 | 8.8 | 65 | 1.8 | 64 | 1.8 | 64 | 8.8 | 71 | 1.8 | |
| 9714898 | 120 | 9.0 | 56 | 9.0 | 58 | 1.8 | 55 | 1.8 | 60 | 9.0 | 64 | 1.8 | |
| 9714899 | 115 | 9.2 | 60 | 9.2 | 67 | 1.8 | 63 | 1.8 | 65 | 9.2 | 72 | 1.8 | |
| 9714900 | 92 | 8.5 | 53 | 8.5 | 54 | 1.7 | 57 | 1.7 | 51 | 8.5 | 50 | 1.7 | |
| Blank | 98 | 10 | 66 | 10 | 68 | 2.0 | 70 | 2.0 | 72 | 10 | 72 | 2.0 | |
| LCS | 97 | 10 | 64 | 10 | 63 | 2.0 | 69 | 2.0 | 63 | 10 | 62 | 2.0 | |
| MS | 124 | 8.9 | 55 | 8.9 | 57 | 1.8 | 60 | 1.8 | 62 | 8.9 | 76 | 1.8 | |
| MSD | 117 | 8.9 | 54 | 8.9 | 56 | 1.8 | 60 | 1.8 | 65 | 8.9 | 74 | 1.8 | |
| Limits: | 50-15 | 50 | 50-15 | 0 | 50-15 | 0 | 50-15 | 0 | 50-15 | 0 | 50-15 | 0 | |

Analysis Name: PFAS in Soil by LC/MS/MS-DoD

Batch number: 18207006

| | 13C3- | PFBS | 13C3-I | PFHxS | 13C4-F | PFHpA | 13C8-F | PFOA | 13C8-F | PFOS | 13C9-F | PFNA | |
|---------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| | %Rec | LOD | %Rec | LOD | %Rec | LÓD | %Rec | LOD | %Rec | LOD | %Rec | LOD | |
| | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | |
| 9714897 | 102 | 0.56 | 77 | 0.56 | 76 | 0.56 | 75 | 0.56 | 71 | 0.83 | 70 | 0.37 | |
| Blank | 102 | 1.2 | 88 | 1.2 | 87 | 1.2 | 88 | 1.2 | 86 | 1.8 | 84 | 0.80 | |
| LCS | 97 | 1.2 | 79 | 1.2 | 78 | 1.2 | 83 | 1.2 | 82 | 1.8 | 83 | 0.80 | |
| LCSD | 95 | 1.2 | 79 | 1.2 | 81 | 1.2 | 81 | 1.2 | 82 | 1.8 | 78 | 0.80 | |
| MS | 95 | 0.57 | 76 | 0.57 | 75 | 0.57 | 75 | 0.57 | 78 | 0.85 | 73 | 0.38 | |
| Limits: | 50-1 | 50 | 50-15 | 0 | 50-15 | 0 | 50-15 | 0 | 50-15 | 0 | 50-15 | 0 | |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Environmental Analysis Request/Chain of Custody

| 9.0 | | | | ~* | |
|------|-----|------------|-----|----|-----|
| 600 | 61 | 11 | 'n. | ۲ı | ทร |
| 20.0 | ~ • | <i>^</i> 1 | ~ | | 112 |

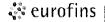
Lancaster Laboratories

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 42343 Group # 1900105 Sample # 9714011-00

COC # 562323

| f | Client Information | | | | | Matrix | | | | Analysis Requested | | | | | | | ¶ | - . | | | |
|---------|--|--|---------|------------------------------|---|--|----------------------------|---|---|--------------------|-----------|--------------|---------------|------------------------------|---------|----------|--|---------------|--|--|---|
| 1 | Client Information | Acct. #: | | | alloguotus/visitong | 4_ | Matrix | | 4 | | . | | | | | | | | For Lab Us | se Only | |
| ľ | AECOM | ACCI. #. | | | , | | id d | .1 [' | 1 ' | | Pre | ∌serv | vation an | d Filt | ration | n Cod | zes. | | FSC: | | |
| 1 | Project Name/#: (0520 693) | PWSID#: | | | | - l e | | ' I I I | 1 | | | | + | _ | + | | 4-4 | | SCR#: | •• | - |
| | Schenectady ANGB | 1 VYO, 2 ,, . | | | • | Tissue | Ground Surface | 1 ' | • | 1 | | () | 1 | | | ' | | , 1 | 1 | servation C | |
| | Project Manager: | P.O. #: | | | | 7 | l or ju | 1 ' | 1 | ' | 1 1 | () | (-) | | | ' | | , 1 | H=HCI | | Thiosulfate |
| | John Santacrole | | 2089 | (1) | į | | | . ' | \varphi \(\sigma \) | ' | | () | | | | ' | | , 1 | N=HNO ₃ S=H ₂ SO ₄ | | =NaOH =H₃PO₄ |
| 1 | Sampler: | Quote #: | | | | 1 1 | | . ' | le ' | ' | 1 1 | (1 | | | | ' | | , 1 | | iltered O =0 | |
| 1 | Ab | | | | , | Sediment | <u>a</u> N | 1 1' | Containers | ' | 1 1 | ι^{-1} | 1 | | | ' | 1 1 | , | STATE OF THE PROPERTY OF THE PERSON. | Remarks | |
| 1 | State where samples were collected: For Compliance: | and the second s | | | (i) | d j | Potable NPDES | ' | [8] | | 1 1 | 1 1 | 1 | | | ' | | , 1 | | IXOIII, | |
| | NY Yes 🗆 | No □ | | | Sit | Ŏ | | 1 1' | jo ' | 8 | 1 | , 1 | 1 | | | ' | | | 1 | | |
| | | Coll | ected | | Composite | , 📙 | . <u>.</u> | ; | Total # of | 12 | . 1 | , 1 | 1 | | | ' | | , 1 | | | |
| | Sample Identification | | | Grab | l o | Soil | Water | Other: | ota | 44 | 1 J | , 1 | 1 | | | ' | | , / | | | |
| 入 | - And - All - And | Date | Time | O | <u>U</u> | S | S | 101 | F' | 1 | 4 | , J | | | | <u> </u> | | | | | AND THE RESERVE OF THE PERSON |
| 一 | | | 109,50 | | <u>, </u> | | | | L ' | | \vdash | | | | | <u> </u> | | | 4 | No. | |
| | | 07/19/18 | | | <u>—</u> ′ | | GW | <u> </u> ' | 2 | 12 | \square | | | manus (antotimustrativi). | | | 1 | ٔ لِـــــــ | MSIM | SD tal | Ken |
| | SC-60MW-24 071918 | ' | 1210 | | <u> </u> | | GW | ' | 2 | / | | | | | | | | | 1 | | |
| | SC-6MW-20 071918 | | 1230 | | Í′ | | 19W | [' | 2 | | | ,) | | | | <u> </u> | | | | | |
| | SC-1923-MWOL 071918 | | 1350 | | , | | 6N | _ | 2 | 1 | | | 1 | | | Ţ | | | 1 | CONTRACTOR STATEMENT OF THE STATEMENT OF | ************************************** |
| | 5C-DRD-SDOI 671918 | | 1355 | | 1 | SD | | | | | | , — | | 1 | | 1 | | | | <u>ercitoir, , , , , , , , , , , , , , , , , , , </u> | |
| | SC-DRD-SHO1 071918 | | 1400 | 17 | 1 | Ī | SW | į į | 2 | | | , — | | | | 1 | + | , — | 1 | | |
| | NB-01 | 1 | - | 17 | <u> </u> | | GW | | 2 | 1/ | | ,—+ | | And announcement of the last | + | +- | +++ | | | | |
| 1 | Field blank 1 071918 | 07/19/18 | 1715 | 1 | | | 6W | | 2 | | | ,— | | - | | + | | _ | | *************************************** | |
| 1 | ALKIO DIGITIKA OTTATO | 10411101 | 1613 | +++ | | | 10142 | - | 4 | | _ | | | +-' | +-' | | +++ | _ | - | *************************************** | 000000000000000000000000000000000000000 |
| | Turnaround Time (TAT) Requested | (please circ | la) | Reling | uished | d by G | Aug & | 标 | | | Date , | | Time | Rece | ived by | , | | | 1 | Date | Time |
| | | (piease circie Rush | , ا | ALC | DX C | nati | ra hot | 200 | 1 | J | 10711 | 4/18 | Time 17-05 | 110000 | /CG 2, | | | | , | Date | Tillie |
| | (Rush TAT is subject to laboratory approval and surcharge | | , | | uished | | 0, 12 | | *************************************** | | Date | | Time | | ived by | | $\overline{}$ | | | Date | Time |
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| | Date results are needed:STAN_OAR_0 | <u>ک</u> | _ | Relinqui | uished | i by | | *************************************** | · · · · · · · · · · · · · · · · · · · | | Date | | Time | Recei | ived by | | | | | Date | Time |
| SALES | | 000 | COM | | | | | | | | l | | 1 | | | | | | \ | L _ ' | |
| | E-mail address: John. Sontacrace | <u> </u> | 10M | Relinqui | uished ' | <i>i</i> by | | | | | Date |] | Time | Recei | ived by | | *************************************** | | | Date | Time |
| | Data Package Options (circle if re | ;quired) | | <u></u> | | | | macauman ann an | | _ | | | | | 20102MI | | _// | | <u> </u> | <u></u> ' | |
| | Type I (EPA Level 3 Type VI (I | (Raw Data C | Only) | Relinqui | uished ! | . by | | | |)' | Date | | Time | Receiv | ived by | 1 | | | /~ | Date | Time |
| ľ | Equivalent/non-CLP) | | , , | annen annen annen annen anne | | | ·- | | ellenteneinen g | | | | <u> </u> | | managha | 4 | | ZM. | | 12418 | KKO |
| | Type III (Reduced non-CLP) NJ DKQP | ? TXT | TRRP-13 | | | 15.105 | EDD Req | _f uired | <i>i?</i> ` | Yes | No | | | Relinquished by Commerc | | | | / | | _ | |
| Awailea | | | , | | | The state of the s | s, format: ecific QC (f | /NAC/N | 40D/ | | Ye: | | - No | Ur | JPS | | FedEx | <u>x_></u> | Cther_ | | ACTIVITY |
| | NYSDEC Category A or B MA MCP | CTR | ₹CP | | | | ` | • | | • • | | | | | Te | mper | ature ι | upon | n receipt | 3,4 | _°C |
| P | 4 | | | т , | (If yes, indicate QC sample and submit triplicate sample volume.) | | | | | | | | | | | | | | | | |



Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID:

222108

1968188

Group Number(s):

Client: AECOM

Delivery and Receipt Information

Delivery Method:

Fed Ex

Arrival Timestamp:

07/20/2018 10:00

Number of Packages:

1

Number of Projects:

1

State/Province of Origin:

<u>NY</u>

Arrival Condition Summary

Shipping Container Sealed:

Yes

Sample IDs on COC match Containers:

Yes

Custody Seal Present:

Yes

Sample Date/Times match COC:

Yes

Custody Seal Intact:

Yes

VOA Vial Headspace ≥ 6mm:

N/A

Samples Chilled:

Yes

Total Trip Blank Qty:

0

Paperwork Enclosed:

Yes Yes Air Quality Samples Present:

No

Samples Intact:

No

Missing Samples: Extra Samples:

No

Discrepancy in Container Qty on COC:

No

Unpacked by Simon Nies (25112) at 17:23 on 07/20/2018

Samples Chilled Details

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

Cooler # Thermometer ID

DT42-03

Corrected Temp 3.4

Therm. Type DT

Ice Type Wet

Ice Present? Υ

Ice Container Bagged

Elevated Temp? Ν



BMQL

ppb

basis

Dry weight

parts per billion

as-received basis.

Explanation of Symbols and Abbreviations

milliliter(s)

The following defines common symbols and abbreviations used in reporting technical data:

Below Minimum Quantitation Level

| С | degrees Celsius | MPN | Most Probable Number |
|----------|---------------------------------------|---------------------------|--|
| cfu | colony forming units | N.D. | non-detect |
| CP Units | cobalt-chloroplatinate units | ng | nanogram(s) |
| F | degrees Fahrenheit | NTU | nephelometric turbidity units |
| g | gram(s) | pg/L | picogram/liter |
| IU | International Units | RL | Reporting Limit |
| kg | kilogram(s) | TNTC | Too Numerous To Count |
| L | liter(s) | μg | microgram(s) |
| lb. | pound(s) | μL | microliter(s) |
| m3 | cubic meter(s) | umhos/cm | micromhos/cm |
| meq | milliequivalents | MCL | Maximum Contamination Limit |
| mg | milligram(s) | | |
| < | less than | | |
| > | greater than | | |
| ppm | aqueous liquids, ppm is usually taken | to be equivalent to milli | kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weight uivalent to one microliter per liter of gas. |

mL

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Results printed under this heading have been adjusted for moisture content. This increases the analyte weight

concentration to approximate the value present in a similar sample without moisture. All other results are reported on an

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



Data Qualifiers

| Qualifier | Definition |
|----------------|---|
| С | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| K1 | Initial Calibration Blank is above the QC limit and the sample result is ND |
| K2 | Continuing Calibration Blank is above the QC limit and the sample result is ND |
| K3 | Initial Calibration Verification is above the QC limit and the sample result is ND |
| K4 | Continuing Calibration Verification is above the QC limit and the sample result is ND |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised |
| | due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.









ANALYSIS REPORT

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 AECOM Suite 150 12420 Milestone Center Drive Germantown MD 20876

Report Date: June 27, 2018 15:51

Project: Stratton ANGB 60520893

Account #: 42343 Group Number: 1955055 SDG: FSB18 PO Number: 93872 State of Sample Origin: AR

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To AECOM Electronic Copy To AECOM Electronic Copy To AECOM Attn: John Santacroce Attn: Naoum Tavantzis Attn: Mike Myers

Respectfully Submitted,

Lay How

Kay Hower

(717) 556-7364









SAMPLE INFORMATION

| Client Sample Description | Sample Collection Date/Time | ELLE# |
|--|---|--|
| SC-WTP-SS02-01 Grab Soil SC-WTP-SB02-23 Grab Soil SC-WTP-SS01-01 Grab Soil SC-WTP-SB01-34 Grab Soil SC-WTP-SS03-01 Grab Soil SC-WTP-SB03-34 Grab Soil SC-WTP-SB03-34 Grab Soil SC-IRP3-SS01-01 Grab Soil SC-IRP3-SB01-34 Grab Soil SC-IRP3-SB02-01 Grab Soil SC-IRP3-SB02-45 Grab Soil SC-IRP3-MW01-01 Grab Soil SC-IRP3-MW01-05 Grab Soil | Date/Time 06/12/2018 08:55 06/12/2018 09:00 06/12/2018 09:10 06/12/2018 09:15 06/12/2018 09:25 06/12/2018 09:30 06/12/2018 09:45 06/12/2018 09:50 06/12/2018 09:55 06/12/2018 10:00 06/12/2018 10:15 06/12/2018 10:20 | 9659291 9659292 9659293 9659294 9659295 9659296 9659297 9659298 9659299 9659300 9659301 9659302 |
| SC-IRP3-DUP02 Grab Soil SC-B07-SS02-01 Grab Soil SC-B07-SB02-45 Grab Soil SC-EB-Macro Grab Water SC-B07-SS01-01 Grab Soil SC-B07-SB01-34 Grab Soil SC-B07-SB01-34 Grab Soil SC-B07-SB01-34 Grab Soil SC-B08-SS01-01 Grab Soil SC-B08-SS01-74 Grab Soil | 06/12/2018 06/12/2018 13:50 06/12/2018 13:52 06/12/2018 11:00 06/12/2018 13:00 06/12/2018 13:05 06/12/2018 13:05 06/12/2018 13:05 06/12/2018 14:20 06/12/2018 14:25 | 9659303 9659304 9659305 9659306 9659307 9659308 9659310 9659311 9659312 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.





Project Name: Stratton ANGB 60520893

ELLE Group #: 1955055

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9659293

The following analytes were manually integrated due to incorrect integrations:

Perfluoroheptanoic acid, Perfluorobutanesulfonate, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659294, 9659308

The following analytes were manually integrated due to incorrect integrations: Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659299, 9659301

The following analytes were manually integrated due to incorrect integrations: Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659310

The following analytes were manually integrated due to incorrect integrations: Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659307

The following analytes were manually integrated due to incorrect integrations: Perfluoronanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659303

The following analytes were manually integrated due to incorrect integrations:





Perfluoro-octanesulfonate

Sample #s: 9659312

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluorobutanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659300, 9659305, 9659311

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluoroheptanoic

Sample #s: 9659292

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid. Perfluorohexanesulfonate

Sample #s: 9659291, 9659297, 9659298, 9659304

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659295, 9659309

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorobutanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659296

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659302

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluoro-octanesulfonate

Batch #: 18168002 (Sample number(s): 9659291-9659305, 9659307-9659312 UNSPK: 9659308)

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: Perfluoroctanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Perfluoro-octanesulfonate, Perfluorohexanesulfonate

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside acceptance windows: Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate



SW 9659291

1955055

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEny

Sample Description: SC-WTP-SS02-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 08:55

SDG#: FSB18-01

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | S/MS Miscellaneous EPA 537 table B-1 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.63 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 1.3 | 0.21 | 0.67 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 1.0 | 0.21 | 0.68 | 0.83 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.60 J | 0.21 | 0.71 | 0.83 | 1 |
| Wet C | hemistry SM 2540 %Moistu | | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.8 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in weigh 103 - 105 degrees Celsius. The moist | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

as-received basis.

| | Laboratory Sample Analysis Record | | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 00:03 | Joshua P Trost | 1 | | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | | |

^{*=}This limit was used in the evaluation of the final result



SW 9659292

1955055

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEny

Sample Description: SC-WTP-SB02-23 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 09:00

SDG#: FSB18-02

00111

Moisture

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.67 | 0.89 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.76 | 0.89 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.45 J | 0.22 | 0.71 | 0.89 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.76 | 0.89 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.22 | 0.72 | 0.89 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.39 J | 0.22 | 0.76 | 0.89 | 1 |
| Wet Ch | nemistry SM 2540 G %Moisture | | % | % | % | % | |

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

n.a.

16.8

Sample Comments

0.50

0.50

0.50

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 00:18 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-WTP-SS01-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 09:10

SDG#: FSB18-03

AECOM

ELLE Sample #: SW 9659293 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|-------------------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 able B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.40 J | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 5.8 | 0.21 | 0.67 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.79 J | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 100 | 0.21 | 0.68 | 0.84 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.97 | 0.21 | 0.71 | 0.84 | 1 |
| Wet C | , | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the lo | n.a. ss in weight of the sample after The moisture result reported | | 0.50 ut | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 00:34 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-WTP-SB01-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 09:15

SDG#: FSB18-04

AECOM

ELLE Sample #: SW 9659294 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Numb | Dry er Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--------------------------|--|------------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 mod QSM 5 table B-15 | .1 ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | | 0.33 J | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.71 J | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonat | e 355-46-4 | 11 | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.96 | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfonat | e 1763-23-1 | 64 | 0.20 | 0.66 | 0.81 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 2.1 | 0.20 | 0.69 | 0.81 | 1 |
| Wet Cl | hemistry | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | | n.a. loss in weight of the sample a us. The moisture result report | | 0.50 t | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 00:49 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-WTP-SS03-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 09:25

SDG#: FSB18-05

AECOM

ELLE Sample #: SW 9659295 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-------------------------|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 metable B-15 | od QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | | 375-73-5 | N.D. | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | | 375-85-9 | 0.70 J | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfona | e | 355-46-4 | 7.4 | 0.21 | 0.67 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | | 375-95-1 | 0.99 | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluoro-octanesulfona | te | 1763-23-1 | 39 | 0.21 | 0.68 | 0.84 | 1 |
| 14478 | Perfluorooctanoic acid | | 335-67-1 | 2.7 | 0.21 | 0.71 | 0.84 | 1 |
| Wet Cl | nemistry | SM 2540 G- %Moisture | | % | % | % | % | |
| 00111 | Moisture Moisture represents the 103 - 105 degrees Celsi as-received basis. | | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 01:20 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-WTP-SB03-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 09:30

SDG#: FSB18-06

AECOM

ELLE Sample #: SW 9659296 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|-------------------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.23 | 0.69 | 0.92 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.30 J | 0.23 | 0.78 | 0.92 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 2.8 | 0.23 | 0.74 | 0.92 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.61 J | 0.23 | 0.78 | 0.92 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 24 | 0.23 | 0.75 | 0.92 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.2 | 0.23 | 0.78 | 0.92 | 1 |
| Wet C | | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the lo | n.a. ass in weight of the sample after s. The moisture result reported | | 0.50 ut | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 01:36 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-IRP3-SS01-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 09:45

SDG#: FSB18-07

AECOM

ELLE Sample #: SW 9659297 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--------------------------------------|---|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous E | PA 537 mod QSM 5.1 ble B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.60 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.48 J | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.33 J | 0.20 | 0.66 | 0.81 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| Wet Cl | | M 2540 G-1997 Moisture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the los | n.a. s in weight of the sample after The moisture result reported | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 01:51 | Joshua P Trost | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-IRP3-SB01-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 09:50

SDG#: FSB18-08

AECOM

ELLE Sample #: SW 9659298 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|---|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 able B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.63 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 2.6 | 0.21 | 0.67 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 17 | 0.21 | 0.68 | 0.83 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.97 | 0.21 | 0.71 | 0.83 | 1 |
| Wet C | | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 9.5 | 0.50 | 0.50 | 0.50 | 1 |
| | | ss in weight of the sample after c. The moisture result reported | | at | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 02:07 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-IRP3-SS02-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 09:55

SDG#: FSB18-09

AECOM

ELLE Sample #: SW 9659299 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|--------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 5 table | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.64 | 0.85 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.73 | 0.85 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.41 J | 0.21 | 0.68 | 0.85 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.73 | 0.85 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.57 J | 0.21 | 0.69 | 0.85 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.21 | 0.73 | 0.85 | 1 |
| Wet C | | 540 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in w 103 - 105 degrees Celsius. The r as-received basis. | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 02:22 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



SW 9659300

1955055

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description: SC-IRP3-SB02-45 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 10:00

SDG#: FSB18-10

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 able B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 4.5 | 0.22 | 0.70 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 31 | 0.22 | 0.71 | 0.87 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.2 | 0.22 | 0.74 | 0.87 | 1 |
| Wet CI | | SM 2540 G-1997 6Moisture Calc | % | % | % | % | |
| 00111 | | n.a. ss in weight of the sample after The moisture result reported i | | 0.50 at | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 02:38 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-IRP3-MW01-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 10:15

SDG#: FSB18-11

AECOM

ELLE Sample #: SW 9659301 ELLE Group #: 1955055

Matrix: Soil

| 000 | . 651 | 9 1 1 | | | | | |
|------------|--|--------------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
| LC/MS | /MS Miscellaneous EP | A 537 mod QSM 5.1 le B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.72 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.21 | 0.67 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.72 | 0.84 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.23 J | 0.21 | 0.68 | 0.84 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.21 | 0.72 | 0.84 | 1 |
| Wet CI | | l 2540 G-1997 Noisture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss i 103 - 105 degrees Celsius. The as-received basis. | | | 0.50 t | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 02:53 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-IRP3-MW01-45 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 10:20

SDG#: FSB18-12

AECOM

ELLE Sample #: SW 9659302 ELLE Group #: 1955055

Matrix: Soil

| 000 | . 651 | 0 12 | | | | | |
|------------|--|--------------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
| LC/MS | /MS Miscellaneous EP | A 537 mod QSM 5.1 ble B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.23 | 0.69 | 0.92 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.23 | 0.78 | 0.92 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.23 | 0.74 | 0.92 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.23 | 0.78 | 0.92 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.70 J | 0.23 | 0.75 | 0.92 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.54 J | 0.23 | 0.78 | 0.92 | 1 |
| Wet CI | | l 2540 G-1997 Moisture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss i 103 - 105 degrees Celsius. Ti as-received basis. | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 03:09 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-IRP3-DUP02 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

 Submittal Date/Time:
 06/14/2018 08:00

 Collection Date/Time:
 06/12/2018

 SDG#:
 FSB18-13FD

AECOM

ELLE Sample #: SW 9659303 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | | N.D. | 0.21 | 0.64 | 0.85 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | Perfluorohexanesulfonate | e 355-46-4 | N.D. | 0.21 | 0.68 | 0.85 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | Perfluoro-octanesulfonate | e 1763-23-1 | 0.22 J | 0.21 | 0.69 | 0.85 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.21 | 0.72 | 0.85 | 1 |
| Wet C | , | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 17.5 | 0.50 | 0.50 | 0.50 | 1 |
| | | oss in weight of the sample afte s. The moisture result reported | | t | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method CAT Batch# Dilution **Analysis Name** Trial# **Analysis Analyst Date and Time Factor** 14478 PFAS in Soil by LC/MS/MS-DoD EPA 537 mod QSM 5.1 18168002 06/20/2018 03:24 Joshua P Trost table B-15 14510 PFAS Solid Prep - DoD EPA 537 mod QSM 5.1 18168002 06/18/2018 08:10 Pamela Rothharpt 1 table B-15 Larry E Bevins 00111 Moisture SM 2540 G-1997 18169820005A 06/18/2018 12:31 1 %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B07-SS02-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 13:50

SDG#: FSB18-14

AECOM

ELLE Sample #: SW 9659304 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.27 J | 0.21 | 0.62 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.48 J | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 3.3 | 0.21 | 0.66 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 15 | 0.21 | 0.67 | 0.83 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.44 J | 0.21 | 0.70 | 0.83 | 1 |
| Wet Ch | ······ | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | | n.a. oss in weight of the sample after s. The moisture result reported | | 0.50 t | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 03:40 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



SW 9659305

1955055

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description: SC-B07-SB02-45 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 13:52

SDG#: FSB18-15

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|---|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.24 J | 0.19 | 0.57 | 0.76 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.53 J | 0.19 | 0.64 | 0.76 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 4.2 | 0.19 | 0.60 | 0.76 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.19 | 0.64 | 0.76 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 12 | 0.19 | 0.61 | 0.76 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.46 J | 0.19 | 0.64 | 0.76 | 1 |
| Wet C | • | M 2540 G-1997 Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.2 | 0.50 | 0.50 | 0.50 | 1 |
| | | s in weight of the sample after The moisture result reported i | | İ | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

as-received basis.

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 04:11 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-EB-Macro Grab Water

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06
Collection Date/Time: 06
SDG#: FS

06/14/2018 08:00 06/12/2018 11:00 FSB18-16EB **AECOM**

ELLE Sample #: WW 9659306 ELLE Group #: 1955055

Matrix: Water

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|---|------------|--------|---------------------|-----------------------|--------------------------|----|
| LC/MS | /MS Miscellaneous EPA 537 m table B-15 | od QSM 5.1 | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.29 | 1.1 | 1.9 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.29 | 1.2 | 1.9 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.39 | 1.1 | 1.9 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.39 | 1.2 | 1.9 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.58 | 2.2 | 2.9 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.29 | 1.2 | 1.9 | 1 |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166004 | 06/19/2018 00:14 | Joshua P Trost | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166004 | 06/15/2018 08:00 | Pamela Rothharpt | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B07-SS01-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 13:00

SDG#: FSB18-17

AECOM

ELLE Sample #: SW 9659307 ELLE Group #: 1955055

Matrix: Soil

| | | | | Dry | Dry | Dry | |
|------------|---------------------------|--|---------------|---------------------|-----------------------|--------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
| LC/MS | | EPA 537 mod QSM 5.1 able B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.75 J | 0.20 | 0.61 | 0.82 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 3.8 | 0.20 | 0.70 | 0.82 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 34 | 0.20 | 0.65 | 0.82 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 2.1 | 0.20 | 0.70 | 0.82 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 100 | 0.20 | 0.66 | 0.82 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 6.2 | 0.20 | 0.70 | 0.82 | 1 |
| Wet Ch | | 6M 2540 G-1997 6Moisture Calc | % | % | % | % | |
| 00111 | | n.a. ss in weight of the sample after . The moisture result reported i | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 04:26 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B07-SB01-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00
Collection Date/Time: 06/12/2018 13:05
SDG#: FSB18-18BKG

AECOM

ELLE Sample #: SW 9659308 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|------------------------------|-------------------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 537 table B-1 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.28 J | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 1.7 | 0.22 | 0.69 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 2.8 | 0.22 | 0.71 | 0.87 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.50 J | 0.22 | 0.74 | 0.87 | 1 |
| Wet CI | nemistry SM 2540 %Moistu | | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in weigh | n.a. t of the sample afte | 9.7 r oven drying at | 0.50 | 0.50 | 0.50 | 1 |
| | 103 - 105 degrees Celsius. The moist as-received basis. | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 04:42 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B07-SB01-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00
Collection Date/Time: 06/12/2018 13:05
SDG#: FSB18-18MS

AECOM

ELLE Sample #: SW 9659309 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 537 m table B-15 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 1.2 | 0.19 | 0.58 | 0.77 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 1.4 | 0.19 | 0.65 | 0.77 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 2.5 | 0.19 | 0.62 | 0.77 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 1.5 | 0.19 | 0.65 | 0.77 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 2.7 | 0.19 | 0.63 | 0.77 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.9 | 0.19 | 0.65 | 0.77 | 1 |
| Wet Ch | nemistry SM 2540 G %Moisture | | % | % | % | % | |
| 00118 | Moisture | n.a. | 9.7 | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 04:58 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | |
| 00118 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B07-SB01-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00
Collection Date/Time: 06/12/2018 13:05
SDG#: FSB18-18MSD

AECOM

ELLE Sample #: SW 9659310 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-------------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA | 537 mod QSM 5.1 e B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 1.5 | 0.21 | 0.64 | 0.85 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 3.9 | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 5.3 | 0.21 | 0.68 | 0.85 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 1.6 | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 3.5 | 0.21 | 0.69 | 0.85 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 3.4 | 0.21 | 0.72 | 0.85 | 1 |
| Wet CI | | 2540 G-1997 Disture Calc | % | % | % | % | |
| 00118 | Moisture | n.a. | 9.7 | 0.50 | 0.50 | 0.50 | 1 |
| 00121 | Moisture Duplicate The duplicate moisture value is moisture test. For comparabili determination is the value used | ty purposes, the initial mois | sture | 0.50 e | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 05:13 | Joshua P Trost | 1 | | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | | |
| 00118 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B07-SB01-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00
Collection Date/Time: 06/12/2018 13:05
SDG#: FSB18-18MSD

AECOM

ELLE Sample #: SW 9659310 ELLE Group #: 1955055

Matrix: Soil

| Laboratory | Sampl | le Analysis | Record |
|------------|-------|-------------|--------|
|------------|-------|-------------|--------|

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|--------------------|----------------------------------|--------|--------------|---------------------------|----------------|--------------------|
| 00121 | Moisture Duplicate | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005A | 06/18/2018 12:31 | Larry E Bevins | 1 |



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Sample Description: SC-B08-SS01-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 14:20

SDG#: FSB18-19

AECOM

ELLE Sample #: SW 9659311 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | CASI | Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|----------------------------------|--------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | S/MS Miscellaneous | EPA 537 mod QS table B-15 | SM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | | 3-5 | N.D. | 0.20 | 0.59 | 0.79 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-8 | 5-9 | N.D. | 0.20 | 0.67 | 0.79 | 1 |
| 14478 | Perfluorohexanesulfonat | e 355-4 | 6-4 | 3.5 | 0.20 | 0.63 | 0.79 | 1 |
| 14478 | Perfluorononanoic acid | 375-9 | 5-1 | N.D. | 0.20 | 0.67 | 0.79 | 1 |
| 14478 | Perfluoro-octanesulfonat | e 1763- | 23-1 | 14 | 0.20 | 0.64 | 0.79 | 1 |
| 14478 | Perfluorooctanoic acid | 335-6 | 7-1 | 0.55 J | 0.20 | 0.67 | 0.79 | 1 |
| Wet C | hemistry | SM 2540 G-1997 %Moisture Calc | | % | % | % | % | |
| 00111 | Moisture Moisture represents the 103 - 105 degrees Celsia | n.a. loss in weight of the sa | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 05:29 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005B | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B08-SB01-74 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/12/2018 14:25

SDG#: FSB18-20

AECOM

ELLE Sample #: SW 9659312 ELLE Group #: 1955055

Matrix: Soil

| CAT No. | Analysis Name | | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-------------------------|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 mo | od QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | | 375-73-5 | 0.52 J | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | | 375-85-9 | 0.25 J | 0.21 | 0.72 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfona | te | 355-46-4 | 7.0 | 0.21 | 0.68 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | | 375-95-1 | N.D. | 0.21 | 0.72 | 0.84 | 1 |
| 14478 | Perfluoro-octanesulfona | te | 1763-23-1 | 9.7 | 0.21 | 0.69 | 0.84 | 1 |
| 14478 | Perfluorooctanoic acid | | 335-67-1 | 1.8 | 0.21 | 0.72 | 0.84 | 1 |
| Wet Cl | hemistry | SM 2540 G- %Moisture | | % | % | % | % | |
| 00111 | Moisture Moisture represents the 103 - 105 degrees Celsi as-received basis. | | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/20/2018 05:44 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18168002 | 06/18/2018 08:10 | Pamela Rothharpt | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820005B | 06/18/2018 12:31 | Larry E Bevins | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: AECOM Group Number: 1955055

Reported: 06/27/2018 15:51

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

| Analysis Name | Result | DL** | LOD | LOQ |
|---------------------------|------------|-----------------|--------------|---------------|
| | ng/g | ng/g | ng/g | ng/g |
| Batch number: 18168002 | Sample num | ber(s): 965929 | 1-9659305,96 | 59307-9659312 |
| Perfluorobutanesulfonate | N.D. | 0.20 | 0.60 | 0.80 |
| Perfluoroheptanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| Perfluorohexanesulfonate | N.D. | 0.20 | 0.64 | 0.80 |
| Perfluorononanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| Perfluoro-octanesulfonate | N.D. | 0.20 | 0.65 | 0.80 |
| Perfluorooctanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| | ng/l | ng/l | ng/l | ng/l |
| Batch number: 18166004 | Sample num | ber(s): 9659306 | 6 | |
| Perfluorobutanesulfonate | N.D. | 0.30 | 1.1 | 2.0 |
| Perfluoroheptanoic acid | N.D. | 0.30 | 1.2 | 2.0 |
| Perfluorohexanesulfonate | N.D. | 0.40 | 1.1 | 2.0 |
| Perfluorononanoic acid | N.D. | 0.40 | 1.2 | 2.0 |
| Perfluoro-octanesulfonate | N.D. | 0.60 | 2.3 | 3.0 |
| Perfluorooctanoic acid | N.D. | 0.30 | 1.2 | 2.0 |

LCS/LCSD

| Analysis Name | LCS Spike Added ng/g | LCS Conc ng/g | LCSD Spike Added ng/g | LCSD Conc ng/g | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---------------------------|----------------------------|---------------------|-----------------------------|----------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: 18168002 | Sample number(| s): 9659291-9 | 9659305,9659307-9 | 659312 | | | | | |
| Perfluorobutanesulfonate | 1.20 | 1.09 | | | 91 | | 70-130 | | |
| Perfluoroheptanoic acid | 1.36 | 1.28 | | | 94 | | 70-130 | | |
| Perfluorohexanesulfonate | 1.29 | 1.40 | | | 109 | | 70-130 | | |
| Perfluorononanoic acid | 1.36 | 1.44 | | | 106 | | 70-130 | | |
| Perfluoro-octanesulfonate | 1.30 | 1.30 | | | 100 | | 70-130 | | |
| Perfluorooctanoic acid | 1.36 | 1.46 | | | 107 | | 70-130 | | |
| | ng/l | ng/l | ng/l | ng/l | | | | | |
| Batch number: 18166004 | Sample number(| s): 9659306 | | | | | | | |
| Perfluorobutanesulfonate | 4.81 | 4.04 | 4.81 | 4.26 | 84 | 89 | 70-130 | 5 | 30 |
| Perfluoroheptanoic acid | 5.44 | 5.03 | 5.44 | 4.96 | 92 | 91 | 70-130 | 1 | 30 |
| Perfluorohexanesulfonate | 5.14 | 5.14 | 5.14 | 4.81 | 100 | 93 | 70-130 | 7 | 30 |
| Perfluorononanoic acid | 5.44 | 4.96 | 5.44 | 5.16 | 91 | 95 | 70-130 | 4 | 30 |
| Perfluoro-octanesulfonate | 5.20 | 4.72 | 5.20 | 5.07 | 91 | 98 | 70-130 | 7 | 30 |

^{*-} Outside of specification

P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: AECOM Group Number: 1955055

Reported: 06/27/2018 15:51

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added ng/l | LCS Conc ng/l | LCSD Spike Added ng/l | LCSD Conc ng/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|----------------------------|----------------------------|---------------------|-----------------------------|----------------------|-------------|--------------|--------------------|-----|------------|
| Perfluorooctanoic acid | 5.44 | 5.26 | 5.44 | 5.37 | 97 | 99 | 70-130 | 2 | 30 |
| | % | % | % | % | | | | | |
| Batch number: 18169820005A | Sample number(| s): 9659291-9 | 9659305,9659307-9 | 659310 | | | | | |
| Moisture | 89.5 | 89.42 | | | 100 | | 99-101 | | |
| Moisture | 89.5 | 89.42 | | | 100 | | 99-101 | | |
| Moisture Duplicate | 89.5 | 89.42 | | | 100 | | 99-101 | | |
| Batch number: 18169820005B | Sample number(| s): 9659311-9 | 9659312 | | | | | | |
| Moisture | 89.5 | 89.42 | | | 100 | | 99-101 | | |

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

| Analysis Name | Unspiked Conc ng/g | MS Spike Added ng/g | MS Conc ng/g | MSD Spike Added ng/g | MSD Conc ng/g | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|---------------------------|--------------------------|---------------------------|--------------------|----------------------------|---------------------|------------|-------------|------------------|-----|------------|
| Batch number: 18168002 | Sample number | er(s): 9659291- | 9659305,9 | 659307-9659312 | UNSPK: 9 | 659308 | | | | |
| Perfluorobutanesulfonate | N.D. | 1.05 | 1.08 | 1.16 | 1.37 | 104 | 118 | 70-130 | 23 | 30 |
| Perfluoroheptanoic acid | 0.256 | 1.18 | 1.31 | 1.31 | 3.51 | 89 | 249* | 70-130 | 92* | 30 |
| Perfluorohexanesulfonate | 1.54 | 1.12 | 2.21 | 1.24 | 4.75 | 60* | 259* | 70-130 | 73* | 30 |
| Perfluorononanoic acid | N.D. | 1.18 | 1.32 | 1.31 | 1.43 | 111 | 109 | 70-130 | 8 | 30 |
| Perfluoro-octanesulfonate | 2.50 | 1.13 | 2.46 | 1.25 | 3.20 | -2* | 56* | 70-130 | 26 | 30 |
| Perfluorooctanoic acid | 0.447 | 1.18 | 1.68 | 1.31 | 3.08 | 104 | 202* | 70-130 | 59* | 30 |

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc % | DUP Conc % | DUP RPD | DUP RPD Max |
|----------------------------|------------------------|---------------------|-----------------|-------------|
| Batch number: 18169820005A | Sample number(s): 9659 | 291-9659305,9659307 | -9659310 BKG: 9 | 659308 |
| Moisture | 9.70 | 9.39 | 3 | 5 |
| Moisture | 9.70 | 9.39 | 3 | 5 |
| Moisture Duplicate | 9.70 | 9.39 | 3 | 5 |
| Batch number: 18169820005B | Sample number(s): 9659 | 311-9659312 BKG: P6 | 59526 | |
| Moisture | N.D. | N.D. | 0 (1) | 5 |

^{*-} Outside of specification

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

50-150

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Quality Control Summary

Client Name: AECOM Group Number: 1955055

Reported: 06/27/2018 15:51

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

50-150

Analysis Name: PFAS in Water by LC/MS/MS-DoD

Batch number: 18166004

| | 13C3-F | PFBS | 13C3-F | PFHxS | 13C4-F | PFHpA | 13C8-P | FOA | 13C8-F | PFOS | 13C9-F | FNA | |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| | %Rec | LOD | %Rec | LOD | %Rec | LÓD | %Rec | LOD | %Rec | LOD | %Rec | LOD | |
| | | (ng/l) | |
| 9659306 | 114 | 9.7 | 108 | 9.7 | 108 | 1.9 | 109 | 1.9 | 112 | 9.7 | 97 | 1.9 | |
| Blank | 103 | 10 | 100 | 10 | 104 | 2.0 | 102 | 2.0 | 95 | 10 | 89 | 2.0 | |
| LCS | 103 | 10 | 96 | 10 | 102 | 2.0 | 99 | 2.0 | 94 | 10 | 90 | 2.0 | |
| LCSD | 99 | 10 | 99 | 10 | 100 | 2.0 | 99 | 2.0 | 91 | 10 | 84 | 2.0 | |

50-150

50-150

50-150

Analysis Name: PFAS in Soil by LC/MS/MS-DoD

50-150

Batch number: 18168002

Limits:

| | 13C3- | PFBS | 13C3-I | PFHxS | 13C4-F | PFHpA | 13C8-F | PFOA | 13C8-F | FOS | 13C9-F | PFNA | |
|---------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| | %Rec | LOD | %Rec | LOD | %Rec | LOD | %Rec | LOD | %Rec | LOD | %Rec | LOD | |
| | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | |
| 9659291 | 74 | 0.58 | 69 | 0.58 | 68 | 0.58 | 69 | 0.58 | 70 | 0.87 | 65 | 0.38 | |
| 9659292 | 73 | 0.56 | 72 | 0.56 | 68 | 0.56 | 70 | 0.56 | 75 | 0.83 | 67 | 0.37 | |
| 9659293 | 83 | 1.2 | 74 | 1.2 | 72 | 1.2 | 73 | 1.2 | 80 | 1.8 | 74 | 0.80 | |
| 9659294 | 78 | 0.56 | 74 | 0.56 | 74 | 0.56 | 75 | 0.56 | 78 | 0.83 | 73 | 0.37 | |
| 9659295 | 73 | 0.58 | 67 | 0.58 | 65 | 0.58 | 68 | 0.58 | 75 | 0.87 | 67 | 0.39 | |
| 9659296 | 74 | 1.2 | 67 | 1.2 | 72 | 1.2 | 74 | 1.2 | 71 | 1.8 | 75 | 0.80 | |
| 9659297 | 77 | 0.56 | 74 | 0.56 | 74 | 0.56 | 74 | 0.56 | 73 | 0.84 | 73 | 0.37 | |
| 9659298 | 74 | 0.57 | 69 | 0.57 | 70 | 0.57 | 71 | 0.57 | 67 | 0.85 | 68 | 0.38 | |
| 9659299 | 76 | 0.54 | 68 | 0.54 | 70 | 0.54 | 72 | 0.54 | 80 | 0.81 | 74 | 0.36 | |
| 9659300 | 73 | 0.58 | 67 | 0.58 | 66 | 0.58 | 74 | 0.58 | 71 | 0.87 | 67 | 0.38 | |
| 9659301 | 68 | 0.59 | 63 | 0.59 | 60 | 0.59 | 63 | 0.59 | 63 | 0.88 | 60 | 0.39 | |
| 9659302 | 72 | 0.58 | 67 | 0.58 | 69 | 0.58 | 71 | 0.58 | 71 | 0.87 | 73 | 0.38 | |
| 9659303 | 67 | 0.53 | 64 | 0.53 | 65 | 0.53 | 67 | 0.53 | 65 | 0.79 | 66 | 0.35 | |
| 9659304 | 71 | 0.58 | 71 | 0.58 | 70 | 0.58 | 72 | 0.58 | 69 | 0.87 | 68 | 0.38 | |
| 9659305 | 73 | 0.53 | 67 | 0.53 | 68 | 0.53 | 68 | 0.53 | 70 | 0.79 | 71 | 0.35 | |
| 9659307 | 70 | 0.55 | 66 | 0.55 | 67 | 0.55 | 63 | 0.55 | 68 | 0.82 | 68 | 0.36 | |
| 9659308 | 67 | 0.59 | 68 | 0.59 | 65 | 0.59 | 68 | 0.59 | 68 | 0.88 | 66 | 0.39 | |
| 9659309 | 65 | 0.52 | 63 | 0.52 | 60 | 0.52 | 67 | 0.52 | 68 | 0.78 | 68 | 0.35 | |
| 9659310 | 66 | 0.58 | 62 | 0.58 | 61 | 0.58 | 67 | 0.58 | 69 | 0.87 | 67 | 0.38 | |
| 9659311 | 79 | 0.55 | 76 | 0.55 | 77 | 0.55 | 79 | 0.55 | 78 | 0.82 | 83 | 0.36 | |
| 9659312 | 75 | 0.59 | 74 | 0.59 | 69 | 0.59 | 69 | 0.59 | 75 | 0.89 | 67 | 0.40 | |
| Blank | 77 | 1.2 | 74 | 1.2 | 78 | 1.2 | 78 | 1.2 | 80 | 1.8 | 78 | 0.80 | |
| LCS | 86 | 1.2 | 81 | 1.2 | 90 | 1.2 | 90 | 1.2 | 83 | 1.8 | 80 | 0.80 | |
| MS | 65 | 0.52 | 63 | 0.52 | 60 | 0.52 | 67 | 0.52 | 68 | 0.78 | 68 | 0.35 | |
| MSD | 66 | 0.58 | 62 | 0.58 | 61 | 0.58 | 67 | 0.58 | 69 | 0.87 | 67 | 0.38 | |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.



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Quality Control Summary

Client Name: AECOM Group Number: 1955055

Reported: 06/27/2018 15:51

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Soil by LC/MS/MS-DoD

Batch number: 18168002

Datch number. 10100002

Limits: 50-150

50-150

50-150

50-150

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^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

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| Stratton PFAS/60520893 Project Manager: | P.O. #: | | | | | Surf | | • | | | | | | | | | H=HCI | | Thiosulfate |
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| Sampler: | Quote #: | | | - | Į į | | | ji e | S | ٥ | | | | | | | | l=tered O ≕ | :H₃PO₄ =Other |
| State where samples were collected: For Compliance: | | - | ······································ | i i | ا يّا [| ble ES | | ınta | V: | 1 1 | | | | | | | | Remarks | |
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| Sample Identification | Col | llected | Grab | Composite | Soil (| Water | Other: | tal # | E SE | No. Sylven | | | | | | | | | |
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| SC- WTP - SJ63 -01 | | 925 | / | | | ı | | 2 | | 1 | | - | | | | 1 | | | |
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| SC- IRP3 -5502-01 | | 954 | 1 | | 1 | | \Box | 2 | | | | | | | _ | +++ | | - | |
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| E-mail address: John. Santacrock | @ <u>ae61</u> | h.(0~ | Relinqui | uished I | by | | | Mahamanananan | | Date | Time | | Received | d hv | Della Control | Water Woodsman | | Date | Time |
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Environmental Analysis Request/Chain of Custody

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Acct. # 47343 Group # 19555 Sample # 9 6 5 9 7 9 / - 3/2

COC # 562318

| | Client Information | | | | | Matrix | | | | Changia (nicesory) | | Analysi | | | | | For Lab | For Lab Use Only | |
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| Project Name/#: | PWSID #: | _ | _ | | Tissue | Ground Surface | | ' | | | | | | | | | Pre | servation (| Codes |
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| Stratton PFAS/60520893 Project Manager: John Santacroca | P.O. #; | | | , | | 0 0 | 1 1 | g ' | 1 | | 1 . | | | | l | | N=HNO ₃ | • | :NaOH |
| Sampler: | Quote #: | | * | | 4 | | 1 [| Jeu / | | | 13 | 1 | | | | | S=H ₂ SO | • | :H ₃ PO ₄ |
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| E-mail address:Juha. Santacroce@ | GARAGA | | Relinc | webed | by | | | entitricina de la companya de la com | Nien- | Date | | Time | Doc | eived by | | | | Date | Time |
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| Equivalent/non-CLP) | Raw Data C | Only) | | | • | | ***CONTRACTOR OF THE PARTY OF T | CHARACTER CONTRACTOR C | Service Comments | NOT THE PARTY OF | AND DESCRIPTION OF THE PERSON NAMED IN COLUMN | 1 | | | | ronz | alez | 6/14/18 | 8:00 |
| , | , | | | | <u> Austriania</u> | EDD Requ | nuirec | 1? ` | Yes | No | | Programme and the second | | | | | | | |
| Type III (Reduced non-CLP) NJ DKQP | IXI | FRRP-13 | | 1 | If yes | , format: | | | | | | - | Relinquished by Commercial Carrier: UPS FedEx Other | | | | | | |
| NYSDEC Category A or B MA MCP CT RCP | | | | Sit | e-Spr | ecific QC (N | MS/N | /ISD/[| Jup)? | ? Ye | as ' | No | | To | mnor | | pon receipt _ | | 7.0 |
| NTODEO Galegory A of B | .01 | | (If yes | , indica | ate QC sample | e and | submit | triplica | ⊿te sam | ple vol | iume.) | | lei | mper | ature u | pon receipt _ | 2. 4 2. 1 | 7 | |



Sample Administration Receipt Documentation Log

Doc Log ID: 219099

Group Number(s): 1955055

Client: Aecom

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 06/14/2018 8:00

Number of Packages: <u>3</u> Number of Projects: <u>1</u>

State/Province of Origin: NY

Arrival Condition Summary

Shipping Container Sealed:YesSample IDs on COC match Containers:YesCustody Seal Present:YesSample Date/Times match COC:YesCustody Seal Intact:YesVOA Vial Headspace ≥ 6mm:N/A

Samples Chilled: Yes Total Trip Blank Qty: 0

Paperwork Enclosed: Yes Air Quality Samples Present: No

Samples Intact: Yes

Missing Samples: No Extra Samples: No

Discrepancy in Container Qty on COC: No

Unpacked by Felix Gonzalez (13783) at 08:54 on 06/14/2018

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

| Cooler# | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|---------|----------------|----------------|-------------|----------|--------------|---------------|----------------|
| 1 | 32170023 | 5.7 | IR | Wet | Υ | Loose/Bag | N |
| 2 | DT42-01 | 5.9 | DT | Wet | Υ | Loose/Bag | N |
| 3 | DT42-01 | 4.5 | DT | Wet | Υ | Loose/Bag | N |



BMQL

ppb

basis

Dry weight

parts per billion

as-received basis.

Explanation of Symbols and Abbreviations

milliliter(s)

The following defines common symbols and abbreviations used in reporting technical data:

Below Minimum Quantitation Level

| С | degrees Celsius | MPN | Most Probable Number |
|----------|------------------------------|------------------------|--|
| cfu | colony forming units | N.D. | non-detect |
| CP Units | cobalt-chloroplatinate units | ng | nanogram(s) |
| F | degrees Fahrenheit | NTU | nephelometric turbidity units |
| g | gram(s) | pg/L | picogram/liter |
| IU | International Units | RL | Reporting Limit |
| kg | kilogram(s) | TNTC | Too Numerous To Count |
| L | liter(s) | μg | microgram(s) |
| lb. | pound(s) | μL | microliter(s) |
| m3 | cubic meter(s) | umhos/cm | micromhos/cm |
| meq | milliequivalents | MCL | Maximum Contamination Limit |
| mg | milligram(s) | | |
| < | less than | | |
| > | greater than | | |
| ppm | • • • | be equivalent to milli | kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weight uivalent to one microliter per liter of gas. |

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Results printed under this heading have been adjusted for moisture content. This increases the analyte weight

concentration to approximate the value present in a similar sample without moisture. All other results are reported on an

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



Data Qualifiers

| Qualifier | Definition |
|----------------|---|
| С | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| K1 | Initial Calibration Blank is above the QC limit and the sample result is ND |
| K2 | Continuing Calibration Blank is above the QC limit and the sample result is ND |
| K3 | Initial Calibration Verification is above the QC limit and the sample result is ND |
| K4 | Continuing Calibration Verification is above the QC limit and the sample result is ND |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised |
| | due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.









ANALYSIS REPORT

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 AECOM Suite 150 12420 Milestone Center Drive Germantown MD 20876

Report Date: July 02, 2018 11:02

Project: Stratton ANGB 60520893

Account #: 42343 Group Number: 1955027 SDG: FSB17 PO Number: 93872 State of Sample Origin: AR

To view our laboratory's current scopes of accreditation please go to http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/. Historical copies may be requested through your project manager.

Electronic Copy To AECOM Electronic Copy To AECOM Electronic Copy To AECOM Attn: John Santacroce Attn: Naoum Tavantzis Attn: Mike Myers

Respectfully Submitted,

Lay How

Kay Hower

(717) 556-7364









SAMPLE INFORMATION

| SC-B12-SS01-01 Grab Soil 06/13/2018 06:20 9659222 SC-B12-SB01-07 Grab Soil 06/13/2018 08:25 9659223 SC-B12-SS02-01 Grab Soil 06/13/2018 08:00 9659224 SC-B12-SB02-56 Grab Soil 06/13/2018 08:00 9659225 SC-B02-SS02-01 Grab Soil 06/13/2018 08:40 9659225 SC-B02-SB02-56 Grab Soil 06/13/2018 08:45 9659227 SC-B03-SS02-01 Grab Soil 06/13/2018 09:40 9659228 SC-B03-SB02-23 Grab Soil 06/13/2018 09:45 9659229 SC-B03-SB01-23 Grab Soil 06/13/2018 09:45 9659229 SC-B03-SB01-34 Grab Soil 06/13/2018 10:05 9659230 SC-B03-SS01-01 Grab Soil 06/13/2018 10:05 9659231 SC-B03-SS02-01 Grab Soil 06/13/2018 10:10 9659232 SC-B35-SS02-01 Grab Soil 06/13/2018 10:10 9659232 SC-B35-SB02-34 Grab Soil 06/13/2018 11:10 9659234 SC-B35-SB03-01 Grab Soil 06/13/2018 11:10 9659235 SC-B35-SB03-56 Grab Soil 06/13/2018 11:15 9659235 SC-B35-SB01-23 Grab Soil 06/13/2018 11:20 9659237 SC-B35-SB01-23 Grab Soil 06/13/2018 11:20 96592 | Client Sample Description | Sample Collection Date/Time | ELLE# |
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| SC-B03-SS01-01 Grab Soil 06/13/2018 10:05 9659231 SC-B03-SB01-34 Grab Soil 06/13/2018 10:10 9659232 SC-B35-SS02-01 Grab Soil 06/13/2018 10:55 9659233 SC-B35-SB02-34 Grab Soil 06/13/2018 11:00 9659234 SC-B35-SS03-01 Grab Soil 06/13/2018 11:10 9659235 SC-B35-SB03-56 Grab Soil 06/13/2018 11:15 9659236 SC-B35-SS01-01 Grab Soil 06/13/2018 11:20 9659237 SC-B35-SB01-23 Grab Soil 06/13/2018 11:25 9659238 SC-B31-SS02-01 Grab Soil 06/13/2018 11:40 9659239 SC-B31-DUP04 Grab Soil 06/13/2018 11:50 9659240 SC-B31-SS01-01 Grab Soil 06/13/2018 11:50 9659241 SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B03-SB02-23 Grab Soil | 06/13/2018 09:45 | 9659229 |
| SC-B03-SB01-34 Grab Soil 06/13/2018 10:10 9659232 SC-B35-SS02-01 Grab Soil 06/13/2018 10:55 9659233 SC-B35-SB02-34 Grab Soil 06/13/2018 11:00 9659234 SC-B35-SS03-01 Grab Soil 06/13/2018 11:10 9659235 SC-B35-SB03-56 Grab Soil 06/13/2018 11:15 9659236 SC-B35-SS01-01 Grab Soil 06/13/2018 11:20 9659237 SC-B35-SB01-23 Grab Soil 06/13/2018 11:25 9659238 SC-B31-SS02-01 Grab Soil 06/13/2018 11:40 9659239 SC-B31-DUP04 Grab Soil 06/13/2018 11:50 9659240 SC-B31-SS01-01 Grab Soil 06/13/2018 11:50 9659241 SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B03-DUP03 Grab Soil | 06/13/2018 | 9659230 |
| SC-B35-SS02-01 Grab Soil 06/13/2018 10:55 9659233 SC-B35-SB02-34 Grab Soil 06/13/2018 11:00 9659234 SC-B35-SS03-01 Grab Soil 06/13/2018 11:10 9659235 SC-B35-SB03-56 Grab Soil 06/13/2018 11:15 9659236 SC-B35-SS01-01 Grab Soil 06/13/2018 11:20 9659237 SC-B35-SB01-23 Grab Soil 06/13/2018 11:25 9659238 SC-B31-SS02-01 Grab Soil 06/13/2018 11:40 9659239 SC-B31-DUP04 Grab Soil 06/13/2018 9659240 SC-B31-SS01-01 Grab Soil 06/13/2018 11:50 9659241 SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B03-SS01-01 Grab Soil | 06/13/2018 10:05 | 9659231 |
| SC-B35-SB02-34 Grab Soil 06/13/2018 11:00 9659234 SC-B35-SS03-01 Grab Soil 06/13/2018 11:10 9659235 SC-B35-SB03-56 Grab Soil 06/13/2018 11:15 9659236 SC-B35-SS01-01 Grab Soil 06/13/2018 11:20 9659237 SC-B35-SB01-23 Grab Soil 06/13/2018 11:25 9659238 SC-B31-SS02-01 Grab Soil 06/13/2018 11:40 9659239 SC-B31-DUP04 Grab Soil 06/13/2018 9659240 SC-B31-SS01-01 Grab Soil 06/13/2018 11:50 9659241 SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B03-SB01-34 Grab Soil | 06/13/2018 10:10 | 9659232 |
| SC-B35-SS03-01 Grab Soil 06/13/2018 11:10 9659235 SC-B35-SB03-56 Grab Soil 06/13/2018 11:15 9659236 SC-B35-SS01-01 Grab Soil 06/13/2018 11:20 9659237 SC-B35-SB01-23 Grab Soil 06/13/2018 11:25 9659238 SC-B31-SS02-01 Grab Soil 06/13/2018 11:40 9659239 SC-B31-DUP04 Grab Soil 06/13/2018 9659240 SC-B31-SS01-01 Grab Soil 06/13/2018 11:50 9659241 SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B35-SS02-01 Grab Soil | 06/13/2018 10:55 | 9659233 |
| SC-B35-SB03-56 Grab Soil 06/13/2018 11:15 9659236 SC-B35-SS01-01 Grab Soil 06/13/2018 11:20 9659237 SC-B35-SB01-23 Grab Soil 06/13/2018 11:25 9659238 SC-B31-SS02-01 Grab Soil 06/13/2018 11:40 9659239 SC-B31-DUP04 Grab Soil 06/13/2018 9659240 SC-B31-SS01-01 Grab Soil 06/13/2018 11:50 9659241 SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B35-SB02-34 Grab Soil | 06/13/2018 11:00 | 9659234 |
| SC-B35-SS01-01 Grab Soil 06/13/2018 11:20 9659237 SC-B35-SB01-23 Grab Soil 06/13/2018 11:25 9659238 SC-B31-SS02-01 Grab Soil 06/13/2018 11:40 9659239 SC-B31-DUP04 Grab Soil 06/13/2018 9659240 SC-B31-SS01-01 Grab Soil 06/13/2018 11:50 9659241 SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B35-SS03-01 Grab Soil | 06/13/2018 11:10 | 9659235 |
| SC-B35-SB01-23 Grab Soil 06/13/2018 11:25 9659238 SC-B31-SS02-01 Grab Soil 06/13/2018 11:40 9659239 SC-B31-DUP04 Grab Soil 06/13/2018 9659240 SC-B31-SS01-01 Grab Soil 06/13/2018 11:50 9659241 SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B35-SB03-56 Grab Soil | 06/13/2018 11:15 | 9659236 |
| SC-B31-SS02-01 Grab Soil 06/13/2018 11:40 9659239 SC-B31-DUP04 Grab Soil 06/13/2018 9659240 SC-B31-SS01-01 Grab Soil 06/13/2018 11:50 9659241 SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B35-SS01-01 Grab Soil | 06/13/2018 11:20 | 9659237 |
| SC-B31-DUP04 Grab Soil 06/13/2018 9659240 SC-B31-SS01-01 Grab Soil 06/13/2018 11:50 9659241 SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B35-SB01-23 Grab Soil | 06/13/2018 11:25 | 9659238 |
| SC-B31-SS01-01 Grab Soil 06/13/2018 11:50 9659241 SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B31-SS02-01 Grab Soil | 06/13/2018 11:40 | 9659239 |
| SC-B31-SB01-45 Grab Soil 06/13/2018 11:35 9659242 SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B31-DUP04 Grab Soil | 06/13/2018 | 9659240 |
| SC-B31-SS03-01 Grab Soil 06/13/2018 12:00 9659243 | SC-B31-SS01-01 Grab Soil | 06/13/2018 11:50 | 9659241 |
| | SC-B31-SB01-45 Grab Soil | 06/13/2018 11:35 | 9659242 |
| SC-B31-SB03-56 Grab Soil 06/13/2018 12:05 9659244 | SC-B31-SS03-01 Grab Soil | 06/13/2018 12:00 | 9659243 |
| | SC-B31-SB03-56 Grab Soil | 06/13/2018 12:05 | 9659244 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.





Project Name: Stratton ANGB 60520893

ELLE Group #: 1955027

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9659239, 9659243

The following analytes were manually integrated due to incorrect integrations: Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659230

The following analytes were manually integrated due to incorrect integrations: Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659237

The following analytes were manually integrated due to incorrect integrations: Perfluorononanoic acid, Perfluoro-octanesulfonate

Sample #s: 9659226

The following analytes were manually integrated due to incorrect integrations: Perfluoroctanoic acid, Perfluorobutanesulfonate, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659222, 9659224, 9659227, 9659232, 9659244

The following analytes were manually integrated due to incorrect integrations:

Perfluorooctanoic acid, Perfluoroheptanoic Sample #s: 9659223, 9659225, 9659228, 9659229, 9659238

The following analytes were manually integrated due to incorrect integrations:



Case Narrative

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Perfluorooctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659231, 9659240, 9659241

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659235

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluoro-octanesulfonate

Batch #: 18170012 (Sample number(s): 9659222-9659229 UNSPK: 9659222)

The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Perfluorooctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Batch #: 18171018 (Sample number(s): 9659230-9659244 UNSPK: 9659230)

The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: Perfluoro-octanesulfonate

SM 2540 G-1997 %Moisture Calc, Wet Chemistry

Batch #: 18165820010A (Sample number(s): 9659222-9659231 BKG: 9659227)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture

Batch #: 18165820010B (Sample number(s): 9659232-9659241 BKG: 9659236)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture



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Sample Description: SC-B12-SS01-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 08:20

SDG#: FSB17-01

ELLE Sample #: SW 9659222 ELLE Group #: 1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 1.0 | 0.22 | 0.66 | 0.88 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.68 J | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 47 | 0.22 | 0.71 | 0.88 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.23 J | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 190 | 0.22 | 0.72 | 0.88 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 5.6 | 0.22 | 0.75 | 0.88 | 1 |
| Wet Cl | Wet Chemistry SM 2540 G-1997 %Moisture Calc | | % | % | % | % | |
| 00111 | Moisture | n.a. | 9.3 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method CAT **Analysis Name** Batch# **Analysis** Analyst Dilution Date and Time **Factor** No. EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18170012 06/25/2018 23:41 Joshua P Trost table B-15 PFAS Solid Prep - DoD 18170012 Danielle D McCully EPA 537 mod QSM 5.1 06/19/2018 15:30 1 14510 table B-15 SM 2540 G-1997 18165820010A 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



SW 9659223

1955027

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description: SC-B12-SB01-07 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 08:25

SDG#: FSB17-02

| | | Result | Limit* | Detection | Quantitation | DF |
|---|--|--|---|---|--|--|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | |
| erfluorobutanesulfonate | 375-73-5 | 1.2 | 0.23 | 0.69 | 0.92 | 1 |
| erfluoroheptanoic acid | 375-85-9 | 1.2 | 0.23 | 0.78 | 0.92 | 1 |
| erfluorohexanesulfonate | 355-46-4 | 23 | 0.23 | 0.73 | 0.92 | 1 |
| erfluorononanoic acid | 375-95-1 | 0.35 J | 0.23 | 0.78 | 0.92 | 1 |
| erfluoro-octanesulfonate | 1763-23-1 | 180 | 2.3 | 7.4 | 9.2 | 10 |
| erfluorooctanoic acid | 335-67-1 | 7.6 | 0.23 | 0.78 | 0.92 | 1 |
| | | % | % | % | % | |
| oisture | n.a. | 15.2 | 0.50 | 0.50 | 0.50 | 1 |
| | erfluorobutanesulfonate erfluoroheptanoic acid erfluorohexanesulfonate erfluorononanoic acid erfluoro-octanesulfonate erfluoroctanoic acid mistry SM 254 %Moist | erfluorobutanesulfonate 375-73-5 erfluoroheptanoic acid 375-85-9 erfluorohexanesulfonate 355-46-4 erfluorononanoic acid 375-95-1 erfluoro-octanesulfonate 1763-23-1 erfluoroctanoic acid 335-67-1 mistry SM 2540 G-1997 %Moisture Calc oisture n.a. | erfluorobutanesulfonate 375-73-5 1.2 erfluoroheptanoic acid 375-85-9 1.2 erfluorohexanesulfonate 355-46-4 23 erfluorononanoic acid 375-95-1 0.35 J erfluoro-octanesulfonate 1763-23-1 180 erfluoroctanoic acid 335-67-1 7.6 enstry SM 2540 G-1997 % Moisture Calc | erfluorobutanesulfonate 375-73-5 1.2 0.23 erfluoroheptanoic acid 375-85-9 1.2 0.23 erfluorohexanesulfonate 355-46-4 23 0.23 erfluorononanoic acid 375-95-1 0.35 J 0.23 erfluoro-octanesulfonate 1763-23-1 180 2.3 erfluoroctanoic acid 335-67-1 7.6 0.23 enistry SM 2540 G-1997 % % %Moisture Calc n.a. 15.2 0.50 | erfluorobutanesulfonate 375-73-5 1.2 0.23 0.69 erfluoroheptanoic acid 375-85-9 1.2 0.23 0.78 erfluorohexanesulfonate 355-46-4 23 0.23 0.73 erfluorononanoic acid 375-95-1 0.35 J 0.23 0.78 erfluoro-octanesulfonate 1763-23-1 180 2.3 7.4 erfluoroctanoic acid 335-67-1 7.6 0.23 0.78 erfluoroctanoic acid 335-67-1 7.6 0.23 0.78 erfluoroctanoic acid 315-67-1 7.6 0.23 0.23 0.78 erfluoroctanoic acid 315-67-1 7.6 0.23 0.23 0.78 erfluoroctanoic acid 315-67-1 7.6 0.23 0.2 | erfluorobutanesulfonate 375-73-5 1.2 0.23 0.69 0.92 erfluoroheptanoic acid 375-85-9 1.2 0.23 0.78 0.92 erfluorohexanesulfonate 355-46-4 23 0.23 0.73 0.92 erfluorononanoic acid 375-95-1 0.35 J 0.23 0.78 0.92 erfluoro-octanesulfonate 1763-23-1 180 2.3 7.4 9.2 erfluoroctanoic acid 335-67-1 7.6 0.23 0.78 0.92 erfluoroctanoic acid 335-67-1 7.6 0.23 0.78 0.92 erfluoroctanoic acid 355-67-1 7.6 0.23 0.23 0.78 0.92 erfluoroctanoic acid 355-67-1 7.6 0.23 0.23 0.78 0.23 0.78 0.23 0.78 0.23 0.78 0.23 0.78 0.23 0.78 0.23 0.78 0.23 0.7 |

as-received basis.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method

| CAT No. | Analysis Name | Metriod | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|------------------------------|--------------------------------|--------|--------------|---------------------------|--------------------|--------------------|
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/25/2018 23:56 | Joshua P Trost | 1 |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/26/2018 17:02 | Joshua P Trost | 10 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/19/2018 15:30 | Danielle D McCully | 1 |
| 00111 | Moisture | SM 2540 G-1997 | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 |

^{*=}This limit was used in the evaluation of the final result



SW 9659224

1955027

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description: SC-B12-SS02-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 08:00

SDG#: FSB17-03

| AS Miscollandous EDA F | | Result | Limit* | Detection | Quantitation | DF |
|---|--|--|--|---|--|--|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | |
| Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.62 | 0.82 | 1 |
| Perfluoroheptanoic acid | 375-85-9 | 0.21 J | 0.21 | 0.70 | 0.82 | 1 |
| Perfluorohexanesulfonate | 355-46-4 | 6.7 | 0.21 | 0.66 | 0.82 | 1 |
| Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.70 | 0.82 | 1 |
| Perfluoro-octanesulfonate | 1763-23-1 | 28 | 0.21 | 0.67 | 0.82 | 1 |
| Perfluorooctanoic acid | 335-67-1 | 2.5 | 0.21 | 0.70 | 0.82 | 1 |
| | | % | % | % | % | |
| Moisture | n.a. | 8.5 | 0.50 | 0.50 | 0.50 | 1 |
| FFF | Perfluorobutanesulfonate Perfluoroheptanoic acid Perfluorohexanesulfonate Perfluorononanoic acid Perfluoro-octanesulfonate Perfluoroctanoic acid mistry SM 25 %Moi Moisture Moisture represents the loss in w | Perfluorobutanesulfonate 375-73-5 Perfluoroheptanoic acid 375-85-9 Perfluorohexanesulfonate 355-46-4 Perfluorononanoic acid 375-95-1 Perfluoro-octanesulfonate 1763-23-1 Perfluorooctanoic acid 335-67-1 Perfluorobutanesulfonate 1763-23-1 Perfluorooctanoic acid 335-67-1 Possible SM 2540 G-1997 %Moisture Calc Moisture n.a. | Perfluorobutanesulfonate 375-73-5 N.D. Perfluoroheptanoic acid 375-85-9 0.21 J Perfluorohexanesulfonate 355-46-4 6.7 Perfluorononanoic acid 375-95-1 N.D. Perfluoro-octanesulfonate 1763-23-1 28 Perfluorooctanoic acid 335-67-1 2.5 Perfluorobutanesulfonate 1763-23-1 28 Perfluorobutanoic acid 335-67-1 2.5 Perfluorobutanoic acid 385-67-1 2.5 Perfluorobutanesulfonate 1763-23-1 28 Perfluorobutanesulfonate 1763-23-1 28 Perfluorobutanesulfonate 1763-23-1 28 Perfluorobutanesulfonate 1763-23-1 28 Perfluorobutanesulfonate 1763-23-1 28 Perfluorobutanesulfonate 1763-23-1 28 Perfluorohexanesulfonate 1763-23-1 28 Perfluorobutanesulfonate 1763-23-1 28 Perfluorohexanesulfonate 1763-23-1 28 Perfluorobutanesulfonate 1763 | Perfluorobutanesulfonate 375-73-5 N.D. 0.21 Perfluoroheptanoic acid 375-85-9 0.21 J 0.21 Perfluorohexanesulfonate 355-46-4 6.7 0.21 Perfluorononanoic acid 375-95-1 N.D. 0.21 Perfluoro-octanesulfonate 1763-23-1 28 0.21 Perfluorooctanoic acid 335-67-1 2.5 0.21 Perfluorooctanoic acid 335-67-1 2.5 0.21 Perfluorooctanoic acid 385-67-1 2.5 0.50 Perfluorooctanoic acid 385-67-1 0.50 0. | Perfluorobutanesulfonate 375-73-5 N.D. 0.21 0.62 Perfluoroheptanoic acid 375-85-9 0.21 J 0.21 0.70 Perfluorohexanesulfonate 355-46-4 6.7 0.21 0.66 Perfluorononanoic acid 375-95-1 N.D. 0.21 0.70 Perfluoro-octanesulfonate 1763-23-1 28 0.21 0.67 Perfluorooctanoic acid 335-67-1 2.5 0.21 0.70 Perfluorobutanesulfonate 1763-23-1 28 0.21 0.67 Perfluorooctanoic acid 335-67-1 2.5 0.21 0.70 Perfluorobutanesulfonate 1763-23-1 28 0.21 0.67 Perfluorooctanoic acid 335-67-1 2.5 0.21 0.70 Perfluorobutanesulfonate 1763-23-1 28 0.21 0.67 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.66 Perfluorobutanesulfonate 355-46-4 0.21 0.66 Perfluorobutanesulfonate 355-46-4 0.21 0.60 Perfluorobutanesulfonate 355-46-4 0.21 0.21 0.21 0.60 | Perfluorobutanesulfonate 375-73-5 N.D. 0.21 0.62 0.82 Perfluoroheptanoic acid 375-85-9 0.21 J 0.21 0.70 0.82 Perfluorohexanesulfonate 355-46-4 6.7 0.21 0.66 0.82 Perfluorononanoic acid 375-95-1 N.D. 0.21 0.70 0.82 Perfluoro-octanesulfonate 1763-23-1 28 0.21 0.67 0.82 Perfluorooctanoic acid 335-67-1 2.5 0.21 0.70 0.82 Perfluorobutanesulfonate 1763-23-1 28 0.21 0.67 0.82 Perfluorobutanesulfonate 1763-23-1 28 0.21 0.67 0.82 Perfluorobutanesulfonate 1763-23-1 28 0.21 0.67 0.82 Perfluorobutanesulfonate 1763-23-1 28 0.21 0.67 0.82 Perfluorobutanesulfonate 1763-23-1 28 0.21 0.67 0.82 Perfluorobutanesulfonate 1763-23-1 28 0.21 0.67 0.82 Perfluorobutanesulfonate 1763-23-1 28 0.21 0.67 0.82 Perfluorobutanesulfonate 1763-23-1 28 0.21 0.67 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.66 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.66 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 6.7 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 0.70 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 0.21 0.70 0.82 Perfluorobutanesulfonate 355-46-4 0.21 0.70 0.82 Perfluoro |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method **Analyst** CAT **Analysis Name** Trial# Batch# **Analysis** Dilution Date and Time **Factor** No. 14478 EPA 537 mod QSM 5.1 PFAS in Soil by LC/MS/MS-DoD 1 18170012 06/26/2018 00:12 Joshua P Trost table B-15 PFAS Solid Prep - DoD 18170012 Danielle D McCully EPA 537 mod QSM 5.1 06/19/2018 15:30 1 14510 table B-15 SM 2540 G-1997 18165820010A 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B12-SB02-56 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 08:05

SDG#: FSB17-04

ELLE Sample #: SW 9659225 ELLE Group #: 1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 5.9 | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 1.4 | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 42 | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 150 | 0.20 | 0.66 | 0.81 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 5.3 | 0.20 | 0.69 | 0.81 | 1 |
| Wet CI | Wet Chemistry SM 2540 G-1997 %Moisture Calc | | % | % | % | % | |
| 00111 | Moisture | n.a. | 8.3 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/26/2018 00:27 | Joshua P Trost | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/19/2018 15:30 | Danielle D McCully | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 | | |

^{*=}This limit was used in the evaluation of the final result



SW 9659226

1955027

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description: SC-B02-SS02-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 08:40

SDG#: FSB17-05

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|------------------------------------|---------------------------|------------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.19 | 0.57 | 0.76 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.19 | 0.65 | 0.76 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 3.5 | 0.19 | 0.61 | 0.76 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.19 | 0.65 | 0.76 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 45 | 0.19 | 0.62 | 0.76 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.27 J | 0.19 | 0.65 | 0.76 | 1 |
| Net Ch | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 3.9 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we | eight of the sample after | r oven drving at | | | | |

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

%Moisture Calc

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method **Analysis** Analyst Dilution CAT **Analysis Name** Batch# Date and Time No. **Factor** EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 18170012 06/26/2018 00:43 Joshua P Trost table B-15 PFAS Solid Prep - DoD Danielle D McCully EPA 537 mod QSM 5.1 18170012 06/19/2018 15:30 1 14510 table B-15 SM 2540 G-1997 18165820010A 06/15/2018 07:52 William C Schwebel 00111 Moisture

^{*=}This limit was used in the evaluation of the final result



SW 9659227

AECOM

Drv

ELLE Sample #:

Drv

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Sample Description: SC-B02-SB02-56 Grab Soil

Stratton PFAS

Project Name: Strat

06/14/2018 08:00 Submittal Date/Time: Collection Date/Time: 06/13/2018 08:45

SDG#: FSB17-06

| atton ANGB 60520893 | ELLE Group #: Matrix: Soil | 1955027 | |
|---------------------|-------------------------------|---------|--|
| 14/2018 08:00 | | | |

Drv

| CAT No. | Analysis Name | CAS Number | Dry Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF | | |
|---|--|----------------------------------|---------------|---------------------|-----------------------|--------------------------|----|--|--|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | | ng/g | ng/g | ng/g | ng/g | | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.25 J | 0.21 | 0.64 | 0.86 | 1 | | |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.29 J | 0.21 | 0.73 | 0.86 | 1 | | |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 6.8 | 0.21 | 0.69 | 0.86 | 1 | | |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.73 | 0.86 | 1 | | |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 51 | 0.21 | 0.70 | 0.86 | 1 | | |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.73 J | 0.21 | 0.73 | 0.86 | 1 | | |
| Wet Cl | , | 6M 2540 G-1997 6Moisture Calc | % | % | % | % | | | |
| 00111 | Moisture | n.a. | 13.0 | 0.50 | 0.50 | 0.50 | 1 | | |
| | Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an | | | | | | | | |

as-received basis.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method Dilution CAT **Analysis Name** Batch# **Analysis** Analyst Date and Time **Factor** No. EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18170012 06/26/2018 00:58 Joshua P Trost table B-15 PFAS Solid Prep - DoD 18170012 Danielle D McCully EPA 537 mod QSM 5.1 06/19/2018 15:30 1 14510 table B-15 SM 2540 G-1997 18165820010A 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B03-SS02-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893 **Project Name:**

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 09:40

SDG#: FSB17-07

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|----|-----|------|----|----|----|--|
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SW 9659228 **ELLE Group #:** 1955027

Matrix: Soil

| | | | | Dry | Dry | Dry | |
|--|---|------------|---------------|---------------------|-----------------------|--------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
| LC/MS | LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 | | | ng/g | ng/g | ng/g | |
| | table E | 3-15 | | | | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.19 | 0.57 | 0.77 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.19 | 0.65 | 0.77 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.19 | 0.61 | 0.77 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.19 | 0.65 | 0.77 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 2.0 | 0.19 | 0.62 | 0.77 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.29 J | 0.19 | 0.65 | 0.77 | 1 |
| Wet Chemistry SM 2540 G-1997 %Moisture Calc | | % | % | % | % | | |
| 00111 | Moisture | n.a. | 3.3 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method CAT **Analysis Name** Batch# **Analysis** Analyst Dilution Date and Time **Factor** No. EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18170012 06/26/2018 01:14 Joshua P Trost table B-15 PFAS Solid Prep - DoD Danielle D McCully EPA 537 mod QSM 5.1 18170012 06/19/2018 15:30 1 14510 table B-15 SM 2540 G-1997 18165820010A 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B03-SB02-23 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 09:45

SDG#: FSB17-08

AECOM

ELLE Sample #: SW 9659229 ELLE Group #: 1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|-------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.22 | 0.69 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 1.4 | 0.22 | 0.71 | 0.87 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.35 J | 0.22 | 0.74 | 0.87 | 1 |
| Wet CI | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.9 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/26/2018 01:45 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18170012 | 06/19/2018 15:30 | Danielle D McCully | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010A | 06/15/2018 07:52 | William C Schwebel | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B03-DUP03 Grab Soil

Stratton PFAS

Stratton ANGB 60520893 **Project Name:**

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 SDG#: FSB17-09FD

AECOM

ELLE Sample #: SW 9659230 **ELLE Group #:** 1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---------------------------|--|-------------------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.21 | 0.67 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 2.0 | 0.21 | 0.68 | 0.84 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.31 J | 0.21 | 0.71 | 0.84 | 1 |
| Net CI | | 2540 G-1997 oisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 6.7 | 0.50 | 0.50 | 0.50 | 1 |
| 00111 | %M | oisture Calc n.a. weight of the sample after | 6.7 r oven drying at | 0.50 | | | |

as-received basis.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method **Analyst** CAT **Analysis Name** Trial# Batch# **Analysis** Dilution Date and Time **Factor** No. 14478 EPA 537 mod QSM 5.1 PFAS in Soil by LC/MS/MS-DoD 1 18171018 06/22/2018 09:30 Hannah Kruelle table B-15 PFAS Solid Prep - DoD Anthony C Polaski EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 1 14510 table B-15 SM 2540 G-1997 18165820010A 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B03-SS01-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 10:05

SDG#: FSB17-10

AECOM

ELLE Sample #: SW 9659231 ELLE Group #: 1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|--------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.52 J | 0.22 | 0.66 | 0.88 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 3.4 | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 16 | 0.22 | 0.70 | 0.88 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.76 J | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 30 | 0.22 | 0.72 | 0.88 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 7.6 | 0.22 | 0.75 | 0.88 | 1 |
| Wet CI | | 640 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 11.8 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in w 103 - 105 degrees Celsius. The n as-received basis. | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method **Analyst** CAT **Analysis Name** Trial# Batch# **Analysis** Dilution Date and Time **Factor** No. EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18171018 06/22/2018 09:45 Hannah Kruelle table B-15 PFAS Solid Prep - DoD EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 Anthony C Polaski 1 14510 table B-15 SM 2540 G-1997 18165820010A 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B03-SB01-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 10:10

SDG#: FSB17-11

| | Α | Е | С | o | М | |
|--|---|---|---|---|---|--|
|--|---|---|---|---|---|--|

ELLE Sample #: SW 9659232 ELLE Group #: 1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|---------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.62 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.85 | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 1.3 | 0.21 | 0.66 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.71 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 5.1 | 0.21 | 0.67 | 0.83 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.0 | 0.21 | 0.71 | 0.83 | 1 |
| Wet CI | | 540 G-1997 isture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 3.6 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The as-received basis. | | , , | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method **Analyst** CAT **Analysis Name** Batch# **Analysis** Dilution Date and Time **Factor** No. EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18171018 06/22/2018 10:01 Hannah Kruelle table B-15 PFAS Solid Prep - DoD Anthony C Polaski EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 1 14510 table B-15 SM 2540 G-1997 18165820010B 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B35-SS02-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 10:55

SDG#: FSB17-12

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|---|----|---|---|-----|
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| | | | | |

ELLE Sample #: SW 9659233 ELLE Group #: 1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|---------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.66 | 0.88 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.22 | 0.70 | 0.88 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.75 | 0.88 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.22 | 0.71 | 0.88 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.22 | 0.75 | 0.88 | 1 |
| Wet Cl | | 540 G-1997 isture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 10.6 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The as-received basis. | | , , | | | | |

as-received basis.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

%Moisture Calc

Laboratory Sample Analysis Record Method **Analyst** CAT **Analysis Name** Trial# Batch# **Analysis** Dilution Date and Time No. **Factor** EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18171018 06/22/2018 10:16 Hannah Kruelle table B-15 PFAS Solid Prep - DoD Anthony C Polaski EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 1 14510 table B-15 SM 2540 G-1997 18165820010B 06/15/2018 07:52 William C Schwebel 00111 Moisture

^{*=}This limit was used in the evaluation of the final result



SW 9659234

1955027

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description: SC-B35-SB02-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 11:00

SDG#: FSB17-13

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|---|-------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.61 | 0.82 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.70 | 0.82 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.66 | 0.82 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.70 | 0.82 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.20 | 0.67 | 0.82 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.70 | 0.82 | 1 |
| Wet CI | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 8.7 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 10:32 | Hannah Kruelle | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010B | 06/15/2018 07:52 | William C Schwebel | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B35-SS03-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 11:10

SDG#: FSB17-14

| Α | E(| O | M |
|---|----|---|---|
| _ | _ | _ | _ |

ELLE Sample #: SW 9659235 ELLE Group #: 1955027

Matrix: Soil

| | | | | Dry | Dry | Dry | |
|------------|---|-------------------------|---------------|---------------------|-----------------------|--------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
| LC/MS | /MS Miscellaneous EPA 5 | 37 mod QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| | table E | 3-15 | | | | | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.60 | 0.80 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.64 | 0.80 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.88 | 0.20 | 0.65 | 0.80 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.20 J | 0.20 | 0.68 | 0.80 | 1 |
| Wet CI | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 8.2 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | 0 1 | , , | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method **Analyst** CAT **Analysis Name** Trial# Batch# **Analysis** Dilution Date and Time **Factor** No. EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18171018 06/22/2018 10:47 Hannah Kruelle table B-15 PFAS Solid Prep - DoD Anthony C Polaski EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 1 14510 table B-15 SM 2540 G-1997 18165820010B 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



SW 9659236

1955027

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description: SC-B35-SB03-56 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 11:15

SDG#: FSB17-15

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-----------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA table | 537 mod QSM 5.1 e B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.20 | 0.66 | 0.81 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| Wet Cl | | 2540 G-1997 oisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.6 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The as-received basis. | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method CAT **Analysis Name** Batch# **Analysis Analyst** Dilution Date and Time **Factor** No. EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18171018 06/22/2018 11:03 Hannah Kruelle table B-15 PFAS Solid Prep - DoD Anthony C Polaski EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 1 14510 table B-15 SM 2540 G-1997 18165820010B 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



SW 9659237

1

1955027

AECOM

0.50

ELLE Sample #:

0.50

ELLE Group #:

Matrix: Soil

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Sample Description: SC-B35-SS01-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893 **Project Name:**

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 11:20

SDG#

00111

Moisture

| SDG#: | FSB17-1 | 6 | | | | | |
|------------|---------------------------|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
| LC/MS | /MS Miscellaneous EPA 5 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 5.8 | 0.20 | 0.66 | 0.81 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| Wet Ch | nemistry SM 25 | 640 G-1997 | % | % | % | % | |

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

%Moisture Calc

Sample Comments

0.50

6.7

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 11:34 | Hannah Kruelle | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820010B | 06/15/2018 07:52 | William C Schwebel | 1 |

^{*=}This limit was used in the evaluation of the final result



SW 9659238

1

William C Schwebel

1955027

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description: SC-B35-SB01-23 Grab Soil

Stratton PFAS

Stratton ANGB 60520893 **Project Name:**

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 11:25

SDG#: FSB17-17

00111

Moisture

| Analysis Name | CAS Number | Dry Result | Limit* | Limit of Detection | Limit of Quantitation | DF |
|---------------------------|---|--|--|---|---|---|
| | | ng/g | ng/g | ng/g | ng/g | |
| Perfluorobutanesulfonate | 375-73-5 | 0.49 J | 0.21 | 0.63 | 0.83 | 1 |
| Perfluoroheptanoic acid | 375-85-9 | 0.63 J | 0.21 | 0.71 | 0.83 | 1 |
| Perfluorohexanesulfonate | 355-46-4 | 3.0 | 0.21 | 0.67 | 0.83 | 1 |
| Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.71 | 0.83 | 1 |
| Perfluoro-octanesulfonate | 1763-23-1 | 6.8 | 0.21 | 0.68 | 0.83 | 1 |
| Perfluorooctanoic acid | 335-67-1 | 0.50 J | 0.21 | 0.71 | 0.83 | 1 |
| | | % | % | % | % | |
| Moisture | n.a. | 5.0 | 0.50 | 0.50 | 0.50 | 1 |
| r | table B Perfluorobutanesulfonate Perfluoroheptanoic acid Perfluorohexanesulfonate Perfluorononanoic acid Perfluoro-octanesulfonate Perfluoroctanoic acid Perfluorooctanoic acid | Perfluoroheptanoic acid 375-85-9 Perfluorohexanesulfonate 355-46-4 Perfluorononanoic acid 375-95-1 Perfluoro-octanesulfonate 1763-23-1 Perfluorooctanoic acid 335-67-1 Perfluorooctanoic acid 335-67-1 Perfluorooctanoic acid 335-67-1 Poistry SM 2540 G-1997 %Moisture Calc Moisture n.a. | table B-15 Perfluorobutanesulfonate 375-73-5 0.49 J Perfluoroheptanoic acid 375-85-9 0.63 J Perfluorohexanesulfonate 355-46-4 3.0 Perfluorononanoic acid 375-95-1 N.D. Perfluoro-octanesulfonate 1763-23-1 6.8 Perfluorooctanoic acid 335-67-1 0.50 J Perfluorobutanesulfonate 1763-23-1 6.8 Perfl | table B-15 Perfluorobutanesulfonate 375-73-5 0.49 J 0.21 Perfluoroheptanoic acid 375-85-9 0.63 J 0.21 Perfluorohexanesulfonate 355-46-4 3.0 0.21 Perfluorononanoic acid 375-95-1 N.D. 0.21 Perfluoro-octanesulfonate 1763-23-1 6.8 0.21 Perfluorooctanoic acid 335-67-1 0.50 J 0.21 Perfluoromistry SM 2540 G-1997 % % Moisture n.a. 5.0 0.50 | table B-15 Perfluorobutanesulfonate 375-73-5 0.49 J 0.21 0.63 Perfluoroheptanoic acid 375-85-9 0.63 J 0.21 0.71 Perfluorohexanesulfonate 355-46-4 3.0 0.21 0.67 Perfluorononanoic acid 375-95-1 N.D. 0.21 0.71 Perfluoro-octanesulfonate 1763-23-1 6.8 0.21 0.68 Perfluorococtanoic acid 335-67-1 0.50 J 0.21 0.71 Imistry SM 2540 G-1997 % % Moisture n.a. 5.0 0.50 0.50 | table B-15 Perfluorobutanesulfonate 375-73-5 0.49 J 0.21 0.63 0.83 Perfluoroheptanoic acid 375-85-9 0.63 J 0.21 0.71 0.83 Perfluorohexanesulfonate 355-46-4 3.0 0.21 0.67 0.83 Perfluorononanoic acid 375-95-1 N.D. 0.21 0.71 0.83 Perfluoro-octanesulfonate 1763-23-1 6.8 0.21 0.68 0.83 Perfluorocotanoic acid 335-67-1 0.50 J 0.21 0.71 0.83 Perfluorocotanoic acid 335-67-1 0.50 J 0.21 0.71 0.83 Perfluorocotanoic acid 335-67-1 0.50 J 0.21 0.71 0.83 Perfluorocotanoic acid 335-67-1 0.50 J 0.21 0.71 0.83 Perfluorocotanoic acid 335-67-1 0.50 J 0.21 0.71 0.83 Perfluorocotanoic acid 335-67-1 0.50 J 0.21 0.71 0.83 Perfluorocotanoic acid 335-67-1 0.50 J 0.21 0.71 0.83 Perfluorocotanoic acid 335-67-1 0.50 J 0.50 0.50 0.50 |

as-received basis.

table B-15 SM 2540 G-1997

%Moisture Calc

Sample Comments

18165820010B

06/15/2018 07:52

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method CAT **Analysis Name** Trial# Batch# **Analysis Analyst** Dilution Date and Time **Factor** No. EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18171018 06/22/2018 11:50 Hannah Kruelle table B-15 PFAS Solid Prep - DoD Anthony C Polaski EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 14510

*=This limit was used in the evaluation of the final result



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Sample Description: SC-B31-SS02-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 11:40

SDG#: FSB17-18

AECOM

ELLE Sample #: SW 9659239 ELLE Group #: 1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 5 table B | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.39 J | 0.21 | 0.64 | 0.85 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.27 J | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 9.5 | 0.21 | 0.68 | 0.85 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.77 J | 0.21 | 0.72 | 0.85 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 120 | 0.21 | 0.69 | 0.85 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.85 J | 0.21 | 0.72 | 0.85 | 1 |
| Wet Cl | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.7 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method **Analyst** CAT **Analysis Name** Trial# Batch# **Analysis** Dilution Date and Time **Factor** No. EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18171018 06/22/2018 12:05 Hannah Kruelle table B-15 PFAS Solid Prep - DoD Anthony C Polaski EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 1 14510 table B-15 SM 2540 G-1997 18165820010B 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B31-DUP04 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00
Collection Date/Time: 06/13/2018
SDG#: FSB17-19FD

AECOM

ELLE Sample #: SW 9659240 ELLE Group #: 1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 5 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 0.47 J | 0.20 | 0.60 | 0.80 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.35 J | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 7.8 | 0.20 | 0.64 | 0.80 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.61 J | 0.20 | 0.68 | 0.80 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 62 | 0.20 | 0.65 | 0.80 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.74 J | 0.20 | 0.68 | 0.80 | 1 |
| Wet CI | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.8 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method CAT **Analysis Name** Trial# Batch# **Analysis Analyst** Dilution Date and Time **Factor** No. 14478 EPA 537 mod QSM 5.1 PFAS in Soil by LC/MS/MS-DoD 1 18171018 06/22/2018 12:21 Hannah Kruelle table B-15 PFAS Solid Prep - DoD Anthony C Polaski EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 1 14510 table B-15 SM 2540 G-1997 18165820010B 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B31-SS01-01 Grab Soil

Stratton PFAS

Stratton ANGB 60520893 **Project Name:**

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 11:50

SDG#: FSB17-20

| ELLE Sample #: | SW 9659241 |
|----------------|------------|
| ELLE Group #: | 1955027 |
| Matrix: Soil | |

AECOM

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|---|--|-----------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS/MS Miscellaneous EPA 537 mod QSM table B-15 | | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.66 | 0.88 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.37 J | 0.22 | 0.74 | 0.88 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 7.3 | 0.22 | 0.70 | 0.88 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.75 J | 0.22 | 0.74 | 0.88 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 90 | 0.22 | 0.71 | 0.88 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.73 J | 0.22 | 0.74 | 0.88 | 1 |
| Wet CI | | 2540 G-1997 oisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 10.5 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The | | | | | | |

as-received basis.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method Dilution CAT **Analysis Name** Batch# **Analyst** Date and Time **Factor** No. 06/22/2018 12:36 EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 18171018 Hannah Kruelle table B-15 PFAS Solid Prep - DoD Anthony C Polaski EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 1 14510 table B-15 SM 2540 G-1997 18165820010B 06/15/2018 07:52 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



SW 9659242

1

1955027

AECOM

ELLE Sample #:

%

0.50

ELLE Group #:

Matrix: Soil

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Sample Description: SC-B31-SB01-45 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 11:35

SDG#: FSB17-21

Wet Chemistry

Moisture

00111

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|------------------------------------|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 5 table l | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.86 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.73 | 0.86 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.22 | 0.69 | 0.86 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.73 | 0.86 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.22 | 0.70 | 0.86 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.22 | 0.73 | 0.86 | 1 |

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

SM 2540 G-1997

%Moisture Calc

Sample Comments

0.50

0.50

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Name Method Trial# Batch# Analysis Analysis

15.5

| CAT No. | Analysis Name | метпоа | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|------------------------------|----------------------------------|--------|--------------|---------------------------|--------------------|--------------------|
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/22/2018 12:52 | Hannah Kruelle | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18171018 | 06/20/2018 18:00 | Anthony C Polaski | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18165820009B | 06/15/2018 07:24 | William C Schwebel | 1 |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B31-SS03-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 12:00

SDG#: FSB17-22

AECOM

ELLE Sample #: SW 9659243 ELLE Group #: 1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|---------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA table | 537 mod QSM 5.1 B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | 2.0 | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.83 | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 32 | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 2.8 | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 350 | 2.0 | 6.6 | 8.1 | 10 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 3.6 | 0.20 | 0.69 | 0.81 | 1 |
| Wet Cl | | 540 G-1997 isture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 6.5 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in 103 - 105 degrees Celsius. The as-received basis. | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method **Analysis Analyst** CAT **Analysis Name** Batch# Dilution Date and Time No. **Factor** EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18171018 06/22/2018 13:07 Hannah Kruelle table B-15 Joshua P Trost PFAS in Soil by LC/MS/MS-DoD EPA 537 mod QSM 5.1 18171018 06/25/2018 12:17 10 14478 table B-15 EPA 537 mod QSM 5.1 PFAS Solid Prep - DoD 18171018 06/20/2018 18:00 Anthony C Polaski 14510 1 table B-15 SM 2540 G-1997 18165820009B 06/15/2018 07:24 William C Schwebel 00111 Moisture 1 1 %Moisture Calc

^{*=}This limit was used in the evaluation of the final result



2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEny

Sample Description: SC-B31-SB03-56 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/13/2018 12:05

SDG#: FSB17-23

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|---|----|---|-----|--|
| | | | _ | |

ELLE Sample #: SW 9659244 ELLE Group #: 1955027

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 5 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.67 | 0.89 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.76 | 0.89 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 1.9 | 0.22 | 0.71 | 0.89 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.76 | 0.89 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 7.5 | 0.22 | 0.72 | 0.89 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.87 J | 0.22 | 0.76 | 0.89 | 1 |
| Wet C | | 40 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 11.7 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in we 103 - 105 degrees Celsius. The mas-received basis. | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record Method **Analyst** CAT **Analysis Name** Trial# Batch# **Analysis** Dilution Date and Time **Factor** No. EPA 537 mod QSM 5.1 14478 PFAS in Soil by LC/MS/MS-DoD 1 18171018 06/22/2018 13:23 Hannah Kruelle table B-15 PFAS Solid Prep - DoD Anthony C Polaski EPA 537 mod QSM 5.1 18171018 06/20/2018 18:00 1 14510 table B-15 SM 2540 G-1997 18165820009B 06/15/2018 07:24 William C Schwebel 00111 Moisture %Moisture Calc

^{*=}This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: AECOM Group Number: 1955027

Reported: 07/02/2018 11:02

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

| Analysis Name | Result | DL** | LOD | LOQ |
|---------------------------|------------|-----------------|-----------|------|
| | ng/g | ng/g | ng/g | ng/g |
| Batch number: 18170012 | Sample num | ber(s): 9659222 | 2-9659229 | |
| Perfluorobutanesulfonate | N.D. | 0.20 | 0.60 | 0.80 |
| Perfluoroheptanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| Perfluorohexanesulfonate | N.D. | 0.20 | 0.64 | 0.80 |
| Perfluorononanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| Perfluoro-octanesulfonate | N.D. | 0.20 | 0.65 | 0.80 |
| Perfluorooctanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| Batch number: 18171018 | Sample num | ber(s): 9659230 | 0-9659244 | |
| Perfluorobutanesulfonate | N.D. | 0.20 | 0.60 | 0.80 |
| Perfluoroheptanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| Perfluorohexanesulfonate | N.D. | 0.20 | 0.64 | 0.80 |
| Perfluorononanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| Perfluoro-octanesulfonate | N.D. | 0.20 | 0.65 | 0.80 |
| Perfluorooctanoic acid | N.D. | 0.20 | 0.68 | 0.80 |

LCS/LCSD

| Analysis Name | LCS Spike Added ng/g | LCS Conc ng/g | LCSD Spike Added ng/g | LCSD Conc ng/g | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---------------------------|----------------------------|---------------------|-----------------------------|----------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: 18170012 | Sample number(| s): 9659222-9 | 9659229 | | | | | | |
| Perfluorobutanesulfonate | 1.20 | 1.09 | 1.20 | 1.17 | 91 | 97 | 70-130 | 7 | 30 |
| Perfluoroheptanoic acid | 1.36 | 1.32 | 1.36 | 1.36 | 97 | 100 | 70-130 | 3 | 30 |
| Perfluorohexanesulfonate | 1.29 | 1.28 | 1.29 | 1.41 | 100 | 109 | 70-130 | 9 | 30 |
| Perfluorononanoic acid | 1.36 | 1.32 | 1.36 | 1.32 | 97 | 97 | 70-130 | 0 | 30 |
| Perfluoro-octanesulfonate | 1.30 | 1.39 | 1.30 | 1.29 | 107 | 100 | 70-130 | 7 | 30 |
| Perfluorooctanoic acid | 1.36 | 1.60 | 1.36 | 1.52 | 117 | 112 | 70-130 | 5 | 30 |
| Batch number: 18171018 | Sample number(| s): 9659230-9 | 9659244 | | | | | | |
| Perfluorobutanesulfonate | 1.20 | 1.11 | 1.20 | 1.14 | 92 | 95 | 70-130 | 3 | 30 |
| Perfluoroheptanoic acid | 1.36 | 1.25 | 1.36 | 1.29 | 92 | 95 | 70-130 | 3 | 30 |
| Perfluorohexanesulfonate | 1.29 | 1.30 | 1.29 | 1.29 | 101 | 100 | 70-130 | 1 | 30 |
| Perfluorononanoic acid | 1.36 | 1.33 | 1.36 | 1.38 | 98 | 101 | 70-130 | 3 | 30 |
| Perfluoro-octanesulfonate | 1.30 | 1.27 | 1.30 | 1.32 | 98 | 102 | 70-130 | 4 | 30 |
| Perfluorooctanoic acid | 1.36 | 1.45 | 1.36 | 1.45 | 107 | 107 | 70-130 | 0 | 30 |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: AECOM Group Number: 1955027

Reported: 07/02/2018 11:02

LCS/LCSD (continued)

| Analysis Name | LCS Spike Added % | LCS Conc % | LCSD Spike Added % | LCSD Conc % | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|--|-------------------------|------------------------|--------------------------|-------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: 18165820009B Moisture | Sample number(89.5 | s): 9659242-9 89.46 | 9659244 | | 100 | | 99-101 | | |
| Batch number: 18165820010A Moisture | Sample number(89.5 | s): 9659222-9 89.45 | 9659231 | | 100 | | 99-101 | | |
| Batch number: 18165820010B Moisture | Sample number(89.5 | s): 9659232-9 89.45 | 9659241 | | 100 | | 99-101 | | |

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

| Analysis Name | Unspiked Conc ng/g | MS Spike Added ng/g | MS Conc ng/g | MSD Spike Added ng/g | MSD Conc ng/g | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|---------------------------|--------------------------|---------------------------|--------------------|----------------------------|---------------------|------------|-------------|------------------|-----|------------|
| Batch number: 18170012 | Sample number | er(s): 9659222- | 9659229 U | NSPK: 9659222 | | | | | | |
| Perfluorobutanesulfonate | 0.913 | 1.09 | 1.79 | | | 80 | | 70-130 | | |
| Perfluoroheptanoic acid | 0.616 | 1.24 | 1.65 | | | 83 | | 70-130 | | |
| Perfluorohexanesulfonate | 42.63 | 1.17 | 32.5 | | | -865 (2) | | 70-130 | | |
| Perfluorononanoic acid | 0.210 | 1.24 | 1.33 | | | 91 | | 70-130 | | |
| Perfluoro-octanesulfonate | 175.18 | 1.18 | 147.33 | | | -2355 (2) | | 70-130 | | |
| Perfluorooctanoic acid | 5.07 | 1.24 | 5.32 | | | 20 (2) | | 70-130 | | |
| Batch number: 18171018 | Sample number | er(s): 9659230- | 9659244 U | NSPK: 9659230 | | | | | | |
| Perfluorobutanesulfonate | N.D. | 1.15 | 1.17 | | | 102 | | 70-130 | | |
| Perfluoroheptanoic acid | N.D. | 1.30 | 1.36 | | | 105 | | 70-130 | | |
| Perfluorohexanesulfonate | N.D. | 1.23 | 1.46 | | | 119 | | 70-130 | | |
| Perfluorononanoic acid | N.D. | 1.30 | 1.33 | | | 103 | | 70-130 | | |
| Perfluoro-octanesulfonate | 1.85 | 1.24 | 4.08 | | | 180* | | 70-130 | | |
| Perfluorooctanoic acid | 0.287 | 1.30 | 1.95 | | | 128 | | 70-130 | | |

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc % | DUP Conc % | DUP RPD | DUP RPD Max |
|--|-------------------------|------------------------------|--------------|-------------|
| Batch number: 18165820010A Moisture | Sample number(s): 9659. | 222-9659231 BKG: 96 11.13 | 59227 15* | 5 |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: AECOM Group Number: 1955027

Reported: 07/02/2018 11:02

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name BKG Conc DUP Conc DUP RPD DUP RPD Max

%

Batch number: 18165820010B Sample number(s): 9659232-9659241 BKG: 9659236

Moisture 7.58 6.68 13* 5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Soil by LC/MS/MS-DoD

Batch number: 18170012

| | 13C3-F | PFBS | 13C3-F | PFHxS | 13C4-F | PFHpA | 13C8-F | PFOA | 13C8-F | PFOS | 13C9-F | FNA |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | %Rec | LOD | %Rec | LOD | %Rec | LÓD | %Rec | LOD | %Rec | LOD | %Rec | LOD |
| | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) |
| 9659222 | 86 | 1.2 | 74 | 1.2 | 64 | 1.2 | 66 | 1.2 | 78 | 1.8 | 66 | 0.80 |
| 9659223 | 90 | 0.58 | 84 | 0.58 | 74 | 0.58 | 74 | 0.58 | 81 | 0.87 | 75 | 0.39 |
| 9659224 | 94 | 0.57 | 78 | 0.57 | 76 | 0.57 | 75 | 0.57 | 75 | 0.85 | 70 | 0.38 |
| 9659225 | 87 | 0.56 | 74 | 0.56 | 64 | 0.56 | 66 | 0.56 | 73 | 0.83 | 66 | 0.37 |
| 9659226 | 92 | 0.55 | 78 | 0.55 | 72 | 0.55 | 75 | 0.55 | 80 | 0.83 | 67 | 0.37 |
| 9659227 | 87 | 0.56 | 78 | 0.56 | 74 | 0.56 | 73 | 0.56 | 77 | 0.84 | 69 | 0.37 |
| 9659228 | 89 | 0.56 | 78 | 0.56 | 71 | 0.56 | 69 | 0.56 | 86 | 0.83 | 73 | 0.37 |
| 9659229 | 98 | 1.2 | 82 | 1.2 | 70 | 1.2 | 75 | 1.2 | 85 | 1.8 | 77 | 0.80 |
| Blank | 91 | 1.2 | 78 | 1.2 | 75 | 1.2 | 76 | 1.2 | 83 | 1.8 | 72 | 0.80 |
| LCS | 88 | 1.2 | 79 | 1.2 | 73 | 1.2 | 72 | 1.2 | 77 | 1.8 | 70 | 0.80 |
| LCSD | 91 | 1.2 | 74 | 1.2 | 74 | 1.2 | 76 | 1.2 | 77 | 1.8 | 74 | 0.80 |
| MS | 88 | 0.55 | 78 | 0.55 | 68 | 0.55 | 67 | 0.55 | 76 | 0.82 | 65 | 0.36 |

50-150

50-150

50-150

Analysis Name: PFAS in Soil by LC/MS/MS-DoD

50-150

Batch number: 18171018

Limits:

| 201011110111001 | | | | | | | | | | | | |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 13C3-F | PFBS | 13C3-F | PFHxS | 13C4-F | PFHpA | 13C8-F | FOA | 13C8-F | PFOS | 13C9-I | PFNA |
| | %Rec | LOD |
| | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) |
| 9659230 | 88 | 0.59 | 83 | 0.59 | 80 | 0.59 | 82 | 0.59 | 83 | 0.88 | 76 | 0.39 |
| 9659231 | 83 | 0.58 | 82 | 0.58 | 81 | 0.58 | 83 | 0.58 | 79 | 0.87 | 76 | 0.39 |
| 9659232 | 97 | 1.2 | 96 | 1.2 | 96 | 1.2 | 97 | 1.2 | 95 | 1.8 | 86 | 0.80 |
| 9659233 | 96 | 0.59 | 92 | 0.59 | 83 | 0.59 | 86 | 0.59 | 96 | 0.88 | 79 | 0.39 |
| 9659234 | 92 | 0.56 | 94 | 0.56 | 85 | 0.56 | 83 | 0.56 | 91 | 0.84 | 76 | 0.37 |
| 9659235 | 74 | 0.55 | 70 | 0.55 | 67 | 0.55 | 66 | 0.55 | 70 | 0.83 | 63 | 0.37 |
| 9659236 | 80 | 0.56 | 79 | 0.56 | 71 | 0.56 | 73 | 0.56 | 72 | 0.84 | 66 | 0.37 |
| 9659237 | 78 | 0.57 | 78 | 0.57 | 77 | 0.57 | 79 | 0.57 | 78 | 0.85 | 68 | 0.38 |

50-150

50-150

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: AECOM Group Number: 1955027

Reported: 07/02/2018 11:02

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Soil by LC/MS/MS-DoD

Batch number: 18171018

| | 13C3-PFBS | | 13C3-F | FHxS | 13C4-P | FHpA | 13C8-F | 8-PFOA 13C8-PFOS | | | 13C9-F | PFNA |
|---------|-----------|---------------|--------|---------------|--------|---------------|--------|------------------|-------|---------------|--------|---------------|
| | %Rec | LOD (ng/g) | %Rec | LOD (ng/g) | %Rec | LÓD (ng/g) | %Rec | LOD (ng/g) | %Rec | LOD (ng/g) | %Rec | LOD (ng/g) |
| 9659238 | 71 | 0.59 | 68 | 0.59 | 63 | 0.59 | 66 | 0.59 | 70 | 0.89 | 63 | 0.40 |
| 9659239 | 80 | 0.59 | 79 | 0.59 | 69 | 0.59 | 72 | 0.59 | 76 | 0.88 | 65 | 0.39 |
| 9659240 | 73 | 0.56 | 71 | 0.56 | 62 | 0.56 | 66 | 0.56 | 72 | 0.83 | 63 | 0.37 |
| 9659241 | 77 | 0.59 | 75 | 0.59 | 69 | 0.59 | 68 | 0.59 | 69 | 0.88 | 62 | 0.39 |
| 9659242 | 71 | 0.55 | 72 | 0.55 | 73 | 0.55 | 73 | 0.55 | 67 | 0.82 | 64 | 0.36 |
| 9659243 | 69 | 0.57 | 69 | 0.57 | 63 | 0.57 | 62 | 0.57 | 69 | 0.86 | 64 | 0.38 |
| 9659244 | 72 | 0.59 | 75 | 0.59 | 72 | 0.59 | 76 | 0.59 | 74 | 0.88 | 69 | 0.39 |
| Blank | 89 | 1.2 | 85 | 1.2 | 85 | 1.2 | 86 | 1.2 | 84 | 1.8 | 78 | 0.80 |
| LCS | 109 | 1.2 | 108 | 1.2 | 107 | 1.2 | 107 | 1.2 | 110 | 1.8 | 94 | 0.80 |
| LCSD | 89 | 1.2 | 88 | 1.2 | 91 | 1.2 | 88 | 1.2 | 83 | 1.8 | 78 | 0.80 |
| MS | 86 | 0.57 | 86 | 0.57 | 78 | 0.57 | 83 | 0.57 | 89 | 0.86 | 80 | 0.38 |
| Limits: | 50-15 | 0 | 50-15 | 0 | 50-150 | 0 | 50-15 | 0 | 50-15 | 0 | 50-15 | 0 |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Lancaster Laboratories Environmental

| Acct. # 42343 | Group # ℓ | 955027 | Sample # 🤼 💪 | 5-9222 - | 44 |
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COC # 562319

| Client Informatio | 'n | | | omental (1988) | | Matrix | Acinomic NAS | | ************************************** | | Δ | nalysi | is Re | quest | .ed | Vertunellinitis | | For Lab U | Jse Only | |
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| HECOM | | | | ļ | | | 1 | | | | | | | | | | | SCR#: | | |
| Project Name/#: | PWSID#: | | | | Tissue | Ground | | | | | | | | | | | | Pres | servation C | Sodes |
| Strotton PFAS 60520893 | | | | | ĬĔ | l Do star | | | | | J | | | | | | | H=HCI | T=" | Thiosulfate |
| Project Manager: | P.O. #: | | | 1 | | ত ত | | , | (' | 1 | | . | | | | | | N=HNO ₃ | | NaOH |
| Sampler: | | | | | ٰ پا اِ | | 4 | je | Se, | : | | i | | | | | | S=H ₂ SO ₄ | | H₃PO₄ |
| Sampler: | Quote #: | | | , | len | , v | | | (V) | | | | | | | | | | iltered O =0 | |
| State where samples were collected: For Compliance: | 1 | AND THE RESIDENCE OF THE PARTY | T | 7 | 1.5 | 뼕 | 11 | 5 | ,1 | | | | | | | | | | Remarks | <u>i</u> |
| Yes 🗆 | No □ | | | ite | Sediment | Potable NPDES | | Total # of Containers | | 5 | | . | | | | | | | | |
| | Col | lected | | Composite | Soil [| 1 | | # | PAS | 70:0 | | , | | | | | | | | ļ |
| Sample Identification | | | Grab | E | | Water | Other: | ota | 世 | 2 | | . | | | | | | | | 1 |
| | Date | Time | 1 1 | U | Š | 3 | <u> 0</u> | | | | | | | | | | | | | |
| Sc- 312-5501-01 | 6/13/18 | | 1 | | | | - | 2 | | 1 | | | _ | | | | / | | | 2012 |
| Se-012-5B01-(CT | | 825 | | <u> </u> ! | _ ' | | | 2 | | <u></u> | | | | | | | | | er/wetwo-red-removement-removement- | |
| Sc-B12-SS02-01 | | 810 | | ! | <u> </u> | | | 2 | | | | | | | | <u> </u> | | 1 | | |
| SC- D12-5002-56 | | 805 | | | ' | | | 2 | | - | | | | | | | | | | |
| Sc-B02-5302-01 | | 840 | | | | | | 2 | - | | | | | | | | | | | |
| SC-B02-5B02-56 | | 845 | - | | | | | 2 | | | | | | | | | | | | - 100 |
| Se - Bo3 - S>02- 01 | | 940 | ~ | | | | | 2 | | | | | | | | | | | | |
| Sc - Bo3 - SBUZ - 27 | | 948 | 1 | | | | | 2 | u | 1 | | | | | | 1 | | | *************************************** | |
| se- Bos. Pulos | | | 7 | | | | - | r | | | | | | | | | | | NAME OF TAXABLE PARTY OF TAXABLE PARTY. | |
| SC- Bo3 - 5501 -01 | | 1005 | | | | | | 2 | | | | | | | | | | | - Control of the Cont | |
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| (Rush TAT is subject to laboratory approval and surcharge | e.) | 7 | Relinqu | uished l | by | | THE STATE OF THE S | | | Date | 1 | Time | Re | ceived by | | editoritation even | the state of the s | | Date | Time |
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| E-mail address: | | - | Reling | uished I | by | PATER DESIGNATION OF THE PATER DESIGNATION OF | contribution and included and i | | | Date | | Time | Re | ceived by | | | September 1999 | Account of the contract of the | Date | Time |
| Data Package Options (circle if re | equired) | | 1 | | | | | | | Í | | | | | | | | , | 1 ' | |
| Type I (EPA Level 3 | /Daw Data | · Only) | Relinqı | juished l | by | 100000 | | | | Date | 7 | Time | Re | eceived by | | | | | Date | Time |
| Equivalent/non-CLP) | Naw Data | Offig) | | | 500000000000000000000000000000000000000 | v- | | | | | | | | | | | | | Date (0/14/18 | 8:00 |
| Type III (Reduced non-CLP) NJ DKQF | r TX ۲ | TRRP-13 | | | _ | EDD Red | | | | | | | | | hed b | y Cor | nmer | rcial Carrie | r: | |
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| NYSDEC Category A or B MA MCP | CT | RCP | | | | ecific QC (ate QC sampl | • | | | | | No uma) | - | T€ | ∍mper | ature | upon | receipt 🧲 | 5.7,5.9, | ∠ °C |
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Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 42343 Group # 195027Sample # 9 6 5 9 22 2 4 4 Lancaster Laboratories Environmental

COC # 562324

| Client Informatio | n | | | | | Mat | trix | | | | | | Analy | /sis | Requ | ieste | ed . | Sussignation | Fc | or Lab Us | e Only | |
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| Project Name/#: | PWSID #: | | | | Tissue | P2 | Surface | | | | | copies più siònicano | | | | | | | | | rvation (| Codes |
| Project Manager: | | | | / | ľ | Ground | 탈 | | | | ' | 1 | | 1 | | | | | н | I=HCI | T=- | Thiosulfate |
| Project Manager: | P.O. #: | | | , | Im | Ū | છ | , [! | 6 | 1 | ! | 1 | 1 | | | | | | N | I=HNO ₃ | B= | NaOH |
| Sampler: | Quote #: | - | | | 1 | | \Box | | ě | Š | .t 1 | 1 | | 1 | | | | | | =H ₂ SO ₄ | | H₃PO₄ |
| Sampler. | Quote #. | | | , | le le | | | | ä | S | | 1 ' | | 1 | | | | | F: | =Field Filt | Visionialismus dalla likerai depuni | |
| State where samples were collected: For Compliance: | | | 1 | | Sediment | Potable | NPDES | | Containers | Z | ا ا | 1 | | 1 | | | | | L | F | Remarks | 3 |
| Yes □ | No □ | ı | ' | <u>a</u> | Se |)ot | 릴 | | ις I | | } | 1 ' | | 1 | | | | | l | | | |
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| Sample Identification | Colle | ected | ا <u>۾</u> ا | E | | fer | į | je l | <u> </u> | PARS | Reiv | 1 ' | | ĺ | | | | | | | | |
| • | Date | Time | Grab | Composite | Soil [| Water | | Other: | Total # of | | - | 1 ' | | ĺ | | | | | A A A A A A A A A A A A A A A A A A A | | | |
| Sc-B03-5001-34 | 6/13/18 | 1010 | | | | <u> </u> | | | 2 | ~ | | | | | | | | | | | | |
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| SC - BST - SB02 - 34 | | 1100 | | | | | | | 2 | - | | | | | | | | | 1 | | | |
| Sc- B35-5803-01 | | 1110 | 1 | | | | | | 2 | 1 | | 1 | | | | | | | | | | |
| Sc - B35 - SB03 - 56 | | 1115 | ~ | | | * | | | 12 | | | | | | | | | | | | | |
| SC - 1835 - 5501 - 61 | | Wil | V | | | | | | 1 | ~ | / | 1 | | | | | | | | | | |
| Sc - B35 - SB01 - 23 | | 1125 | | | | | | | 2 | | IJ | 1 | | | | | | | | | | |
| 5c- B31-SS02-01 | | 1140 | | | | | | | 2 | | | 1 | | | | | | | | | | |
| Sc- B31-5 DuPob | | ~ | | | | | | | 2 | | Brown | , | | | \vdash | | | | | | B-1 | |
| Sc- 1331-5501-01 | | 1150 | | | | | | | 2 | | 1- | , — | | | | | | | | | A | |
| Turnaround Time (TAT) Requested | (please circl | ie) | Relinq | uished l | by | | , | | | | Date | | Time | *************************************** | Receive | ed by | | | | Ē | Date | Time |
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| 022 | | ŗ | | | | *************************************** | | 4 | | | | | | | | | | | | | | |
| Date results are needed: | | . ! | Relingu | uished b | эу | | | | | | Date | | Time | | Receive | ed by | | MARKET BASE STREET | CP-22 | D | Date | Time |
| E-mail address: | | ľ | Reling | uished b | hu | | | | | | Date | | Time | | Receive | ن ما لمر | | 00000000000000000000000000000000000000 | | | | <u></u> |
| Data Package Options (circle if re | | | 100000 | 1101104 | -y | | PI | | March Street, | | Date | | Time | | Keceive | eu by | | handa and the same of the same | *************************************** | | ate | Time |
| Type L(EPA Level 3 | | ŗ | Reling | uished b | by | | | - | - | | Date | } | Time | | Receive | edby | *************************************** | | *************************************** | <u> </u> | isto | Time |
| Equivalent/non-CLP) | Raw Data (| Only) | | | • | | Mark Control | *************************************** | RESPONDENCE OF THE PARTY. | | | | | ļ | | | X | Geo | 01176 | 11e7 1 | 114/18 | 8:00 |
| Type III (Reduced non-CLP) NJ DKQP | , тут | ************************************** | | | | EDD | Regi | uired' | ? Y | Yes . | No | | | | | | | | | l Carrier: | | |
| Type III (Neddced Holl-OLF) No DNQF | 1.7 11 | FRRP-13 | | I | f yes, | , format: | | | | 99B | , . | | _ | | UP | | | | | _ Other_ | | |
| NYSDEC Category A or B MA MCP | CTR | 3CP ∫ | | | | ecific Q | , | | | | | | No | | | Tor | | | | ceipt <u>5.</u> | 7.59 | |
| THE ESTAGE OF THE TANK THE TAN | 0110 | , | 1. | (If yes, | , indica | ate QC sa | ample | and s | ubmit t | triplica | te sam | ple vo' | lume.) | | | ren | npera | iture up | pon re | ceipt | 1/2.17 | <u>1</u> "C |

Environmental Analysis Request/Chain of Custody

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| "60" | Cu | | | | • |

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 42343 Group # 1955027sample # 9659223-44 COC # 562325 Lancaster Laboratories Environmental Client Information Matrix **Analysis Requested** For Lab Use Only Client: Acct. #: Preservation and Filtration Codes FSC: SCR#: See court Surface PWSID#: **Preservation Codes** H=HCI T=Thiosulfate P.O. #: N=HNO₃ B=NaOH S=H₂SO₄ P=H₃PO₄ Sediment Sampler: Quote #: F=Field Filtered O=Other NPDES Potable Remarks State where samples were collected: For Compliance: Composite Yes 🗆 No 🛚 $\sqrt{}$ Total # (Collected Grab Sample Identification Soii Date Time SC- B31 - SB01-45 6/13/18 1175 SC -1331 - SS03-01 1200 Sc - 1331 - SB03 - 56 1205 Turnaround Time (TAT) Requested (please circle) Received by Time 1700 Standard (Rush TAT is subject to laboratory approval and surcharge.) Received by Time Date results are needed: Relinguished by Time Received by Date prev E-mail address: Relinguished by Date Time Received by Data Package Options (circle if required) SEE PAPP Type VI (Raw Data Only) Type I (EPA Level 3 Relinguished by Date Phix Georgaill Equivalent/non-CLP) Relinquished by Commercial Carrier:

UPS _____ FedEx Y Other EDD Required? Yes Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 QAPP If yes, format: 500 Site-Specific QC (MS/MSD/Dup)? Yes NYSDEC Category A or B MA MCP CT RCP Temperature upon receipt 4,5,5,7,°C (If yes, indicate QC sample and submit triplicate sample volume.)



Sample Administration Receipt Documentation Log

Doc Log ID: 219099

Group Number(s): 1955027

Client: Aecom

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 06/14/2018 8:00

Number of Packages: <u>3</u> Number of Projects: <u>1</u>

State/Province of Origin: NY

Arrival Condition Summary

 Shipping Container Sealed:
 Yes
 Sample IDs on COC match Containers:
 Yes

 Custody Seal Present:
 Yes
 Sample Date/Times match COC:
 Yes

 Custody Seal Intact:
 Yes
 VOA Vial Headspace ≥ 6mm:
 N/A

Samples Chilled: Yes Total Trip Blank Qty: 0

Paperwork Enclosed: Yes Air Quality Samples Present: No

Samples Intact: Yes

Missing Samples: No Extra Samples: No

Discrepancy in Container Qty on COC: No

Unpacked by Felix Gonzalez (13783) at 08:54 on 06/14/2018

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

| Cooler# | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|---------|----------------|----------------|-------------|----------|--------------|---------------|----------------|
| 1 | 32170023 | 5.7 | IR | Wet | Υ | Loose/Bag | N |
| 2 | DT42-01 | 5.9 | DT | Wet | Υ | Loose/Bag | N |
| 3 | DT42-01 | 4.5 | DT | Wet | Υ | Loose/Bag | N |



BMQL

ppb

basis

Dry weight

parts per billion

as-received basis.

Explanation of Symbols and Abbreviations

milliliter(s)

The following defines common symbols and abbreviations used in reporting technical data:

Below Minimum Quantitation Level

| С | degrees Celsius | MPN | Most Probable Number |
|----------|---------------------------------------|---------------------------|--|
| cfu | colony forming units | N.D. | non-detect |
| CP Units | cobalt-chloroplatinate units | ng | nanogram(s) |
| F | degrees Fahrenheit | NTU | nephelometric turbidity units |
| g | gram(s) | pg/L | picogram/liter |
| IU | International Units | RL | Reporting Limit |
| kg | kilogram(s) | TNTC | Too Numerous To Count |
| L | liter(s) | μg | microgram(s) |
| lb. | pound(s) | μL | microliter(s) |
| m3 | cubic meter(s) | umhos/cm | micromhos/cm |
| meq | milliequivalents | MCL | Maximum Contamination Limit |
| mg | milligram(s) | | |
| < | less than | | |
| > | greater than | | |
| ppm | aqueous liquids, ppm is usually taken | to be equivalent to milli | kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weight uivalent to one microliter per liter of gas. |

mL

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Results printed under this heading have been adjusted for moisture content. This increases the analyte weight

concentration to approximate the value present in a similar sample without moisture. All other results are reported on an

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



Data Qualifiers

| Qualifier | Definition |
|----------------|---|
| С | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| K1 | Initial Calibration Blank is above the QC limit and the sample result is ND |
| K2 | Continuing Calibration Blank is above the QC limit and the sample result is ND |
| K3 | Initial Calibration Verification is above the QC limit and the sample result is ND |
| K4 | Continuing Calibration Verification is above the QC limit and the sample result is ND |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised |
| | due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.









ANALYSIS REPORT

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 AECOM Suite 150 12420 Milestone Center Drive Germantown MD 20876

Report Date: June 27, 2018 12:27

Project: Stratton ANGB 60520893

Account #: 42343 Group Number: 1955015 SDG: FSB16 PO Number: 93872 State of Sample Origin: AR

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To AECOM Electronic Copy To AECOM Electronic Copy To AECOM

Attn: John Santacroce Attn: Naoum Tavantzis Attn: Mike Myers

Respectfully Submitted,

Lay How

Kay Hower

(717) 556-7364









SAMPLE INFORMATION

| Client Sample Description | Sample Collection Date/Time | ELLE# |
|---------------------------|-----------------------------|---------|
| SC-B11-SS03-01 Grab Soil | 06/11/2018 08:35 | 9659169 |
| SC-B11-SB03-45 Grab Soil | 06/11/2018 08:45 | 9659170 |
| SC-B11-SS01-01 Grab Soil | 06/11/2018 09:05 | 9659171 |
| SC-B11-SB01-34 Grab Soil | 06/11/2018 09:15 | 9659172 |
| SC-B11-SS02-01 Grab Soil | 06/11/2018 10:00 | 9659173 |
| SC-B11-SB02-34 Grab Soil | 06/11/2018 10:20 | 9659174 |
| SC-APR-SS01-01 Grab Soil | 06/11/2018 11:06 | 9659175 |
| SC-APR-SB01-45 Grab Soil | 06/11/2018 11:20 | 9659176 |
| SC-APR-SS02-01 Grab Soil | 06/11/2018 11:40 | 9659177 |
| SC-APR-SB02-45 Grab Soil | 06/11/2018 11:50 | 9659178 |
| SC-APR-SS03-01 Grab Soil | 06/11/2018 12:30 | 9659179 |
| SC-APR-SB03-45 Grab Soil | 06/11/2018 12:36 | 9659180 |
| SC-APR-DUP01 Grab Soil | 06/11/2018 | 9659181 |
| SC-B10-SS02-01 Grab Soil | 06/11/2018 12:58 | 9659182 |
| SC-B10-SB02-34 Grab Soil | 06/11/2018 13:05 | 9659183 |
| SC-B10-SS01-01 Grab Soil | 06/11/2018 13:15 | 9659184 |
| SC-B10-SB01-34 Grab Soil | 06/11/2018 13:20 | 9659185 |
| SC-B02-SS01-01 Grab Soil | 06/11/2018 13:35 | 9659186 |
| SC-B02-SB01-78 Grab Soil | 06/11/2018 13:40 | 9659187 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.



Project Name: Stratton ANGB 60520893

ELLE Group #: 1955015

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9659180, 9659186

The following analytes were manually integrated due to incorrect integrations: Perfluorohexanesulfonate

Sample #s: 9659171, 9659175, 9659182, 9659185

The following analytes were manually integrated due to incorrect integrations: Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659181

The following analytes were manually integrated due to incorrect integrations: Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659170

The following analytes were manually integrated due to incorrect integrations: Perfluoro-octanesulfonate

Sample #s: 9659184

The following analytes were manually integrated due to incorrect integrations:

Perfluoroctanoic acid, Perfluorobutanesulfonate, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659177

The following analytes were manually integrated due to incorrect integrations:



Case Narrative

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

Perfluorooctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659173, 9659174

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorobutanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659169

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluoronanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659179

The following analytes were manually integrated due to incorrect integrations:

Perfluorooctanoic acid, Perfluorononanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Batch #: 18166010 (Sample number(s): 9659169-9659187 UNSPK: 9659169)

The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Perfluoro-octanesulfonate

SM 2540 G-1997 %Moisture Calc, Wet Chemistry

Batch #: 18169820007B (Sample number(s): 9659179-9659187 BKG: 9659185)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture



2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEny

Sample Description: SC-B11-SS03-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 08:35

SDG#: FSB16-01

AECOM

ELLE Sample #: SW 9659169 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|---|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | MS Miscellaneous E | PA 537 mod QSM 5.1 ble B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.61 | 0.82 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.54 J | 0.20 | 0.69 | 0.82 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.89 | 0.20 | 0.65 | 0.82 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.40 J | 0.20 | 0.69 | 0.82 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 10 | 0.20 | 0.66 | 0.82 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.92 | 0.20 | 0.69 | 0.82 | 1 |
| Wet C | | M 2540 G-1997 Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.5 | 0.50 | 0.50 | 0.50 | 1 |
| | | s in weight of the sample after The moisture result reported i | | at | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 01:47 | Joshua P Trost | 1 | | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B11-SB03-45 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 08:45

SDG#: FSB16-02

AECOM

ELLE Sample #: SW 9659170 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | CA | AS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|-------------------------------|--------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 mod table B-15 | QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | | 5-73-5 | N.D. | 0.25 | 0.74 | 0.99 | 1 |
| 14478 | Perfluoroheptanoic acid | 37 | 5-85-9 | N.D. | 0.25 | 0.84 | 0.99 | 1 |
| 14478 | Perfluorohexanesulfonat | e 35 | 5-46-4 | N.D. | 0.25 | 0.79 | 0.99 | 1 |
| 14478 | Perfluorononanoic acid | 37 | 5-95-1 | N.D. | 0.25 | 0.84 | 0.99 | 1 |
| 14478 | Perfluoro-octanesulfonat | e 17 | 63-23-1 | 2.7 | 0.25 | 0.81 | 0.99 | 1 |
| 14478 | Perfluorooctanoic acid | 33: | 5-67-1 | N.D. | 0.25 | 0.84 | 0.99 | 1 |
| Wet CI | hemistry | SM 2540 G-199 %Moisture Ca | - | % | % | % | % | |
| 00111 | Moisture Moisture represents the 103 - 105 degrees Celsiu as-received basis. | | sample after | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 02:18 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



SW 9659171

1955015

AECOM

ELLE Sample #:

ELLE Group #:

Matrix: Soil

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Sample Description: SC-B11-SS01-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

SDG#: FSB16-03

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.24 J | 0.22 | 0.70 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.96 | 0.22 | 0.71 | 0.87 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| Wet C | hemistry SM 2540 (%Moistur | | % | % | % | % | |
| 00111 | Moisture | n.a. | 11.7 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in weight 103 - 105 degrees Celsius. The moistu | | | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

as-received basis.

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 02:34 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B11-SB01-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 09:15

SDG#: FSB16-04

AECOM

ELLE Sample #: SW 9659172 ELLE Group #: 1955015

Matrix: Soil

| ODO#. | 1 0 0 10 0 4 | | | | | | |
|------------|---|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
| LC/MS | LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.59 | 0.79 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.67 | 0.79 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.63 | 0.79 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.67 | 0.79 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.20 | 0.64 | 0.79 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.67 | 0.79 | 1 |
| Wet C | hemistry SM 2540 %Moistu | | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in weigh 103 - 105 degrees Celsius. The mois as-received basis. | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 02:49 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B11-SS02-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 10:00

SDG#: FSB16-05

AECOM

ELLE Sample #: SW 9659173 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--------------------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | | 0.41 J | 0.24 | 0.73 | 0.98 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.31 J | 0.24 | 0.83 | 0.98 | 1 |
| 14478 | Perfluorohexanesulfonate | e 355-46-4 | 8.3 | 0.24 | 0.78 | 0.98 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.62 J | 0.24 | 0.83 | 0.98 | 1 |
| 14478 | Perfluoro-octanesulfonate | e 1763-23-1 | 61 | 0.24 | 0.80 | 0.98 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.4 | 0.24 | 0.83 | 0.98 | 1 |
| Wet C | | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the le | n.a. oss in weight of the sample after s. The moisture result reported | | 0.50 t | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 03:05 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B11-SB02-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 10:20

SDG#: FSB16-06

AECOM

ELLE Sample #: SW 9659174 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|---|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.65 | 0.86 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.32 J | 0.22 | 0.73 | 0.86 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 5.1 | 0.22 | 0.69 | 0.86 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.40 J | 0.22 | 0.73 | 0.86 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 27 | 0.22 | 0.70 | 0.86 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.3 | 0.22 | 0.73 | 0.86 | 1 |
| Wet CI | , , | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | | n.a. oss in weight of the sample afte s. The moisture result reported | | 0.50 at | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 03:20 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-APR-SS01-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 11:06

SDG#: FSB16-07

AECOM

ELLE Sample #: SW 9659175 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.62 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.22 J | 0.21 | 0.66 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 1.6 | 0.21 | 0.67 | 0.83 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| Wet Cl | · • | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | | n.a. oss in weight of the sample after s. The moisture result reported i | | 0.50 at | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 03:36 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-APR-SB01-45 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 11:20

SDG#: FSB16-08

AECOM

ELLE Sample #: SW 9659176 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-------------------------|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 m table B-15 | od QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | | 375-73-5 | N.D. | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | | 375-85-9 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfona | te | 355-46-4 | N.D. | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | | 375-95-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfona | te | 1763-23-1 | N.D. | 0.20 | 0.66 | 0.81 | 1 |
| 14478 | Perfluorooctanoic acid | | 335-67-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| Wet CI | hemistry | SM 2540 G %Moisture | | % | % | % | % | |
| 00111 | Moisture Moisture represents the 103 - 105 degrees Celsi as-received basis. | | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 03:51 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-APR-SS02-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 11:40

SDG#: FSB16-09

AECOM

ELLE Sample #: SW 9659177 ELLE Group #: 1955015

Matrix: Soil

| 020 | 1 02 10 0 | <u> </u> | | | | | |
|------------|---|--------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
| LC/MS | MS Miscellaneous EPA 5 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.62 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.58 J | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.76 J | 0.21 | 0.66 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 0.46 J | 0.21 | 0.67 | 0.83 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.37 J | 0.21 | 0.70 | 0.83 | 1 |
| Wet CI | | 540 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 7.8 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in w 103 - 105 degrees Celsius. The r as-received basis. | | | | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 04:07 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-APR-SB02-45 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 11:50

SDG#: FSB16-10

AECOM

ELLE Sample #: SW 9659178 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous E | PA 537 mod QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.61 | 0.81 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.65 | 0.81 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.20 | 0.66 | 0.81 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.69 | 0.81 | 1 |
| Wet C | · · · · · | M 2540 G-1997 Moisture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 9.5 | 0.50 | 0.50 | 0.50 | 1 |
| | | ss in weight of the sample after The moisture result reported i | |) at | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 04:38 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007A | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-APR-SS03-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 12:30

SDG#: FSB16-11

AECOM

ELLE Sample #: SW 9659179 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|--------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | MS Miscellaneous EPA 5 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.22 | 0.67 | 0.90 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.22 | 0.76 | 0.90 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 1.7 | 0.22 | 0.72 | 0.90 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.22 | 0.76 | 0.90 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 2.1 | 0.22 | 0.73 | 0.90 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 0.75 J | 0.22 | 0.76 | 0.90 | 1 |
| Wet C | , | 540 G-1997 sture Calc | % | % | % | % | |
| 00111 | Moisture | n.a. | 14.2 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in w 103 - 105 degrees Celsius. The r as-received basis. | | | at | | | |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 04:53 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-APR-SB03-45 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 12:36

SDG#: FSB16-12

AECOM

ELLE Sample #: SW 9659180 ELLE Group #: 1955015

Matrix: Soil

| | . 0- | 7.0 12 | | | | | |
|------------|---------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
| LC/MS | | EPA 537 mod QSM 5.1 able B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.62 | 0.83 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 0.43 J | 0.21 | 0.66 | 0.83 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.21 | 0.67 | 0.83 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.21 | 0.70 | 0.83 | 1 |
| Wet Ch | - · · · | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | | n.a. ss in weight of the sample after . The moisture result reported i | | 0.50 t | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 05:09 | Joshua P Trost | 1 | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-APR-DUP01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00
Collection Date/Time: 06/11/2018
SDG#: FSB16-13FD

AECOM

ELLE Sample #: SW 9659181 ELLE Group #: 1955015

Matrix: Soil

| 3DO#. | 1 3010-1311 | J | | | | | |
|------------|--|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
| LC/MS | 6/MS Miscellaneous EPA 537 table B-1 | | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.23 | 0.70 | 0.93 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | 0.37 J | 0.23 | 0.79 | 0.93 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 3.7 | 0.23 | 0.74 | 0.93 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | 0.67 J | 0.23 | 0.79 | 0.93 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 14 | 0.23 | 0.75 | 0.93 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | 1.5 | 0.23 | 0.79 | 0.93 | 1 |
| Wet C | hemistry SM 2540 %Moistu | | % | % | % | % | |
| 00111 | Moisture | n.a. | 14.6 | 0.50 | 0.50 | 0.50 | 1 |
| | Moisture represents the loss in weight 103 - 105 degrees Celsius. The mois | | | | | | |

as-received basis.

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 05:25 | Joshua P Trost | 1 | | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B10-SS02-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 12:58

SDG#: FSB16-14

| AECOM | |
|----------------|------------|
| ELLE Sample #: | SW 9659182 |

ELLE Group #: 1955015 Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|----------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EPA 537 m table B-15 | od QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.24 | 0.72 | 0.96 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.24 | 0.82 | 0.96 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | 2.4 | 0.24 | 0.77 | 0.96 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.24 | 0.82 | 0.96 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | 19 | 0.24 | 0.78 | 0.96 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.24 | 0.82 | 0.96 | 1 |
| Wet Ch | nemistry SM 2540 G %Moisture | | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss in weight o 103 - 105 degrees Celsius. The moistur as-received basis. | n.a. f the sample after | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 05:40 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B10-SB02-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 13:05

SDG#: FSB16-15

AECOM

ELLE Sample #: SW 9659183 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS | Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|----------------------------------|--------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 mod QS table B-15 | SM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | | 73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-8 | 35-9 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfonat | e 355-4 | 16-4 | N.D. | 0.22 | 0.69 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | 375-9 | 95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfonat | e 1763- | -23-1 | N.D. | 0.22 | 0.70 | 0.87 | 1 |
| 14478 | Perfluorooctanoic acid | 335-6 | 67-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| Wet CI | hemistry | SM 2540 G-1997 %Moisture Calc | | % | % | % | % | |
| 00111 | Moisture Moisture represents the l 103 - 105 degrees Celsiu as-received basis. | | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 05:56 | Joshua P Trost | 1 | | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B10-SS01-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 13:15

SDG#: FSB16-16

AECOM

ELLE Sample #: SW 9659184 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS N | umber | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-----------------------------------|-------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 mod QS table B-15 | M 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | | -5 | 0.29 J | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85 | -9 | N.D. | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfona | te 355-46 | -4 | 3.7 | 0.21 | 0.67 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | 375-95 | -1 | N.D. | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluoro-octanesulfona | te 1763-2 | 3-1 | 21 | 0.21 | 0.68 | 0.84 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67 | -1 | 0.26 J | 0.21 | 0.71 | 0.84 | 1 |
| Wet C | hemistry | SM 2540 G-1997 %Moisture Calc | | % | % | % | % | |
| 00111 | Moisture Moisture represents the 103 - 105 degrees Celsi as-received basis. | n.a. loss in weight of the sam | ple after o | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 06:11 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B10-SB01-34 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 13:20

SDG#: FSB16-17

AECOM

ELLE Sample #: SW 9659185 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|---|-------------------------|------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous | EPA 537 m table B-15 | od QSM 5.1 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonat | е | 375-73-5 | N.D. | 0.22 | 0.65 | 0.87 | 1 |
| 14478 | Perfluoroheptanoic acid | | 375-85-9 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluorohexanesulfona | te | 355-46-4 | 1.5 | 0.22 | 0.69 | 0.87 | 1 |
| 14478 | Perfluorononanoic acid | | 375-95-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| 14478 | Perfluoro-octanesulfona | te | 1763-23-1 | 6.2 | 0.22 | 0.71 | 0.87 | 1 |
| 14478 | Perfluorooctanoic acid | | 335-67-1 | N.D. | 0.22 | 0.74 | 0.87 | 1 |
| Wet CI | hemistry | SM 2540 G %Moisture | | % | % | % | % | |
| 00111 | Moisture Moisture represents the 103 - 105 degrees Celsi as-received basis. | | | | 0.50 | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 06:27 | Joshua P Trost | 1 | | | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B02-SS01-01 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 13:35

SDG#: FSB16-18

AECOM

ELLE Sample #: SW 9659186 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--------------------------------------|--|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | | EPA 537 mod QSM 5.1 table B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.20 | 0.59 | 0.79 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.20 | 0.67 | 0.79 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.20 | 0.63 | 0.79 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.20 | 0.67 | 0.79 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.20 | 0.64 | 0.79 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.20 | 0.67 | 0.79 | 1 |
| Wet C | · · · · · · | SM 2540 G-1997 %Moisture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the lo | n.a. ass in weight of the sample after s. The moisture result reported | | 0.50 at | 0.50 | 0.50 | 1 |

Sample Comments

| | Laboratory Sample Analysis Record | | | | | | | | |
|------------|-----------------------------------|----------------------------------|--------|--------------|---------------------------|------------------|--------------------|--|--|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor | | |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 06:42 | Joshua P Trost | 1 | | |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 | | |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 | | |

^{*=}This limit was used in the evaluation of the final result



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Sample Description: SC-B02-SB01-78 Grab Soil

Stratton PFAS

Project Name: Stratton ANGB 60520893

Submittal Date/Time: 06/14/2018 08:00 Collection Date/Time: 06/11/2018 13:40

SDG#: FSB16-19

AECOM

ELLE Sample #: SW 9659187 ELLE Group #: 1955015

Matrix: Soil

| CAT No. | Analysis Name | CAS Number | Dry Result | Dry Detection Limit* | Dry Limit of Detection | Dry Limit of Quantitation | DF |
|------------|--|--------------------------------|---------------|----------------------------|------------------------------|---------------------------------|----|
| LC/MS | /MS Miscellaneous EF | PA 537 mod QSM 5.1 ble B-15 | ng/g | ng/g | ng/g | ng/g | |
| 14478 | Perfluorobutanesulfonate | 375-73-5 | N.D. | 0.21 | 0.63 | 0.84 | 1 |
| 14478 | Perfluoroheptanoic acid | 375-85-9 | N.D. | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluorohexanesulfonate | 355-46-4 | N.D. | 0.21 | 0.67 | 0.84 | 1 |
| 14478 | Perfluorononanoic acid | 375-95-1 | N.D. | 0.21 | 0.71 | 0.84 | 1 |
| 14478 | Perfluoro-octanesulfonate | 1763-23-1 | N.D. | 0.21 | 0.68 | 0.84 | 1 |
| 14478 | Perfluorooctanoic acid | 335-67-1 | N.D. | 0.21 | 0.71 | 0.84 | 1 |
| Wet C | | M 2540 G-1997 Moisture Calc | % | % | % | % | |
| 00111 | Moisture Moisture represents the loss | n.a. | 13.3 | 0.50 | 0.50 | 0.50 | 1 |
| | 103 - 105 degrees Celsius. Tas-received basis. | | | ai | | | |

Sample Comments

| | | Labor | ratory S | Sample Analysis | s Record | | |
|------------|------------------------------|----------------------------------|----------|-----------------|---------------------------|------------------|--------------------|
| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
| 14478 | PFAS in Soil by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/19/2018 06:58 | Joshua P Trost | 1 |
| 14510 | PFAS Solid Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18166010 | 06/15/2018 09:35 | Courtney J Fatta | 1 |
| 00111 | Moisture | SM 2540 G-1997 %Moisture Calc | 1 | 18169820007B | 06/18/2018 21:58 | Scott W Freisher | 1 |

^{*=}This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: AECOM Group Number: 1955015

Reported: 06/27/2018 12:27

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

| Analysis Name | Result | DL** | LOD | LOQ |
|---------------------------|------------|-----------------|-----------|------|
| | ng/g | ng/g | ng/g | ng/g |
| Batch number: 18166010 | Sample num | ber(s): 9659169 | 9-9659187 | |
| Perfluorobutanesulfonate | N.D. | 0.20 | 0.60 | 0.80 |
| Perfluoroheptanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| Perfluorohexanesulfonate | N.D. | 0.20 | 0.64 | 0.80 |
| Perfluorononanoic acid | N.D. | 0.20 | 0.68 | 0.80 |
| Perfluoro-octanesulfonate | N.D. | 0.20 | 0.65 | 0.80 |
| Perfluorooctanoic acid | N.D. | 0.20 | 0.68 | 0.80 |

LCS/LCSD

| Analysis Name | LCS Spike Added ng/g | LCS Conc ng/g | LCSD Spike Added ng/g | LCSD Conc ng/g | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|----------------------------|----------------------------|---------------------|-----------------------------|----------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: 18166010 | Sample number | (s): 9659169-9 | 9659187 | | | | | | |
| Perfluorobutanesulfonate | 1.20 | 1.17 | 1.20 | 1.12 | 98 | 93 | 70-130 | 5 | 30 |
| Perfluoroheptanoic acid | 1.36 | 1.42 | 1.36 | 1.41 | 104 | 104 | 70-130 | 0 | 30 |
| Perfluorohexanesulfonate | 1.29 | 1.35 | 1.29 | 1.37 | 105 | 107 | 70-130 | 2 | 30 |
| Perfluorononanoic acid | 1.36 | 1.43 | 1.36 | 1.48 | 105 | 109 | 70-130 | 4 | 30 |
| Perfluoro-octanesulfonate | 1.30 | 1.36 | 1.30 | 1.41 | 105 | 108 | 70-130 | 3 | 30 |
| Perfluorooctanoic acid | 1.36 | 1.56 | 1.36 | 1.62 | 115 | 119 | 70-130 | 3 | 30 |
| | % | % | % | % | | | | | |
| Batch number: 18169820007A | Sample number | (s): 9659169-9 | 9659178 | | | | | | |
| Moisture | 89.5 | 89.41 | | | 100 | | 99-101 | | |
| Batch number: 18169820007B | Sample number | (s): 9659179-9 | 9659187 | | | | | | |
| Moisture | 89.5 | 89.41 | | | 100 | | 99-101 | | |

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

| Analysis Name | Unspiked | MS Spike | MS | MSD Spike | MSD | MS | MSD | MS/MSD | RPD | RPD |
|---------------|----------|----------|------|-----------|------|------|------|--------|-----|-----|
| | Conc | Added | Conc | Added | Conc | %Rec | %Rec | Limits | | Max |
| | ng/g | ng/g | ng/g | ng/g | ng/g | | | | | |

^{*-} Outside of specification

P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: AECOM Group Number: 1955015

Reported: 06/27/2018 12:27

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

| Analysis Name | Unspiked Conc ng/g | MS Spike Added ng/g | MS Conc ng/g | MSD Spike Added ng/g | MSD Conc ng/g | MS %Rec | MSD %Rec | MS/MSD Limits | RPD | RPD Max |
|---------------------------|--------------------------|---------------------------|--------------------|----------------------------|---------------------|------------|-------------|------------------|-----|------------|
| Batch number: 18166010 | Sample numbe | r(s): 9659169-9 | 9659187 U | NSPK: 9659169 | | | | | | |
| Perfluorobutanesulfonate | N.D. | 1.16 | 1.17 | | | 101 | | 70-130 | | |
| Perfluoroheptanoic acid | 0.503 | 1.31 | 1.64 | | | 87 | | 70-130 | | |
| Perfluorohexanesulfonate | 0.828 | 1.24 | 1.97 | | | 92 | | 70-130 | | |
| Perfluorononanoic acid | 0.373 | 1.31 | 1.58 | | | 92 | | 70-130 | | |
| Perfluoro-octanesulfonate | 9.48 | 1.25 | 6.41 | | | -245 (2) | | 70-130 | | |
| Perfluorooctanoic acid | 0.847 | 1.31 | 1.96 | | | 85 | | 70-130 | | |

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | BKG Conc | DUP Conc | DUP RPD | DUP RPD Max |
|----------------------------|------------------------|---------------------|---------|--------------------|
| | % | % | | |
| Batch number: 18169820007A | Sample number(s): 9659 | 169-9659178 BKG: 96 | 59174 | |
| Moisture | 10.74 | 10.62 | 1 | 5 |
| Batch number: 18169820007B | Sample number(s): 9659 | 179-9659187 BKG: 96 | 59185 | |
| Moisture | 10.53 | 11.9 | 12* | 5 |

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Soil by LC/MS/MS-DoD

Batch number: 18166010

| Daterriumbe | 1. 10100 | 0010 | | | | | | | | | | |
|-------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 13C3-I | PFBS | 13C3-F | PFHxS | 13C4-P | FHpA | 13C8-F | PFOA | 13C8-P | FOS | 13C9-F | PFNA |
| | %Rec | LOD | %Rec | LOD | %Rec | LÓD | %Rec | LOD | %Rec | LOD | %Rec | LOD |
| | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) |
| 9659169 | 82 | 0.57 | 84 | 0.57 | 81 | 0.57 | 81 | 0.57 | 82 | 0.85 | 71 | 0.38 |
| 9659170 | 86 | 0.59 | 84 | 0.59 | 79 | 0.59 | 78 | 0.59 | 84 | 0.89 | 71 | 0.40 |
| 9659171 | 73 | 0.58 | 79 | 0.58 | 75 | 0.58 | 72 | 0.58 | 71 | 0.87 | 63 | 0.38 |
| 9659172 | 71 | 0.55 | 72 | 0.55 | 70 | 0.55 | 70 | 0.55 | 66 | 0.83 | 55 | 0.37 |
| 9659173 | 78 | 0.58 | 77 | 0.58 | 73 | 0.58 | 73 | 0.58 | 77 | 0.87 | 66 | 0.39 |
| 9659174 | 69 | 0.58 | 73 | 0.58 | 64 | 0.58 | 65 | 0.58 | 73 | 0.87 | 63 | 0.38 |
| 9659175 | 76 | 0.59 | 76 | 0.59 | 69 | 0.59 | 70 | 0.59 | 75 | 0.88 | 64 | 0.39 |
| 9659176 | 74 | 0.55 | 78 | 0.55 | 76 | 0.55 | 77 | 0.55 | 74 | 0.82 | 66 | 0.36 |

^{*-} Outside of specification

P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: AECOM Group Number: 1955015

Reported: 06/27/2018 12:27

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Soil by LC/MS/MS-DoD

Batch number: 18166010

| | 13C3-I | PFBS | 13C3-F | FHxS | 13C4-F | PFHpA | 13C8-I | PFOA | 13C8-F | FOS | 13C9-F | FNA |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | %Rec | LOD | %Rec | LOD | %Rec | LÓD | %Rec | LOD | %Rec | LOD | %Rec | LOD |
| | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) | | (ng/g) |
| 9659177 | 82 | 0.57 | 84 | 0.57 | 81 | 0.57 | 81 | 0.57 | 83 | 0.86 | 70 | 0.38 |
| 9659178 | 77 | 0.55 | 79 | 0.55 | 73 | 0.55 | 73 | 0.55 | 77 | 0.83 | 63 | 0.37 |
| 9659179 | 80 | 0.58 | 81 | 0.58 | 79 | 0.58 | 79 | 0.58 | 75 | 0.87 | 67 | 0.38 |
| 9659180 | 79 | 0.56 | 84 | 0.56 | 77 | 0.56 | 77 | 0.56 | 75 | 0.83 | 71 | 0.37 |
| 9659181 | 79 | 0.59 | 83 | 0.59 | 76 | 0.59 | 76 | 0.59 | 80 | 0.89 | 68 | 0.40 |
| 9659182 | 72 | 0.57 | 78 | 0.57 | 74 | 0.57 | 72 | 0.57 | 72 | 0.85 | 65 | 0.38 |
| 9659183 | 75 | 0.57 | 76 | 0.57 | 71 | 0.57 | 74 | 0.57 | 75 | 0.85 | 68 | 0.38 |
| 9659184 | 79 | 0.56 | 81 | 0.56 | 78 | 0.56 | 76 | 0.56 | 74 | 0.84 | 67 | 0.37 |
| 9659185 | 81 | 0.58 | 81 | 0.58 | 75 | 0.58 | 78 | 0.58 | 82 | 0.87 | 69 | 0.39 |
| 9659186 | 73 | 0.56 | 79 | 0.56 | 76 | 0.56 | 76 | 0.56 | 74 | 0.83 | 74 | 0.37 |
| 9659187 | 70 | 0.55 | 74 | 0.55 | 71 | 0.55 | 68 | 0.55 | 70 | 0.82 | 62 | 0.36 |
| Blank | 80 | 1.2 | 78 | 1.2 | 79 | 1.2 | 80 | 1.2 | 76 | 1.8 | 71 | 0.80 |
| LCS | 74 | 1.2 | 86 | 1.2 | 85 | 1.2 | 80 | 1.2 | 77 | 1.8 | 68 | 0.80 |
| LCSD | 89 | 1.2 | 90 | 1.2 | 89 | 1.2 | 87 | 1.2 | 82 | 1.8 | 69 | 0.80 |
| MS | 75 | 0.58 | 78 | 0.58 | 77 | 0.58 | 75 | 0.58 | 73 | 0.87 | 67 | 0.38 |
| Limits: | 50-15 | 50 | 50-15 | 0 | 50-15 | 0 | 50-15 | 60 | 50-15 | 0 | 50-15 | 0 |

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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| | | | | | | |

NYSDEC Category A or B

MA MCP

CT RCP

For Eurofins Lancaster Laboratories Environmental use only

COC # 562315 Acct. # 47343 Group # 1955015 Sample # 9659169-87 Lancaster Laboratories Environmental Client Information Matrix **Analysis Requested** For Lab Use Only Client: Acct. #: Preservation and Filtration Codes HECOM Surface 60TL0893 Project Name/#: PWSID#: **Preservation Codes** Schenetady H=HCI T=Thiosulfate P.O. #: N=HNO₃ **B**=NaOH John Containers S=H2SO4 P=H₃PO₄ Sediment Sampler: F=Field Filtered O=Other NPDES Potable RM Remarks State where samples were collected: For Compliance: Yes No 🔲 Total#of Collected Grab Sample Identification Date Time 6/11/19 50-1311-5503-01 835 Sc- B11 - 5B03-45 84r 5c - B11 - SSO1-01 905 914 sc - B11 - SB01-34 SC- BII- SSOZ-01 1000 SC - BII - SB02 - 24 1020 Sc-APR- SSO1-61 1106 SC-APR - 3B01-45 1120 SC - APR - 3502 - 01 1140 SC - APR - SB02 - 45 1150 Turnaround Time (TAT) Requested (please circle) Standard Received by (Rush TAT is subject to laboratory approval and surcharge.) 1700 STANDERD Received by Date results are needed: John. Sontacroce @ action.com Relinquished by Date Time. Received by Data Package Options (circle if required) Equivalent/non-CLP) Relinquished by Received by GOODER V0/14/18 8:00 Pelix Relinguished by Commercial Carrier: EDD Required? Yes Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

If yes, format:

FedEx ·

Temperature upon receipt 5.7, 5.9, °C

SEC WA

(If yes, indicate QC sample and submit triplicate sample volume.)

Site-Specific QC (MS/MSD/Dup)? Yes

Environmental Analysis Request/Chain of Custody

| .00 | | | |
|-----|----|-----|-----|
| 400 | eu | rof | าทร |

For Eurofins Lancaster Laboratories Environmental use only

Lancaster Laboratories
Environmental

Acct. # 42343 Group # 1955015 Sample # 9659169 - 87

COC # 562316

| Client Information | | | | Î | Matrix | (| 7 | | | Ţ | Analy | /sis ˈ | Requ | uestr | ed | | Analysis Requested For Lab Use Only | | | | | | |
|---|-------------|-----------|-----------------------------|-----------------|----------|--|---|--|---|--|-----------------------|--------|--|---------|--------|--|-------------------------------------|--|--|--|---|--|--|
| Client: | Acct. #: | | ATT 2000 000 February 100 P | | 愐 | | -T | d ' | | Pr | | vation | | | | | des | COMPANIES AND AND AND AND AND AND AND AND AND AND | FSC: | | | | |
| AECOM | | | | | ا ا | | 1 1 | 1 | | | <u></u> | | | | [' | | September 1864 Services | T | SCR#: | | | | |
| Project Name/#: | PWSID #: | | | 7 | Tissue | 를 함 # # # # # # # # # # # # # # # # # # | . 1 | | | | ĺ | | | | | | | Ì | Pres | servation (| Codes | | |
| Stratton PFAs / 60520893 | 1 2 1 | | | | ĬĔ | Ground | . 1 | | | | 1 | | (| | 1 ' | | | ' | H=HCI | T=- | Thiosulfate | | |
| | P.O. #: | | | , | | Q Q | | Į s | | | , , | | (| | 1 ' | | | ' | N=HNO ₃ | | :NaOH | | |
| Santacroce Sampler: | Quote #: | | | ' | ا پر ا | |]]] | | | | , , | | (' | | 1 ' | 1 | ' | ' | S=H ₂ SO ₄ | | :H₃PO₄ :Othor | | |
| M-Credy | Quot. | | | 1 | Sediment | <u>a</u> 8 | . | Total # of Containers | | 5 | () | 1 | 1 ' | | 1 | | | ' | | Filtered 0=0 | | | |
| State where samples were collected: For Compliance: | J | | Ī | | je ' | Potable NPDES | | 13 | | 4 | , ! | 1 | i ' | | 1 ' | | ' | ' | | Noman | 3 | | |
| N√ Yes □ | No 🗆 | | | site | 8 1 | g A | |) j | 2 | 1 | , ! | | i ' | | 1 | | , | ' | | | ! | | |
| Sample Identification | Co | ollected | ا م | odu | | 0 | 6 | # / | 75 | | , ! | | i ' | | 1 | | , | " | | | ! | | |
| Jampie Menuncation | Date | Time | Grab | Composite | Soil | Water | Other: | Įģ' | Moishing | | , , | | , , | | 1 | | ' | " | | | ! | | |
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| E-mail address: John. Sontacroce | · rade | om com | Reling | quished l | by | | Manager 1 | *************************************** | minutes discussioners | Date | | Time | | Receive | ed by | | | | | Date | Time | | |
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| Equivalent/non-CLP) | (aw Daw | a Offig) | | | | | | | | | | | | 1/4 | (() | X | 621 | onzi | raige | Ce/14/18 | 8:00 | | |
| Type III (Reduced non-CLP) NJ DKQP | , TX | K TRRP-13 | | | | EDD Re | quire | d? → | Yes | No | | | | Relind | nquish | hed by | by Con | mmer | rcial Carrie | er: | | | |
| 1 | | ı | | | | , format: _ ecific QC | /MS/ | MSD/I | <u></u> | 2 Y6 | | No. | | · | PS | | | | Other | | | | |
| NYSDEC Category A or B MA MCP | СТ | T RCP | | | | ate QC samp | • | | . , | | | | | 1 | Ter | mper | ature | upon | n receipt <u>5</u> | 5.1,5.9 | _°C | | |



Sample Administration Receipt Documentation Log

Doc Log ID: 219099

Group Number(s): 1955015

Client: Aecom

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 06/14/2018 8:00

Number of Packages: <u>3</u> Number of Projects: <u>1</u>

State/Province of Origin: NY

Arrival Condition Summary

Shipping Container Sealed: Yes Sample IDs on COC match Containers: Yes

Custody Seal Present: Yes Sample Date/Times match COC: Yes

Custody Seal Intact: Yes VOA Vial Headspace ≥ 6mm: N/A

Samples Chilled: Yes Total Trip Blank Qty: 0

Paperwork Enclosed: Yes Air Quality Samples Present: No

Samples Intact: Yes

Missing Samples: No

Extra Samples: No

Discrepancy in Container Qty on COC: No

Unpacked by Felix Gonzalez (13783) at 08:54 on 06/14/2018

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

| Cooler# | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|---------|----------------|----------------|-------------|----------|--------------|---------------|----------------|
| 1 | 32170023 | 5.7 | IR | Wet | Υ | Loose/Bag | N |
| 2 | DT42-01 | 5.9 | DT | Wet | Υ | Loose/Bag | N |
| 3 | DT42-01 | 4.5 | DT | Wet | Υ | Loose/Bag | N |



BMQL

ppb

basis

Dry weight

parts per billion

as-received basis.

Explanation of Symbols and Abbreviations

milliliter(s)

The following defines common symbols and abbreviations used in reporting technical data:

Below Minimum Quantitation Level

| С | degrees Celsius | MPN | Most Probable Number |
|----------|---------------------------------------|---------------------------|--|
| cfu | colony forming units | N.D. | non-detect |
| CP Units | cobalt-chloroplatinate units | ng | nanogram(s) |
| F | degrees Fahrenheit | NTU | nephelometric turbidity units |
| g | gram(s) | pg/L | picogram/liter |
| IU | International Units | RL | Reporting Limit |
| kg | kilogram(s) | TNTC | Too Numerous To Count |
| L | liter(s) | μg | microgram(s) |
| lb. | pound(s) | μL | microliter(s) |
| m3 | cubic meter(s) | umhos/cm | micromhos/cm |
| meq | milliequivalents | MCL | Maximum Contamination Limit |
| mg | milligram(s) | | |
| < | less than | | |
| > | greater than | | |
| ppm | aqueous liquids, ppm is usually taken | to be equivalent to milli | kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weight uivalent to one microliter per liter of gas. |

mL

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Results printed under this heading have been adjusted for moisture content. This increases the analyte weight

concentration to approximate the value present in a similar sample without moisture. All other results are reported on an

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



Data Qualifiers

| Qualifier | Definition |
|----------------|---|
| С | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| K1 | Initial Calibration Blank is above the QC limit and the sample result is ND |
| K2 | Continuing Calibration Blank is above the QC limit and the sample result is ND |
| K3 | Initial Calibration Verification is above the QC limit and the sample result is ND |
| K4 | Continuing Calibration Verification is above the QC limit and the sample result is ND |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised |
| | due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.









ANALYSIS REPORT

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 AECOM Suite 150 12420 Milestone Center Drive Germantown MD 20876

Report Date: April 26, 2018 13:43

Project: Schenectady-Stratton ANGB

Account #: 42343 Group Number: 1931008 SDG: FSA88 PO Number: 93872 State of Sample Origin: AR

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To AECOM Electronic Copy To AECOM Electronic Copy To AECOM Attn: John Santacroce Attn: Naoum Tavantzis Attn: Mike Myers

Respectfully Submitted,

Lay How

Kay Hower

(717) 556-7364









SAMPLE INFORMATION

Client Sample Description

Sample Collection
Date/Time

ELLE#

Schenectady Decon Water Grab Water

04/11/2018 12:15

9555124

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.





Project Name: Schenectady-Stratton ANGB

ELLE Group #: 1931008

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9555124

The laboratory's DoD Scope of Accreditation does not include the following method: EPA 537 mod QSM 5.1 table B-15.



2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEny

Sample Description: Schenectady Decon Water Grab Water

Schenectady-Stratton ANGB

Project Name: Schenectady-Stratton ANGB

Submittal Date/Time: 04/12/2018 10:10 Collection Date/Time: 04/11/2018 12:15

SDG#: FSA88-01

AECOM

ELLE Sample #: WW 9555124

ELLE Group #: 1931008

Matrix: Water

| CAT No. | Analysis Name | CAS Number | Result | Detection Limit* | Limit of Detection | Limit of Quantitation | DF |
|------------|--|--------------------|-------------|---------------------|-----------------------|--------------------------|----|
| LC/MS/ | /MS Miscellaneous EPA 537 m table B-15 | od QSM 5.1 | ng/l | ng/l | ng/l | ng/l | |
| 14434 | Perfluorobutanesulfonate | 375-73-5 | 1.2 | 0.27 | 0.91 | 0.91 | 1 |
| 14434 | Perfluoroheptanoic acid | 375-85-9 | 2.0 | 0.27 | 0.91 | 0.91 | 1 |
| 14434 | Perfluorohexanesulfonate | 355-46-4 | 2.5 | 0.36 | 1.8 | 1.8 | 1 |
| 14434 | Perfluorononanoic acid | 375-95-1 | 0.42 J | 0.36 | 1.8 | 1.8 | 1 |
| 14434 | Perfluoro-octanesulfonate | 1763-23-1 | 3.8 | 0.55 | 1.8 | 1.8 | 1 |
| 14434 | Perfluorooctanoic acid | 335-67-1 | 5.8 | 0.27 | 0.91 | 0.91 | 1 |
| | aboratory's DoD Scope of Accreditation do od: EPA 537 mod QSM 5.1 table B-15. | es not include the | e following | | | | |

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|------------|-------------------------------|--------------------------------|--------|----------|---------------------------|-------------------|--------------------|
| 14434 | PFAS in Water by LC/MS/MS-DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18107005 | 04/23/2018 09:17 | Devon M Whooley | 1 |
| 14465 | PFAS Water Prep - DoD | EPA 537 mod QSM 5.1 table B-15 | 1 | 18107005 | 04/17/2018 15:30 | Anthony C Polaski | 1 |

^{*=}This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: AECOM Group Number: 1931008

Reported: 04/26/2018 13:43

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

| Analysis Name | Result | DL** | LOD | LOQ |
|---------------------------|------------|-----------------|------|------|
| | ng/l | ng/l | ng/l | ng/l |
| Batch number: 18107005 | Sample num | ber(s): 9555124 | 4 | |
| Perfluorobutanesulfonate | N.D. | 0.30 | 1.0 | 1.0 |
| Perfluoroheptanoic acid | N.D. | 0.30 | 1.0 | 1.0 |
| Perfluorohexanesulfonate | N.D. | 0.40 | 2.0 | 2.0 |
| Perfluorononanoic acid | N.D. | 0.40 | 2.0 | 2.0 |
| Perfluoro-octanesulfonate | N.D. | 0.60 | 2.0 | 2.0 |
| Perfluorooctanoic acid | N.D. | 0.30 | 1.0 | 1.0 |

LCS/LCSD

| Analysis Name | LCS Spike Added ng/l | LCS Conc ng/l | LCSD Spike Added ng/l | LCSD Conc ng/l | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---------------------------|----------------------------|---------------------|-----------------------------|----------------------|-------------|--------------|--------------------|-----|------------|
| Batch number: 18107005 | Sample number(| • | 3 | J | | | | | |
| Perfluorobutanesulfonate | 4.81 | 4.39 | 4.81 | 4.97 | 91 | 103 | 70-130 | 12 | 30 |
| Perfluoroheptanoic acid | 5.44 | 5.50 | 5.44 | 6.23 | 101 | 115 | 70-130 | 12 | 30 |
| Perfluorohexanesulfonate | 5.14 | 4.81 | 5.14 | 5.17 | 94 | 100 | 70-130 | 7 | 30 |
| Perfluorononanoic acid | 5.44 | 5.66 | 5.44 | 6.18 | 104 | 114 | 70-130 | 9 | 30 |
| Perfluoro-octanesulfonate | 5.20 | 4.95 | 5.20 | 5.43 | 95 | 104 | 70-130 | 9 | 30 |
| Perfluorooctanoic acid | 5 44 | 5.57 | 5.44 | 5.94 | 102 | 109 | 70-130 | 7 | 30 |

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Water by LC/MS/MS-DoD

Batch number: 18107005

| Datch Humbe | 1. 10107 | 003 | | | | | | | | | | | |
|-------------|----------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--|
| | 13C3-l | PFBS | 13C3-l | PFHxS | 13C4-F | PFHpA | 13C8- | PFOA | 13C8-F | FOS | 13C9-F | FNA | |
| | %Rec | LOD | %Rec | LOD | %Rec | LÓD | %Rec | LOD | %Rec | LOD | %Rec | LOD | |
| | | (ng/l) | | (ng/l) | | (ng/l) | | (ng/l) | | (ng/l) | | (ng/l) | |
| 9555124 | 111 | 9.1 | 80 | 9.1 | 85 | 1.8 | 88 | 1.8 | 89 | 9.1 | 102 | 1.8 | |
| Blank | 71 | 10 | 71 | 10 | 76 | 2.0 | 76 | 2.0 | 82 | 10 | 81 | 2.0 | |
| LCS | 76 | 10 | 74 | 10 | 78 | 2.0 | 79 | 2.0 | 82 | 10 | 84 | 2.0 | |
| LCSD | 72 | 10 | 79 | 10 | 80 | 2.0 | 84 | 2.0 | 81 | 10 | 80 | 2.0 | |

^{*-} Outside of specification

P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.



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Quality Control Summary

Client Name: AECOM Group Number: 1931008

Reported: 04/26/2018 13:43

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Water by LC/MS/MS-DoD

Batch number: 18107005

Limits: 50-150 50-150 50-150 50-150 50-150 50-150

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

⁽³⁾ The surrogate spike amount was less than the LOD.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Janvikoninganielkanelysis Requesikoheilomii@usico. For Eurofins Lancaster Laboratories Environmental use only, 24 Acot. # 40 343 Group # 1931008 Sample # 765559 24 COC # 538265 🖏 eurofins Lancaster Laboratories Environmental For Lab Use Only Client Information Matrix **Analysis Requested** Preservation Codes Acct. #: MECOM Preservation Codes PWSID #: Ground rolect Name/# T≔Thlosulfate H=HCl N=HNO₃ B⊭NaOH P.O. #: S=H₂SO₄ O=Other Total # of Containers Remarks Quote //: Composite Yes [No 🗆 Water Collected Grab TESS. Sample Identification Time Date 4-11-18 1215 Schenedady Decon water Received by San San San Turnaround Time (TAT) Requested (please circle) 9117 1/25/18 Standard Relinquished by Received by Date (Rush TAT is subject to laboratory approval and surcharge.) 441-18 Time Beceived by Date results are needed: Received by E-mail address: John Santacace @ accom. com Relinguished by Date Time Data Package Options (circle if required) Tlme Relinguished by Type I (EPA Level 3 felix Geonzalez 4/12/18 10:10 Type VI (Raw Data Only) Equivalent/non-CLP) Relinguished by Commercial Carrier: EDD Regulred? Yes No TX TRRP-13 Type III (Reduced non-CLP) NJ DKQP FedEx √ UPS If yes, format: Site-Specific QC (MS/MSD/Dup)? Yes Temperature upon receipt 鸟 . Ӌ MA MCP CT RCP NYSDEC Category A or B (If yes, indicate QC sample and submit triplicate sample volume.)

Kay Hower

Attachments:

Subject:

FW: 1931008-Stratton ANGB 60520893-04/12/2018 10:10:00 Acknowledgement

Schenectady-Stratton ANGB COC.pdf

-----Original Message-----

From: Mullen, Laura [mailto:Laura.Mullen@aecom.com]

Sent: Tuesday, April 17, 2018 1:51 PM

To: Kay Hower

Subject: RE: 1931008-Stratton ANGB 60520893-04/12/2018 10:10:00 Acknowledgement

EXTERNAL EMAIL*

Hi Kay - here is the revised COC which has "Schenectady-Stratton ANGB" as the Base name.

Thanks.

Laura

----Original Message-----

From: Kay Hower [mailto:KayHower@eurofinsus.com]

Sent: Tuesday, April 17, 2018 8:04 AM

To: Mullen, Laura

Subject: RE: 1931008-Stratton ANGB 60520893-04/12/2018 10:10:00 Acknowledgement

H Laura, please revise the project name on the attached COC - it has Stratton for the project. Thanks, Kay

----Original Message-----

From: Mullen, Laura [mailto:Laura.Mullen@aecom.com]

Sent: Monday, April 16, 2018 4:42 PM

To: Kay Hower

Subject: RE: 1931008-Stratton ANGB 60520893-04/12/2018 10:10:00 Acknowledgement

EXTERNAL EMAIL*

Hi Kay -

Can you please change this sample acknowledgement to "Schenectady ANGB" instead of "Stratton ANGB".

Thanks so much.

Laura

----Original Message-----

From: LLAutomatedReportingSystem@eurofins.com [mailto:LLAutomatedReportingSystem@eurofins.com]

Sent: Monday, April 16, 2018 1:37 PM

To: Myers, Mike; Mullen, Laura

Subject: 1931008-Stratton ANGB 60520893-04/12/2018 10:10:00 Acknowledgement

The following is an acknowledgement of the receipt of samples by Lancaster Laboratories. Please review this acknowledgement and contact your Client Service Representative if you have concerns.

This is an automated message from an unmonitored address. Please do not reply to this address.

* WARNING - EXTERNAL: This email originated from outside of Eurofins. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

Environmental Analysis Request/Chain of Custody For Eurofins Lancaster Laboratories Environmental use only Acct. # 42348 Group # 4731008 Sample # 755551 COC # 538265 ॐ eurofins Lancaster Laboratories Environmental For Lab Use Only **Analysis Requested** Matrix Client Information Preservation Codes Client: scr#: 2/9/185 AECOM **Preservation Codes** Schenectady-Stratton ANGB PWSID #: T=Thiosulfate H=HCI 60520893 N=HNO₃ B=NaOH Project Manager: P.O. #: 0=Other S=H2SO4 Remarks For Compliance: Composite No 🗀 |Otal # Of Yes 🗌 Other: Collected 9 Sample Identification Time Date Schenedady Decon water 4-11-18 1215 Received by Turnaround Time (TAT) Requested (please circle) 19117 1/25/18 Rush Standard) Date Time Received by (Rush TAT is subject to laboratory approval and surcharge.) 4-11-18 Received by Date results are needed: Received by Dale Time E-mail address: John. Santacauce @ accom. com Relinguished by Data Package Options (circle if required) Relinguished by Type I (EPA Level 3 Felix Geonzalez Type VI (Raw Data Only) Equivalent/non-CLP) Relinguished by Commercial Carrier: EDD Required? Yes No UPS ____ FedEx ✓ TX TRRP-13 Type III (Reduced non-CLP) NJ DKQP If yes, format:

CT RCP

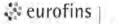
MA MCP

NYSDEC Category A or B

Temperature upon receipt 3.4

Site-Specific QC (MS/MSD/Dup)? Yes

(If yes, indicate QC sample and submit triplicate sample volume.)



Sample Administration Receipt Documentation Log

Doc Log ID: 213504 Group Number(s): 19 31008

Client: Aecom

Delivery and Receipt Information

Delivery Method:

Fed Ex

Arrival Timestamp:

04/12/2018 10:10

Number of Packages:

1

Number of Projects:

1

Arrival Condition Summary

Shipping Container Sealed:

Yes

Sample IDs on COC match Containers:

Yes

Custody Seal Present:

Yes

Sample Date/Times match COC:

Yes

Custody Seal Intact:

Paperwork Enclosed:

Yes

VOA Vial Headspace ≥ 6mm:

No

Samples Chilled:

Yes

Total Trip Blank Qty:

See Below

2

Yes Yes

Trip Blank Type: Air Quality Samples Present:

No

Samples Intact: Missing Samples:

No

Extra Samples:

No

No

Trip Blank Type(s): Unpreserved

Unpacked by Felix Gonzalez (13783) at 13:14 on 04/12/2018

Samples Chilled Details

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

Thermometer ID

DT42-01

Discrepancy in Container Qty on COC:

Corrected Temp 2.4

Therm, Type DT

Ice Type Wet

ice Present? N

ice Container Bagged

Elevated Temp? N

Page 1 of 1



Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

| BMQL | Below Minimum Quantitation Level | mg | milligram(s) |
|------------------|--|------------------------|--|
| С | degrees Celsius | mL | milliliter(s) |
| cfu | colony forming units | MPN | Most Probable Number |
| CP Units | cobalt-chloroplatinate units | N.D. | non-detect |
| F | degrees Fahrenheit | ng | nanogram(s) |
| g | gram(s) | NTU | nephelometric turbidity units |
| IU | International Units | pg/L | picogram/liter |
| kg | kilogram(s) | RL | Reporting Limit |
| L | liter(s) | TNTC | Too Numerous To Count |
| lb. | pound(s) | μg | microgram(s) |
| m3 | cubic meter(s) | μL | microliter(s) |
| meq | milliequivalents | umhos/cm | micromhos/cm |
| < | less than | | |
| > | greater than | | |
| ppm | aqueous liquids, ppm is usually taken to | be equivalent to milli | kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weight uivalent to one microliter per liter of gas. |
| ppb | parts per billion | | |
| Dry weight basis | | | oisture content. This increases the analyte weight ample without moisture. All other results are reported on an |

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.



Data Qualifiers

| Qualifier | Definition |
|----------------|---|
| С | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| K1 | Initial Calibration Blank is above the QC limit and the sample result is ND |
| K2 | Continuing Calibration Blank is above the QC limit and the sample result is ND |
| K3 | Initial Calibration Verification is above the QC limit and the sample result is ND |
| K4 | Continuing Calibration Verification is above the QC limit and the sample result is ND |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised |
| | due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |

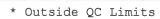
Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

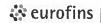


FORM 02A SURROGATES LC/MS/MS

SDG No.: FSA88
Matrix: WATER

| 18107005 | | 13C3-PFBS 13C3-PFHXS 13C4-PFHPA | | 13C8-PFOA | 13C8-PFOS | |
|---------------|----------------|---------------------------------|------------|---------------|------------|------------|
| 18107003 | Limits | 50-150 | 50-150 | 50-150 50-150 | | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery |
| 9555124 | 04/23/18 09:17 | 111 | 80 | 85 | 88 | 89 |





FORM 02A SURROGATES LC/MS/MS

SDG No.: FSA88
Matrix: WATER

| 18107005 | | 13C9-PFNA |
|---------------|----------------|------------|
| 18107005 | Limits | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery |
| 9555124 | 04/23/18 09:17 | 102 |

^{*} Outside QC Limits



Quality Control Summary Method Blank PFAS Group

SDG: FSA88 Matrix: LIQUID

Fraction: PFAS by LC/MS/MS

| 18107005 / BLK107005B | | | | | | |
|---------------------------|---------------|---------------|-------|------|-----|-----|
| Analyte | Analysis Date | Blank Results | Units | DL | LOD | LOQ |
| Perfluorooctanoic acid | 04/19/18 | N.D. | ng/l | 0.30 | 1.0 | 1.0 |
| Perfluorononanoic acid | 04/19/18 | N.D. | ng/l | 0.40 | 2.0 | 2.0 |
| Perfluoroheptanoic acid | 04/19/18 | N.D. | ng/l | 0.30 | 1.0 | 1.0 |
| Perfluorobutanesulfonate | 04/19/18 | N.D. | ng/l | 0.30 | 1.0 | 1.0 |
| Perfluorohexanesulfonate | 04/19/18 | N.D. | ng/l | 0.40 | 2.0 | 2.0 |
| Perfluoro-octanesulfonate | 04/19/18 | N.D. | ng/l | 0.60 | 2.0 | 2.0 |



Quality Control Summary Laboratory Control Standard (LCS) Laboratory Control Standard Duplicate(LCSD)

SDG: FSA88 Matrix: LIQUID

PFAS Group

Fraction: PFAS by LC/MS/MS

| LCS: LCS107005Q | Batch: 18107005 (Sample number(s): 9555124) | | | | | | | |
|---------------------------|---|------|------|------|------|--------|------|--------|
| LCSD: LCSDAY | Spike | LCS | LCSD | 1 | | | | |
| | Added | Conc | Conc | LCS | LCSD | %Rec | | %RPD |
| Analyte | ng/l | ng/l | ng/l | %Rec | %Rec | Limits | %RPD | Limits |
| Perfluorooctanoic acid | 5.44 | 5.57 | 5.94 | 102 | 109 | 70-130 | 7 | 30 |
| Perfluorononanoic acid | 5.44 | 5.66 | 6.18 | 104 | 114 | 70-130 | 9 | 30 |
| Perfluoroheptanoic acid | 5.44 | 5.50 | 6.23 | 101 | 115 | 70-130 | 12 | 30 |
| Perfluorobutanesulfonate | 4.81 | 4.39 | 4.97 | 91 | 103 | 70-130 | 12 | 30 |
| Perfluorohexanesulfonate | 5.14 | 4.81 | 5.17 | 94 | 100 | 70-130 | 7 | 30 |
| Perfluoro-octanesulfonate | 5.20 | 4.95 | 5.43 | 95 | 104 | 70-130 | 9 | 30 |



Quality Control Reference List PFAS Group

CLIENT: AECOM SDG: FSB16

Fraction: PFAS by LC/MS/MS

| Analysis PFAS in Soil by LC/MS/MS-DoD | Batch Number 18166010 | Sample Number BLK 166010 LCS 166010 LCSDA 9659169 UNSPK 9659169 MS 9659170 | Analysis Date 06/19/2018 01:16 06/19/2018 00:45 06/19/2018 01:00 06/19/2018 01:47 06/19/2018 02:03 06/19/2018 02:18 |
|---------------------------------------|------------------------------|--|--|
| | | 9659171 9659172 9659173 9659174 9659175 9659176 | 06/19/2018 02:34 06/19/2018 02:49 06/19/2018 03:05 06/19/2018 03:20 06/19/2018 03:36 06/19/2018 03:51 |
| | | 9659177 9659178 9659179 9659180 9659181 9659182 | 06/19/2018 04:07 06/19/2018 04:38 06/19/2018 04:53 06/19/2018 05:09 06/19/2018 05:25 |
| | | 9659183 9659184 9659185 9659186 9659187 | 06/19/2018 05:40 06/19/2018 05:56 06/19/2018 06:11 06/19/2018 06:27 06/19/2018 06:42 06/19/2018 06:58 |

FORM 02A SURROGATES LC/MS/MS

SDG No.: FSB16
Matrix: SOIL

| 10166010 | | 13C3-PFBS | 13C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
|---------------|----------------|------------|------------|------------|------------|------------|
| 18166010 | Limits | 50-150 | 50-150 | 50-150 | 50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery |
| LCS166010 | 06/19/18 00:45 | 74 | 86 | 85 | 80 | 77 |
| LCSDA | 06/19/18 01:00 | 89 | 90 | 89 | 87 | 82 |
| BLK166010 | 06/19/18 01:16 | 80 | 78 | 79 | 80 | 76 |
| 9659169 | 06/19/18 01:47 | 82 | 84 | 81 | 81 | 82 |
| 9659169MS | 06/19/18 02:03 | 75 | 78 | 77 | 75 | 73 |
| 9659170 | 06/19/18 02:18 | 86 | 84 | 79 | 78 | 84 |
| 9659171 | 06/19/18 02:34 | 73 | 79 | 75 | 72 | 71 |
| 9659172 | 06/19/18 02:49 | 71 | 72 | 70 | 70 | 66 |
| 9659173 | 06/19/18 03:05 | 78 | 77 | 73 | 73 | 77 |
| 9659174 | 06/19/18 03:20 | 69 | 73 | 64 | 65 | 73 |
| 9659175 | 06/19/18 03:36 | 76 | 76 | 69 | 70 | 75 |
| 9659176 | 06/19/18 03:51 | 74 | 78 | 76 | . 77 | 74 |
| 9659177 | 06/19/18 04:07 | 82 | 84 | 81 | 81 | 83 |
| 9659178 | 06/19/18 04:38 | 77 | 79 | 73 | 73 | . 77 |
| 9659179 | 06/19/18 04:53 | 80 | 81 | 79 | 79 | 75 |
| 9659180 | 06/19/18 05:09 | 79 | 84 | 77 | 77 | 75 |
| 9659181 | 06/19/18 05:25 | 79 | 83 | 76 | 76 | 80 |
| 9659182 | 06/19/18 05:40 | 72 | 78 | 74 | 72 | 72 |
| 9659183 | 06/19/18 05:56 | 75 | 76 | 71 | 74 | 75 |
| 9659184 | 06/19/18 06:11 | 79 | 81 | 78 | 76 | 74 |

^{*} Outside QC Limits

FORM 02A SURROGATES LC/MS/MS

SDG No.: FSB16
Matrix: SOIL

| | - y | | | | | |
|---------------|----------------|------------|------------|------------|------------|------------|
| 18166010 | | 13C3-PFBS | 13C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
| 18166010 | Limits | 50-150 | 50-150 | 50-150 | 50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery |
| 9659185 | 06/19/18 06:27 | 81 | 81 | 75 | 78 | 82 |
| 9659186 | 06/19/18 06:42 | 73 | 79 | 76 | 76 | 74 |
| 9659187 | 06/19/18 06:58 | 70 | 74 | 71 | 68 | 70 |

^{*} Outside QC Limits

FORM 02A SURROGATES LC/MS/MS

SDG No.: FSB16
Matrix: SOIL

| 7 | |
|----------------|---|
| | 13C9-PFNA |
| Limits | 50-150 |
| DATE/TIME | % Recovery |
| 06/19/18 00:45 | 68 |
| 06/19/18 01:00 | 69 |
| 06/19/18 01:16 | 71 |
| 06/19/18 01:47 | 71 |
| 06/19/18 02:03 | 67 |
| 06/19/18 02:18 | 71 |
| 06/19/18 02:34 | 63 |
| 06/19/18 02:49 | 55 |
| 06/19/18 03:05 | 66 |
| 06/19/18 03:20 | 63 |
| 06/19/18 03:36 | 64 |
| 06/19/18 03:51 | 66 |
| 06/19/18 04:07 | 70 |
| 06/19/18 04:38 | 63 |
| 06/19/18 04:53 | 67 |
| 06/19/18 05:09 | 71 |
| 06/19/18 05:25 | 68 |
| 06/19/18 05:40 | 65 |
| 06/19/18 05:56 | 68 |
| 06/19/18 06:11 | 67 |
| | DATE/TIME 06/19/18 00:45 06/19/18 01:00 06/19/18 01:16 06/19/18 01:47 06/19/18 02:03 06/19/18 02:18 06/19/18 02:49 06/19/18 02:49 06/19/18 03:05 06/19/18 03:20 06/19/18 03:51 06/19/18 03:51 06/19/18 04:07 06/19/18 04:38 06/19/18 04:53 06/19/18 05:09 06/19/18 05:56 |

^{*} Outside QC Limits



FORM 02A SURROGATES LC/MS/MS

| 10166010 | | 13C9-PFNA | | | | |
|---------------|----------------|------------|------------|------------|------------|------------|
| 18166010 | Limits | 50-150 | | | , | |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery |
| 9659185 | 06/19/18 06:27 | 69 | | | | |
| 9659186 | 06/19/18 06:42 | 74 | | | | |
| 9659187 | 06/19/18 06:58 | 62 | | | | |

^{*} Outside QC Limits



Quality Control Summary Method Blank

Method Blank PFAS Group

SDG: FSB16 Matrix: SOLID

| 18166010 / BLK166010 | | | | | | |
|---------------------------|---------------|---------------|-------|------|------|-------|
| Analyte | Analysis Date | Blank Results | Units | DL | LOD | LOQ |
| Perfluorooctanoic acid | 06/19/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorononanoic acid | 06/19/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluoroheptanoic acid | 06/19/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorobutanesulfonate | 06/19/18 | N.D. | ng/g | 0.20 | 0.60 | 0.80 |
| Perfluorohexanesulfonate | 06/19/18 | N.D. | ng/g | 0.20 | 0.64 | -0.80 |
| Perfluoro-octanesulfonate | 06/19/18 | N.D. | ng/g | 0.20 | 0.65 | 0.80 |



Quality Control Summary Laboratory Control Standard (LCS) Laboratory Control Standard Duplicate(LCSD)

SDG: FSB16 Matrix: SOLID

PFAS Group Fraction: PFAS by LC/MS/MS

| LCS: LCS166010 | Batch: 1816601 | 0 (Sample numb | er(s): 9659169 | -9659187) | | | | / |
|---------------------------|----------------|----------------|----------------|-------------|------|----------|------|--------|
| LCSD: LCSDA Analyte | Spike Added | LCS Conc | LCSD Conc | LCS %Rec | LCSD | %Rec | %RPD | %RPD |
| | ng/g | ng/g | ng/g | + | %Rec | | %KPD | Limits |
| Perfluorooctanoic acid | 1.36 | 1.56 | 1.62 | 115 | 119 | 70-130 | 3 | 30 |
| Perfluorononanoic acid | 1.36 | 1.43 | 1.48 | 105 | 109 | -70-130- | 4 | 30- |
| Perfluoroheptanoic acid | 1.36 | 1.42 | 1.41 | 104 | 104 | 70-130 | 0 | 30 |
| Perfluorobutanesulfonate | 1.20 | 1.17 | 1.12 | 98 | 93 | 70-130 | 5 | 30 |
| Perfluorohexanesulfonate | 1.29 | 1.35 | 1.37 | 105 | 107 | 70-130 | 2 | 30 |
| Perfluoro-octanesulfonate | 1.30 | 1.36 | 1.41 | 105 | 108 | 70-130 | 3 | 30 |



Quality Control Summary Matrix Spike/Matrix Spike Duplicate

SDG: FSB16 Matrix: SOLID

PFAS Group

Fraction: PFAS by LC/MS/MS

| UNSPK: 9659169 | UNSPK: 9659169 Batch: 18166010 (Sample number(s): 9659169-9659187) | | | | | | | | |
|---------------------------|--|----------|------|------|----------|------|--------|------|--------|
| MS: 9659169 | Spike | Unspiked | MS | MSD | 1 | | | | |
| | Added | Conc | Conc | Conc | MS | MSD | %Rec | | %RPD |
| Analyte | ng/g | ng/g | ng/g | ng/g | %Rec | %Rec | Limits | %RPD | Limits |
| Perfluorooctanoic acid | 1.31 | 0.847 | 1.96 | NA | 85 | NA | 70-130 | NA | NA |
| Perfluorononanoic acid | 1.31 | 0.373 J | 1.58 | NA | 92 | NA | 70-130 | NA | NA |
| Perfluoroheptanoic acid | 1.31 | 0.503 J | 1.64 | NA | 87 | - NA | 70-130 | - NA | NA |
| Perfluorobutanesulfonate | 1.16 | N.D. | 1.17 | NA | 101 | NA | 70-130 | NA | NA |
| Perfluorohexanesulfonate | 1.24 | 0.828 | 1.97 | NA | 92 | NA | 70-130 | NA | NA |
| Perfluoro-octanesulfonate | 1.25 | 9.48 | 6.41 | NA | -245 (2) | NA | 70-130 | NA | NA |

_ (,

Comments:

(2) The unspiked sample result is greater than four times the spike added.

* = Out of Specification

Results are being reported on an as received basis.



Quality Control Reference List PFAS Group

CLIENT: AECOM SDG: FSB17

| Analysis PFAS in Soil by LC/MS/MS-DoD | Batch Number 18170012 | Sample Number BLK170012B LCS170012Q LCSDAY 9659222 UNSPK 9659222 MS 9659223 | Analysis Date 06/25/2018 22:54 06/25/2018 23:10 06/25/2018 23:25 06/25/2018 23:41 06/26/2018 02:01 06/25/2018 23:56 |
|---------------------------------------|------------------------------|---|--|
| | | 9659223 9659224 9659225 9659226 9659227 9659228 9659229 | 06/26/2018 17:02 06/26/2018 00:12 06/26/2018 00:27 06/26/2018 00:43 06/26/2018 00:58 06/26/2018 01:14 06/26/2018 01:45 |
| PFAS in Soil by LC/MS/MS-DoD | 18171018 | BLK171018B LCS171018Q LCSDAY 9659230 UNSPK 9659231 9659232 9659233 9659234 9659235 9659236 9659237 9659238 9659239 9659240 9659241 9659242 9659243 9659243 | 06/22/2018 08:43 06/22/2018 08:59 06/22/2018 09:14 06/22/2018 09:30 06/22/2018 13:38 06/22/2018 10:01 06/22/2018 10:01 06/22/2018 10:16 06/22/2018 10:32 06/22/2018 10:47 06/22/2018 11:34 06/22/2018 11:50 06/22/2018 12:05 06/22/2018 12:21 06/22/2018 12:21 06/22/2018 12:52 06/22/2018 13:07 06/25/2018 12:17 06/22/2018 13:23 |

FORM 02A SURROGATES LC/MS/MS

| 10171010 | | 13C3-PFBS | 13C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
|---------------|----------------|------------|------------|------------|------------|------------|
| 18171018 | Limits | 50-150 | 50-150 | 50-150 | /50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery | & Recovery | % Recovery | % Recovery | % Recovery |
| BLK171018 | 06/22/18 08:43 | 89 | 85 | 85 | 86 | 84 |
| LCS171018 | 06/22/18 08:59 | 109 | 108 | 107 | 107 | 110 |
| LCSDA | 06/22/18 09:14 | 89 | 8.8 | 91 | 88 | 83 |
| 9659230 | 06/22/18 09:30 | 88 | 83 | 80 | 82 | 83 |
| 9659231 | 06/22/18 09:45 | 83 | 82 | 81 | 83 | 79 |
| 9659232 | 06/22/18 10:01 | 97 | 96 | 96 | 97 | 95 |
| 9659233 | 06/22/18 10:16 | 96 | 92 | 83 | 86 | 96 |
| 9659234 | 06/22/18 10:32 | 92 | 94 | 85 | 83 | 91 |
| 9659235 | 06/22/18 10:47 | 74 | 70 | 67 | 66 | 70 |
| 9659236 | 06/22/18 11:03 | 80 | 79 | 71 | 73 | 72 |
| 9659237 | 06/22/18 11:34 | 78 | 78 | 77 | 79 | 78 |
| 9659238 | 06/22/18 11:50 | 71 | 68 | 63 | 66 | 70 |
| 9659239 | 06/22/18 12:05 | 80 | 79 | 69 | 72 | 76 |
| 9659240 | 06/22/18 12:21 | 73 | 71 | 62 | 66 . | 72 |
| 9659241 | 06/22/18 12:36 | 77 | 75 | 69 | 68 | 69 |
| 9659242 | 06/22/18 12:52 | 71 | 72 | 73 | 73 | 67 |
| 9659243 | 06/22/18 13:07 | 69 | 69 | 63 | 62 | 69 |
| 9659244 | 06/22/18 13:23 | 72 | 75 | 72 | 76 | 74 |
| 9659230MS | 06/22/18 13:38 | 86 | 86 | 78 | 83 | 89 |

^{*} Outside QC Limits

FORM 02A SURROGATES LC/MS/MS

| 18171018 | | 13C9-PFNA |
|---------------|----------------|------------|
| 181/1018 | Limits | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery |
| BLK171018 | 06/22/18 08:43 | 78 |
| LCS171018 | 06/22/18 08:59 | 94 |
| LCSDA | 06/22/18 09:14 | 78 |
| 9659230 | 06/22/18 09:30 | 76 |
| 9659231 | 06/22/18 09:45 | 76 |
| 9659232 | 06/22/18 10:01 | 86 |
| 9659233 | 06/22/18 10:16 | 79 |
| 9659234 | 06/22/18 10:32 | 76 |
| 9659235 | 06/22/18 10:47 | 63 |
| 9659236 | 06/22/18 11:03 | 66 |
| 9659237 | 06/22/18 11:34 | 68 |
| 9659238 | 06/22/18 11:50 | 63 |
| 9659239 | 06/22/18 12:05 | 65 |
| 9659240 | 06/22/18 12:21 | 63 |
| 9659241 | 06/22/18 12:36 | 62 |
| 9659242 | 06/22/18 12:52 | 64 |
| 9659243 | 06/22/18 13:07 | 64 |
| 9659244 | 06/22/18 13:23 | 69 |
| 9659230MS | 06/22/18 13:38 | 80 |

^{*} Outside QC Limits

FORM 02A SURROGATES LC/MS/MS

| 18170012 | | 13C3-PFBS | 13C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
|---------------|----------------|------------|------------|------------|------------|-------------|
| 18170012 | Limits | 50-150 | 50-150 | 50-150 | 50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery/ |
| BLK170012 | 06/25/18 22:54 | 91 | 78 | 75 | 76 | 83 |
| LCS170012 | 06/25/18 23:10 | 88 | 79 | 73 | 72 | 77 |
| LCSDA | 06/25/18 23:25 | 91 | 74 | 74 | 76 | 77 |
| 9659222 | 06/25/18 23:41 | 86 | 74 | 64 | 66 | 78 |
| 9659223 | 06/25/18 23:56 | 90 | 84 | 74 | 74 | 81 |
| 9659224 | 06/26/18 00:12 | 94 | 78 | 76 | 75 | 75 |
| 9659225 | 06/26/18 00:27 | 87 | 74 | 64 | 66 | 73 |
| 9659226 | 06/26/18 00:43 | 92 | 78 | 72 | 75 | 80 |
| 9659227 | 06/26/18 00:58 | 87 | 78 | 74 | 73 | 77 |
| 9659228 | 06/26/18 01:14 | 89 | 78 | 71 | 69 | 86 |
| 9659229 | 06/26/18 01:45 | 98 | 82 | 70 | 75 | 85 |
| 9659222MS | 06/26/18 02:01 | 88 | 78 | 68 | 67 | 76 |
| 9659223DL | 06/26/18 17:02 | 84 | 82 | 78 | 81 | 86 |

^{*} Outside QC Limits



FORM 02A SURROGATES LC/MS/MS

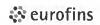
| 18171018 | | 13C3-PFBS | 13C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
|---------------|----------------|------------|------------|------------|------------|-----------|
| 101/1010 | Limits | 50-150 | 50-150 | 50-150 | 50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | %/Recovery | Recovery |
| 9659243DL | 06/25/18 12:17 | 72 / | 82 / | 75 | 76 | 76 |

^{*} Outside QC Limits

FORM 02A SURROGATES LC/MS/MS

| 18170012 | | 13C9-PFNA |
|---------------|----------------|-------------|
| 18170012 | Limits | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery, |
| BLK170012 | 06/25/18 22:54 | 72 |
| LCS170012 | 06/25/18 23:10 | 70 |
| LCSDA | 06/25/18 23:25 | 74 |
| 9659222 | 06/25/18 23:41 | 66 |
| 9659223 | 06/25/18 23:56 | 75 |
| 9659224 | 06/26/18 00:12 | 70 |
| 9659225 | 06/26/18 00:27 | 66 |
| 9659226 | 06/26/18 00:43 | 67 |
| 9659227 | 06/26/18 00:58 | 69 |
| 9659228 | 06/26/18 01:14 | 73 |
| 9659229 | 06/26/18 01:45 | 77 |
| 9659222MS | 06/26/18 02:01 | 65 |
| 9659223DL | 06/26/18 17:02 | 84 |

^{*} Outside QC Limits



FORM 02A SURROGATES LC/MS/MS

| 10171010 | | 13C9-PFNA |
|---------------|----------------|------------|
| 18171018 | Limits | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery |
| 9659243DL | 06/25/18 12:17 | 70 |

^{*} Outside QC Limits



Quality Control Summary Method Blank PFAS Group

SDG: FSB17 Matrix: SOLID

| 18170012 / BLK170012B | | | | | | |
|---------------------------|---------------|---------------|-------|------|------|------|
| Analyte | Analysis Date | Blank Results | Units | DL | LOD | LOQ |
| Perfluorooctanoic acid | 06/25/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorononanoic acid | 06/25/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluoroheptanoic acid | 06/25/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorobutanesulfonate | 06/25/18 | N.D. | ng/g | 0.20 | 0.60 | 0.80 |
| Perfluorohexanesulfonate | 06/25/18 | N.D. | ng/g | 0.20 | 0.64 | 0.80 |
| Perfluoro-octanesulfonate | 06/25/18 | N.D. | ng/g | 0.20 | 0.65 | 0.80 |

| 18171018 / BLK171018B Analyte | Analysis Date | Blank Results | Units | DL | LOD | LOQ |
|----------------------------------|---------------|---------------|-------|------|------|------|
| Perfluorooctanoic acid | 06/22/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorononanoic acid | 06/22/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluoroheptanoic acid | 06/22/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorobutanesulfonate | 06/22/18 | N.D. | ng/g | 0.20 | 0.60 | 0.80 |
| Perfluorohexanesulfonate | 06/22/18 | N.D. | ng/g | 0.20 | 0.64 | 0.80 |
| Perfluoro-octanesulfonate | 06/22/18 | N.D. | ng/g | 0.20 | 0.65 | 0.80 |



Quality Control Summary Laboratory Control Standard (LCS) Laboratory Control Standard Duplicate(LCSD)

SDG: FSB17 Matrix: SOLID

PFAS Group

| LCS: LCS170012Q | Batch: 18170012 | Batch: 18170012 (Sample number(s): 9659222-9659229) | | | | | | / | |
|---------------------------|------------------------|---|----------------------|-------------|--------------|----------------|------|------|--|
| LCSD: LCSDAY Analyte | Spike Added ng/g | LCS Conc ng/g | LCSD Conc ng/g | LCS %Rec | LCSD %Rec | %Rec Limits | %RPD | %RPD | |
| Perfluorooctanoic acid | 1.36 | 1.60 | 1.52 | 117 | 112 | 70-130 | 5 | 30 | |
| Perfluorononanoic acid | 1.36 | 1.32 | 1.32 | 97 | 97 | 70-130 | 0 | 30 | |
| Perfluoroheptanoic acid | 1.36 | 1.32 | 1.36 | 97 | 100 | 70-130 | 3 | 30 | |
| Perfluorobutanesulfonate | 1.20 | 1.09 | 1.17 | 91 | 97 | 70-130 | 7 | 30 | |
| Perfluorohexanesulfonate | 1.29 | 1.28 | 1.41 | 100 | 109 | 70-130 | 9 | 30 | |
| Perfluoro-octanesulfonate | 1.30 | 1.39 | 1.29 | 107 | 100 | 70-130 | 7 | 30 | |

| LCS: LCS171018Q | -9659244/) | | / | | | | | |
|---------------------------|------------|------|------|------|------|--------|------|--------|
| LCSD: LCSDAY | Spike | LCS | LCSD | | | | | |
| | Added | Conc | Conc | LCS | LCSD | %Rec | | %RPD |
| Analyte | ng/g | ng/g | ng/g | %Rec | %Rec | Limits | %RPD | Limits |
| Perfluorooctanoic acid | 1.36 | 1.45 | 1.45 | 107 | 107 | 70-130 | 0 | 30 |
| Perfluorononanoic acid | 1.36 | 1.33 | 1.38 | 98 | 101 | 70-130 | 3 | 30 |
| Perfluoroheptanoic acid | 1.36 | 1.25 | 1.29 | 92 | 95 | 70-130 | 3 | 30 |
| Perfluorobutanesulfonate | 1.20 | 1.11 | 1.14 | 92 | 95 | 70-130 | 3 | 30 |
| Perfluorohexanesulfonate | 1.29 | 1.30 | 1.29 | 101 | 100 | 70-130 | 1 | 30 |
| Perfluoro-octanesulfonate | 1.30 | 1.27 | 1.32 | 98 | 102 | 70-130 | 4 | 30 |



Quality Control Summary Matrix Spike/Matrix Spike Duplicate

SDG: FSB17 Matrix: SOLID

PFAS Group

Fraction: PFAS by LC/MS/MS

| UNSPK: 9659222 | Batch: 18170 | 012 (Sample n | umber(s): 965 | 9222-965922 | 29) / | | | | |
|---------------------------|------------------------|--------------------------|--------------------|---------------------|------------|-------------|--------|------|------|
| MS: 9659222 Analyte | Spike Added ng/g | Unspiked Conc ng/g | MS Conc ng/g | MSD Conc ng/g | MS %Rec | MSD %Rec | %Rec | %RPD | %RPD |
| Perfluorooctanoic acid | 1.24 | 5.07 | 5.32 | NA | 20 (2) | NA | 70-130 | NA | NA |
| Perfluorononanoic acid | 1.24 | 0.210 J | 1.33 | NA | 91 | NA | 70-130 | NA | NA |
| Perfluoroheptanoic acid | 1.24 | 0.616 J | 1.65 | NA | 83 | NA | 70-130 | NA | NA |
| Perfluorobutanesulfonate | 1.09 | 0.913 | 1.79 | NA | 80 | NA | 70-130 | NA | NA |
| Perfluorohexanesulfonate | 1.17 | 42.63 | 32.5 | NA | -865 (2) | NA | 70-130 | NA | NA |
| Perfluoro-octanesulfonate | 1.18 | 175.18 | 147.33 | NA | -2355 (2) | NA | 70-130 | NA | NA |

| UNSPK: 9659230 | Batch: 18171 | Batch: 18171018 (Sample number(s): 9659230-9659244) | | | | | | | |
|---------------------------|---------------|---|--------------|--------------|------------|-------------|----------------|------|----------------|
| MS: 9659230 | Spike | Unspiked | MS | MSD | | | | | |
| Analyte | Added ng/g | Conc ng/g | Conc ng/g | Conc ng/g | MS %Rec | MSD %Rec | %Rec Limits | %RPD | %RPD Limits |
| Perfluorooctanoic acid | 1.30 | 0.287 J | 1.95 | NA | 128 | NA | 70-130 | NA | NA |
| Perfluorononanoic acid | 1.30 | N.D. | 1.33 | NA | 103 | NA | 70-130 | NA | NA |
| Perfluoroheptanoic acid | 1.30 | N.D. | 1.36 | NA | 105 | NA | 70-130 | NA | NA |
| Perfluorobutanesulfonate | 1.15 | N.D. | 1.17 | NA | 102 | NA | 70-130 | NA | NA |
| Perfluorohexanesulfonate | 1.23 | N.D. | 1.46 | NA | 119 | NA | 70-130 | NA | NA |
| Perfluoro-octanesulfonate | 1.24 | 1.85 | 4.08 | NA | 180 * | NA | 70-130 | NA | NA |

Comments:

(2) The unspiked sample result is greater than four times the spike added. $* = Out \ of \ Specification$

Results are being reported on an as received basis.



Quality Control Reference List PFAS Group

CLIENT: AECOM SDG: FSB18

| Analysis PFAS in Soil by LC/MS/MS-DoD | Batch Number 18168002 | Sample Number BLK168002 LCS168002 9659291 9659292 9659293 9659294 | Analysis Date 06/19/2018 23:47 06/19/2018 23:32 06/20/2018 00:03 06/20/2018 00:18 06/20/2018 00:34 06/20/2018 00:49 |
|---------------------------------------|--------------------------|--|--|
| | | 9659295 9659296 9659297 9659298 9659299 9659300 9659301 9659302 | 06/20/2018 01:20 06/20/2018 01:36 06/20/2018 01:51 06/20/2018 02:07 06/20/2018 02:22 06/20/2018 02:38 06/20/2018 02:53 06/20/2018 03:09 |
| • | | 9659303 9659304 9659305 9659307 9659308 UNSPK 9659309 MS 9659310 MSD | 06/20/2018 03:24 06/20/2018 03:40 06/20/2018 04:11 06/20/2018 04:26 06/20/2018 04:42 06/20/2018 04:58 06/20/2018 05:13 06/20/2018 05:29 |
| PFAS in Water by LC/MS/MS-DoD | 18166004 | 9659312 BLK166004 LCS166004 LCSDA 9659306 | 06/20/2018 05:29 06/20/2018 05:44 06/18/2018 23:12 06/18/2018 22:41 06/18/2018 22:56 06/19/2018 00:14 |



FORM 02A SURROGATES LC/MS/MS

| 18166004 | | 13C3-PFBS | 1/3C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
|---------------|----------------|------------|-------------|------------|------------|------------|
| 18166004 | Limits | 50-150 | 50-150 | 50-180 | 50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery |
| LCS166004 | 06/18/18 22:41 | 103 | 96 | 102 | 99 | 94 |
| LCSDA | 06/18/18 22:56 | 99 | 99 | 100 | 99 | 91 |
| BLK166004 | 06/18/18 23:12 | 103 | 100 | 104 | 102 | 95 |
| 9659306 | 06/19/18 00:14 | 114 | 108 | 108 | 109 | 112 |

^{*} Outside QC Limits



FORM 02A SURROGATES LC/MS/MS

| 10166004 | | 13C9-PFNA |
|---------------|----------------|------------|
| 18166004 | Limits | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery |
| LCS166004 | 06/18/18 22:41 | 90 |
| LCSDA | 06/18/18 22:56 | 84 |
| BLK166004 | 06/18/18 23:12 | 89 |
| 9659306 | 06/19/18 00:14 | 97 |

^{*} Outside QC Limits



Quality Control Summary Method Blank PFAS Group

SDG: FSB18 Matrix: LIQUID

| 18166004 / BLK166004 | | 1 | | | | |
|---------------------------|---------------|---------------|-------|------|-----|-----|
| Analyte | Analysis Date | Blank Results | Units | DL | LOD | LOQ |
| Perfluorooctanoic acid | 06/18/18 | N.D. | ng/l | 0.30 | 1.2 | 2.0 |
| Perfluorononanoic acid | 06/18/18 | N.D. | ng/l | 0.40 | 1.2 | 2.0 |
| Perfluoroheptanoic acid | 06/18/18 | N.D. | ng/l | 0.30 | 1.2 | 2.0 |
| Perfluorobutanesulfonate | 06/18/18 | N.D. | ng/l | 0.30 | 1.1 | 2.0 |
| Perfluorohexanesulfonate | 06/18/18 | N.D. | ng/l | 0.40 | 1.1 | 2.0 |
| Perfluoro-octanesulfonate | 06/18/18 | N.D. | ng/l | 0.60 | 2.3 | 3.0 |

FORM 02A SURROGATES LC/MS/MS

| 10160000 | | | 13C3-PFBS | 13C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
|---------------|----------|--------|------------|------------|------------|------------|------------|
| 18168002 | I | Limits | 50-150 | 50-150 | 50-150 | 50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIM | ME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery |
| LCS168002 | 06/19/18 | 23:32 | 86 | 81 | 90 | 90 | 83 |
| BLK168002 | 06/19/18 | 23:47 | 77 | 74 | 78 | 78 | 80 |
| 9659291 | 06/20/18 | 00:03 | 74 | 69 | 68 | 69 | 70 |
| 9659292 | 06/20/18 | 00:18 | 73 | 72 | 68 | 70 | 75 |
| 9659293 | 06/20/18 | 00:34 | 83 | 74 | 72 | 73 | 80 |
| 9659294 | 06/20/18 | 00:49 | 78 | 74 | 74 | 75 | 78 |
| 9659295 | 06/20/18 | 01:20 | 73 | 67 | 65 | 68 | 75 |
| 9659296 | 06/20/18 | 01:36 | 74 | 67 | 72 | 74 | 71 |
| 9659297 | 06/20/18 | 01:51 | 77 | 74 | 74 | 74 | 73 |
| 9659298 | 06/20/18 | 02:07 | 74 | 69 | 70 | 71 | 67 |
| 9659299 | 06/20/18 | 02:22 | 76 | 68 | 70 | 72 | 80 |
| 9659300 | 06/20/18 | 02:38 | 73 | 67 | 66 | 74 | 71 |
| 9659301 | 06/20/18 | 02:53 | 68 | 63 | 60 | 63 | 63 |
| 9659302 | 06/20/18 | 03:09 | 72 | 67 | 69 | 71 | 71 |
| 9659303 | 06/20/18 | 03:24 | 67 | 64 | 65 | 67 | 65 |
| 9659304 | 06/20/18 | 03:40 | 71 | 71 | 70 | 72 | 69 |
| 9659305 | 06/20/18 | 04:11 | 73 | 67 | 68 | 68 | 70 |
| 9659307 | 06/20/18 | 04:26 | 70 | 66 | 67 | 63 | 68 |
| 9659308 | 06/20/18 | 04:42 | 67 | 68 | 65 | 68 | 68 |
| 9659309MS | 06/20/18 | 04:58 | 65 | 63 | 60 | 67 | 68 |

^{*} Outside QC Limits

FORM 02A SURROGATES LC/MS/MS

| 18168002 | | 13C3-PFBS | 13C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
|---------------|----------------|------------|------------|------------|------------|------------|
| 18188002 | Limits | 50-150 | 50-150 | 50-150 | 50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery |
| 9659310MSD | 06/20/18 05:13 | 66 | 62 | 61 | 67 | 69 |
| 9659311 | 06/20/18 05:29 | 79 | 76 | 77 | 79 | 78 |
| 9659312 | 06/20/18 05:44 | 75 | 74 | 69 | 69 | 75 |

^{*} Outside QC Limits

FORM 02A SURROGATES LC/MS/MS

| 18168002 | | 13C9-PFNA |
|---------------|----------------|------------|
| 18168002 | Limits | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery |
| LCS168002 | 06/19/18 23:32 | 80 |
| BLK168002 | 06/19/18 23:47 | 78 |
| 9659291 | 06/20/18 00:03 | 65 |
| 9659292 | 06/20/18 00:18 | 67 |
| 9659293 | 06/20/18 00:34 | 74 |
| 9659294 | 06/20/18 00:49 | 73 |
| 9659295 | 06/20/18 01:20 | 67 |
| 9659296 | 06/20/18 01:36 | 75 |
| 9659297 | 06/20/18 01:51 | 73 |
| 9659298 | 06/20/18 02:07 | 68 |
| 9659299 | 06/20/18 02:22 | 74 |
| 9659300 | 06/20/18 02:38 | 67 |
| 9659301 | 06/20/18 02:53 | 60 |
| 9659302 | 06/20/18 03:09 | 73 |
| 9659303 | 06/20/18 03:24 | 66 |
| 9659304 | 06/20/18 03:40 | 68 |
| 9659305 | 06/20/18 04:11 | 71 |
| 9659307 | 06/20/18 04:26 | 68 |
| 9659308 | 06/20/18 04:42 | 66 |
| 9659309MS | 06/20/18 04:58 | 68 |

^{*} Outside QC Limits



FORM 02A SURROGATES LC/MS/MS

| 10160000 | | 13C9-PFNA | | | | |
|---------------|----------------|------------|------------|--------------------------|------------|------------|
| 18168002 | Limits | 50-150 | | | | |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery |
| 9659310MSD | 06/20/18 05:13 | 67 | | which is majoring in the | | |
| 9659311 | 06/20/18 05:29 | 83 | | | | |
| 9659312 | 06/20/18 05:44 | 67 | | | | |

^{*} Outside QC Limits



Quality Control Summary Method Blank

PFAS Group SDG: FSB18

Matrix: SOLID

| 18168002 / BLK168002 | | - | | | | |
|---------------------------|---------------|---------------|-------|------|------|------|
| Analyte | Analysis Date | Blank Results | Units | DL | LOD | LOQ |
| Perfluorooctanoic acid | 06/19/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorononanoic acid | 06/19/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluoroheptanoic acid | 06/19/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorobutanesulfonate | 06/19/18 | N.D. | ng/g | 0.20 | 0.60 | 0.80 |
| Perfluorohexanesulfonate | 06/19/18 | N.D. | ng/g | 0.20 | 0.64 | 0.80 |
| Perfluoro-octanesulfonate | 06/19/18 | N.D. | ng/g | 0.20 | 0.65 | 0.80 |



Quality Control Summary Laboratory Control Standard (LCS) Laboratory Control Standard Duplicate(LCSD)

SDG: FSB18 Matrix: LIQUID

PFAS Group

| LCS: LCS166004 | Batch: 1816600 | 4 (Sample numb | er(s): 9659306) |) | / | / | | |
|---------------------------|----------------|----------------|-----------------|------|------|--------|------|--------|
| LCSD: LCSDA | Spike | LCS | LCSD | / | | 1 | | |
| | Added | Conc | Conc | LCS | LCSD | %Rec | | %RPD |
| Analyte | ng/l | ng/l | ng/l | %Rec | %Rec | Limits | %RPD | Limits |
| Perfluorooctanoic acid | 5.44 | 5.26 | 5.37 | 97 | 99 | 70-130 | 2 | 30 |
| Perfluorononanoic acid | 5.44 | 4.96 | 5.16 | 91 | 95 | 70-130 | 4 | 30 |
| Perfluoroheptanoic acid | 5.44 | 5.03 | 4.96 | 92 | 91 | 70-130 | 1 | 30 |
| Perfluorobutanesulfonate | 4.81 | 4.04 | 4.26 | 84 | 89 | 70-130 | 5 | 30 |
| Perfluorohexanesulfonate | 5.14 | 5.14 | 4.81 | 100 | 93 | 70-130 | 7 | 30 |
| Perfluoro-octanesulfonate | 5.20 | 4.72 | 5.07 | 91 | 98 | 70-130 | 7 | 30 |



Quality Control Summary Laboratory Control Standard (LCS) Laboratory Control Standard Duplicate(LCSD)

SDG: FSB18 Matrix: SOLID

PFAS Group

| LCS: LCS168002 | Batch: 18168002 (Sample number(s): 9659291-9659305, 9659307-9659312) | | | | | | | | | |
|---------------------------|--|---------------------|----------------------|-------------|--------------|----------------|------|----------------|--|--|
| Analyte | Spike Added ng/g | LCS Conc ng/g | LCSD Conc ng/g | LCS %Rec | LCSD %Rec | %Rec Limits | %RPD | %RPD Limits | | |
| Perfluorooctanoic acid | 1.36 | 1.46 | NA | 107 | NA | 70-130 | NA | NA | | |
| Perfluorononanoic acid | 1.36 | 1.44 | NA | 106 | NA | 70-130 | NA | NA | | |
| Perfluoroheptanoic acid | 1.36 | 1.28 | NA | 94 | NA | 70-130 | NA | NA | | |
| Perfluorobutanesulfonate | 1.20 | 1.09 | NA | 91 | NA | 70-130 | NA | NA | | |
| Perfluorohexanesulfonate | 1.29 | 1.40 | NA | 109 | NA | 70-130 | NA | NA | | |
| Perfluoro-octanesulfonate | 1.30 | 1.30 | NA | 100 | NA | 70-130 | NA | NA | | |



Quality Control Summary Matrix Spike/Matrix Spike Duplicate

SDG: FSB18 Matrix: SOLID

PFAS Group

Fraction: PFAS by LC/MS/MS

| | Batch: 181680 | 002 (Sample n | umber(s): 965 | 9291-965930 | 5, 965930 | 7-9659312 | ?) | | |
|---|------------------------|------------------|---------------|-------------|-----------|-----------|--------|----------|--------|
| UNSPK: 9659308 MS: 9659309 MSD: 9659310 | Spike Added ng/g | Unspiked Conc | MS Conc | MSD Conc | MS | MSD | %Rec | | %RPD |
| Analyte | MS/MSD | ng/g | ng/g | ng/g | %Rec | %Rec | Limits | %RPD | Limits |
| Perfluorooctanoic acid | 1.18 / 1.31 | 0.447 J | 1.68 | 3.08 | 104 | 202 * | 70-130 | (59 * / | 30 |
| Perfluorononanoic acid | 1.18/1.31 | N.D. | 1.32 | 1.43 | 111 | 109 4 | 70-130 | 8 | 30 |
| Perfluoroheptanoic acid | 1.18 / 1.31 | 0.256 J | 1.31 | 3.51 | 89 | 249 * | 70-130 | 92 * | 30 |
| Perfluorobutanesulfonate | 1.05 / 1.16 | N.D. | 1.08 | 1.37 | 104 | 118 | 70-130 | 23 | 30 |
| Perfluorohexanesulfonate | 1.12 / 1.24 | 1.54 | 2.21 | 4.75 | 60 * | 259 * | 70-130 | 73 * | 30 |
| Perfluoro-octanesulfonate | 1.13 / 1.25 | 2.50 | 2.46 | 3.20 | -2 * | 56 * | 70-130 | 26 | 30 |

Comments:

(2) The unspiked sample result is greater than four times the spike added.

* = Out of Specification

Results are being reported on an as received basis.

7/12/2018 7:44:09 AM



Quality Control Reference List PFAS Group

CLIENT: AECOM SDG: FSB29

| Analysis PFAS in Soil by LC/MS/MS-DoD | Batch Number 18207006 | Sample Number BLK207006B LCS207006Q LCSDAY 9714897 UNSPK 9714897 MS | Analysis Date 07/27/2018 16:30 07/27/2018 16:39 07/27/2018 16:48 07/27/2018 16:57 07/27/2018 18:00 |
|---------------------------------------|--------------------------|---|---|
| PFAS in Water by LC/MS/MS-DoD | 18206014 | BLK206014B | 07/27/2018 12:54 |
| | | LCS206014Q | 07/27/2018 13:03 |
| | | 9714891 UNSPK | 07/27/2018 13:12 |
| | | 9714891 UNSPK | 07/30/2018 17:55 |
| | | 9714892 MS | 07/27/2018 15:54 |
| | | 9714893 MSD | 07/27/2018 16:12 |
| | | 9714894 | 07/30/2018 18:13 |
| | | 9714894 | 07/30/2018 18:31 |
| | | 9714895 | 07/27/2018 13:30 |
| | | 9714896 | 07/27/2018 13:39 |
| | | 9714896 | 07/30/2018 18:40 |
| | | 9714898 | 07/27/2018 13:48 |
| | | 9714898 | 07/30/2018 18:58 |
| | | 9714899 | 07/27/2018 13:57 |
| 4 | | 9714899 | 07/30/2018 19:07 |
| • | | 9714900 | 07/27/2018 14:06 |



Quality Control Summary Method Blank PFAS Group SDG: FSB29

Matrix: LIQUID

| 18206014 / BLK206014B | | | | | | |
|---------------------------|---------------|---------------|-------|------|-----|-----|
| Analyte | Analysis Date | Blank Results | Units | DL | LOD | LOQ |
| Perfluorooctanoic acid | 07/27/18 | N.D. | ng/l | 0.50 | 1.2 | 2.0 |
| Perfluorononanoic acid | 07/27/18 | N.D. | ng/l | 0.40 | 1.2 | 2.0 |
| Perfluoroheptanoic acid | 07/27/18 | N.D. | ng/l | 0.40 | 1.2 | 2.0 |
| Perfluorobutanesulfonate | 07/27/18 | N.D. | ng/l | 0.30 | 1.1 | 2.0 |
| Perfluorohexanesulfonate | 07/27/18 | N.D. | ng/l | 0.40 | 1.1 | 2.0 |
| Perfluoro-octanesulfonate | 07/27/18 | N.D. | ng/l | 0.50 | 1.2 | 2.0 |

FORM 02A SURROGATES LC/MS/MS

| 10206014 | | 13C3-PFBS | 13C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
|---------------|----------------|------------|------------|------------|------------|------------|
| 18206014 | Limits | 50-150 | 50-150 / | 50-150 | 50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery |
| BLK206014 | 07/27/18 12:54 | 98 | 66 | 68 | 70 | 72 |
| LCS206014 | 07/27/18 13:03 | 97 | 64 | 63 | 69 | 63 |
| 9714891 | 07/27/18 13:12 | 120 | 58 | 63 | 68 | 70 |
| 9714895 | 07/27/18 13:30 | 89 | 61 | 64 | 58 | 52 |
| 9714896 | 07/27/18 13:39 | 120 | 59 | 65 | 64 | 64 |
| 9714898 | 07/27/18 13:48 | 120 | 56 | 58 | 55 | 60 |
| 9714899 | 07/27/18 13:57 | 115 | 60 | 67 | 63 | 65 |
| 9714900 | 07/27/18 14:06 | 92 | 53 | 54 | 57 | 51 |
| 9714892MS | 07/27/18 15:54 | 124 | 55 | 57 | 60 | 62 |
| 9714893MSD | 07/27/18 16:12 | 117 | 54 | 56 | 60 | 65 |
| 9714891DL | 07/30/18 17:55 | 96 | 99 | 102 | 100 | 94 |
| 9714894 | 07/30/18 18:13 | 101 | 50 | 58 | 61 | 72 |
| 9714894DL | 07/30/18 18:31 | 94 | 85 | 87 | 88 | 89 |
| 9714896DL | 07/30/18 18:40 | 100 | 89 | 91 | 91 | 91 |
| 9714898DL | 07/30/18 18:58 | 96 | 93 | 92 | 95 | 88 |
| 9714899DL | 07/30/18 19:07 | 94 | 91 | 93 | 90 | 89 |

^{*} Outside QC Limits

FORM 02A SURROGATES LC/MS/MS

| 18206014 | | 13C9-PFNA |
|---------------|----------------|------------|
| 10200014 | Limits | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery |
| BLK206014 | 07/27/18 12:54 | 72 |
| LCS206014 | 07/27/18 13:03 | 62 |
| 9714891 | 07/27/18 13:12 | 79 |
| 9714895 | 07/27/18 13:30 | 59 |
| 9714896 | 07/27/18 13:39 | 71 |
| 9714898 | 07/27/18 13:48 | 64 |
| 9714899 | 07/27/18 13:57 | 72 |
| 9714900 | 07/27/18 14:06 | 50 |
| 9714892MS | 07/27/18 15:54 | 76 |
| 9714893MSD | 07/27/18 16:12 | 74 |
| 9714891DL | 07/30/18 17:55 | 98 |
| 9714894 | 07/30/18 18:13 | 83 |
| 9714894DL | 07/30/18 18:31 | 90 |
| 9714896DL | 07/30/18 18:40 | 96 |
| 9714898DL | 07/30/18 18:58 | 85 |
| 9714899DL | 07/30/18 19:07 | 96 |

^{*} Outside QC Limits



Quality Control Summary Laboratory Control Standard (LCS) Laboratory Control Standard Duplicate(LCSD)

SDG: FSB29 Matrix: LIQUID

PFAS Group

| LCS: LCS206014Q | Batch: 18206014 (Sample number(s): 9714891-9714896, 9714898-9714900) | | | | | | | | | |
|---------------------------|--|---------------------|----------------------|-------------|--------------|----------------|------|----------------|--|--|
| Analyte | Spike Added ng/l | LCS Conc ng/l | LCSD Conc ng/l | LCS %Rec | LCSD %Rec | %Rec Limits | %RPD | %RPD Limits | | |
| Perfluorooctanoic acid | 5.44 | 5.85 | NA | 107 | NA | 76-136 | NA | NA | | |
| Perfluorononanoic acid | 5.44 | 6.75 | NA | 124 | NA | 73-144 | NA | NA | | |
| Perfluoroheptanoic acid | 5.44 | 6.63 | NA | 122 | NA | 75-139 | NA | NA | | |
| Perfluorobutanesulfonate | 4.81 | 5.17 | NA | 107 | NA | 72-127 | NA | NA | | |
| Perfluorohexanesulfonate | 5.14 | 5.30 | NA | 103 | NA | 71-130 | NA | NA | | |
| Perfluoro-octanesulfonate | 5.20 | 5.24 | NA | 101 | NA | 67-134 | NA | NA | | |



Quality Control Summary Matrix Spike/Matrix Spike Duplicate

SDG: FSB29 Matrix: LIQUID

PFAS Group

Fraction: PFAS by LC/MS/MS

| | Batch: 18206 | 014 (Sample n | umber(s): 971 | 4891-971489 | 6, 971489 | 8-9714900 | 1) | | |
|--|----------------------------------|--------------------------|--------------------|---------------------|------------|-------------|--------|------|------|
| UNSPK: 9714891 MS: 9714892 MSD: 9714893 Analyte | Spike Added ng/l MS/MSD | Unspiked Conc ng/l | MS Conc ng/l | MSD Conc ng/l | MS %Rec | MSD %Rec | %Rec | %RPD | %RPD |
| Perfluorooctanoic acid | 4.83 / 4.84 | 97.36 | 110.12 | 109.68 | 264 (2) | 254 (2) | 76-136 | 0 | 30 |
| Perfluorononanoic acid | 4.83 / 4.84 | 16.36 | 21.4 | 21.46 | 104 | 105 | 73-144 | 0 | 30 |
| Perfluoroheptanoic acid | 4.83 / 4.84 | 208.46 | 218.19 | 227.63 | 202 (2) | 396 (2) | 75-139 | 4 | 30 |
| Perfluorobutanesulfonate | 4.27 / 4.28 | 85.2 | 85.98 | 88.55 | 18 (2) | 78 (2) | 72-127 | 3 | 30 |
| Perfluorohexanesulfonate | 4.56 / 4.58 | 727.78 | 891.41 | 900.02 | 3587 (2) | 3761 (2) | 71-130 | 1 | 30 |
| Perfluoro-octanesulfonate | 4.61 / 4.63 | 3314.73 | 4351.32 | 3882.19 | 22476 (2) | 12259 (2) | 67-134 | 11 | 30 |

Comments:

(2) The unspiked sample result is greater than four times the spike added. * = Out of Specification

Results are being reported on an as received basis.



Quality Control Summary Method Blank PFAS Group SDG: FSB29

Matrix: SOLID

| 18207006 / BLK207006B | | | | | | |
|---------------------------|---------------|---------------|-------|------|------|------|
| Analyte | Analysis Date | Blank Results | Units | DL | LOD | LOQ |
| Perfluorooctanoic acid | 07/27/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorononanoic acid | 07/27/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluoroheptanoic acid | 07/27/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorobutanesulfonate | 07/27/18 | N.D. | ng/g | 0.20 | 0.60 | 0.80 |
| Perfluorohexanesulfonate | 07/27/18 | N.D. | ng/g | 0.20 | 0.64 | 0.80 |
| Perfluoro-octanesulfonate | 07/27/18 | N.D. | ng/g | 0.20 | 0.65 | 0.80 |

FORM 02A SURROGATES LC/MS/MS

| 18207006 | | 13C3-PFBS 13C3-PFHXS | | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS | |
|---------------|----------------|----------------------|------------|------------|------------|------------|----|
| 18207006 | Limits | 50-150 | 50-150 | 50-150 | 50-150 | 50-150 | 1/ |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery | 1 |
| BLK207006 | 07/27/18 16:30 | 102 | 88 | 87 | 88 | 86 | 7 |
| LCS207006 | 07/27/18 16:39 | 97 | 79 | 78 | 83 | 82 | 1 |
| LCSDA | 07/27/18 16:48 | 95 | 79 | 81 | 81 | 82 | 1 |
| 9714897 | 07/27/18 16:57 | 102 | 77 | 76 | 75 | 71 | 1 |
| 9714897MS | 07/27/18 18:00 | 95 | 76 | 75 | 75 | 78 | 1 |

^{*} Outside QC Limits



FORM 02A SURROGATES LC/MS/MS

| 18207006 | | 13C9-PFNA | | |
|---------------|----------------|------------|--|--|
| 18207006 | Limits | 50-150 | | |
| LAB SAMPLE ID | DATE/TIME | % Recovery | | |
| BLK207006 | 07/27/18 16:30 | 84 | | |
| LCS207006 | 07/27/18 16:39 | 83 | | |
| LCSDA | 07/27/18 16:48 | 78 | | |
| 9714897 | 07/27/18 16:57 | 70 | | |
| 9714897MS | 07/27/18 18:00 | 73 | | |

^{*} Outside QC Limits



Quality Control Summary Laboratory Control Standard (LCS) Laboratory Control Standard Duplicate(LCSD)

SDG: FSB29 Matrix: SOLID

PFAS Group

| LCS: LCS207006Q | Batch: 18207006 (Sample number(s): 9714897) | | | | | | | |
|---------------------------|---|------|------|------|------|--------|------|--------|
| LCSD: LCSDAY | Spike | LCS | LCSD | | (| | | |
| | Added | Conc | Conc | LCS | LCSD | %Rec | | %RPD |
| Analyte | ng/g | ng/g | ng/g | %Rec | %Rec | Limits | %RPD | Limits |
| Perfluorooctanoic acid | 1.36 | 1.48 | 1.53 | 109 | 113 | 70-130 | 4 | 30 |
| Perfluorononanoic acid | 1.36 | 1.56 | 1.69 | 115 | 124 | 70-130 | - 8 | 30 |
| Perfluoroheptanoic acid | 1.36 | 1.56 | 1.47 | 115 | 108 | 70-130 | 6 | 30 |
| Perfluorobutanesulfonate | 1.20 | 1.24 | 1.30 | 103 | 108 | 70-130 | 4 | 30 |
| Perfluorohexanesulfonate | 1.29 | 1.29 | 1.36 | 100 | 106 | 70-130 | 6 | 30 |
| Perfluoro-octanesulfonate | 1.30 | 1.25 | 1.30 | 96 | 100 | 70-130 | 4 | 30 |



Quality Control Summary Matrix Spike/Matrix Spike Duplicate

SDG: FSB29 Matrix: SOLID

PFAS Group

Fraction: PFAS by LC/MS/MS

| UNSPK: 9714897 | Batch: 18207006 (Sample number(s): 9714897) | | | | | | | | |
|---------------------------|---|------------------|------------|-------------|---------|------|--------|------|--------|
| MS: 9714897 | Spike Added | Unspiked Conc | MS Conc | MSD Conc | MS | MSD | %Rec | | %RPD |
| Analyte | ng/g | ng/g | ng/g | ng/g | %Rec | %Rec | Limits | %RPD | Limits |
| Perfluorooctanoic acid | 1.28 | N.D. | 1.52 | NA | 118 | NA | 70-130 | NA | NA |
| Perfluorononanoic acid | 1.28 | N.D. | 1.69 | NA | (132 *) | NA | 70-130 | NA | NA |
| Perfluoroheptanoic acid | 1.28 | N.D. | 1.51 | NA | 118 | NA | 70-130 | NA | NA |
| Perfluorobutanesulfonate | 1.13 | N.D. | 1.20 | NA | 105 / | NA | 70-130 | NA | NA |
| Perfluorohexanesulfonate | 1.21 | 0.450 J | 1.54 | NA | 90_/ | NA | 70-130 | NA | NA |
| Perfluoro-octanesulfonate | 1.23 | 4.34 | 3.80 | NA | (-43 *) | NA | 70-130 | NA | NA |

Comments:

(2) The unspiked sample result is greater than four times the spike added. * = Out of Specification

Results are being reported on an as received basis.

8/13/2018 3:02:34 PM



Quality Control Reference List PFAS Group

CLIENT: AECOM SDG: FSB30

Fraction: PFAS by LC/MS/MS

| Analysis PFAS in Soil by LC/MS/MS-DoD | Batch Number 18207006 | Sample Number BLK207006B LCS207006Q LCSDAY 9715816 9715819 9715821 | Analysis Date 07/27/2018 16:30 07/27/2018 16:39 07/27/2018 16:48 07/27/2018 17:06 07/27/2018 17:15 |
|---------------------------------------|------------------------------|--|--|
| | | 9715822 9715825 | 07/27/2018 17:24 07/27/2018 17:33 07/27/2018 17:51 |
| PFAS in Water by LC/MS/MS-DoD | 18206014 | BLK206014B LCS206014Q 9715813 9715814 9715815 9715817 9715818 9715818 | 07/27/2018 12:54 07/27/2018 13:03 07/27/2018 14:15 07/27/2018 14:33 07/30/2018 19:25 07/27/2018 14:51 07/27/2018 15:00 07/30/2018 19:34 07/27/2018 15:09 |
| | | 9715823 9715824 9715824 9715826 9715827 | 07/27/2018 15:18 07/27/2018 15:27 07/30/2018 19:52 07/27/2018 15:36 07/27/2018 15:45 |

FORM 02A SURROGATES LC/MS/MS

SDG No.: FSB30 Matrix: WATER

| 18206014 | | 13C3-PFBS | 1/3C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
|---------------|----------------|------------|-------------|------------|------------|------------|
| 18206014 | Limits | 50-150 / | 50-150 | 50-150 | 50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | % Recovery | % Recovery | % Recovery |
| BLK206014 | 07/27/18 12:54 | 98 | 66 | 68 | 70 | 72 |
| LCS206014 | 07/27/18 13:03 | 97 | 64 | 63 | 69 | 63 |
| 9715813 | 07/27/18 14:15 | 125 | 64 | 70 | 70 | 75 |
| 9715814 | 07/27/18 14:33 | 94 | 61 | 63 | 64 | 62 |
| 9715817 | 07/27/18 14:51 | 110 | 62 | 65 | 61 | 63 |
| 9715818 | 07/27/18 15:00 | 109 | 57 | 59 | 57 | 59 |
| 9715820 | 07/27/18 15:09 | 100 | 63 | 68 | 67 | 67 |
| 9715823 | 07/27/18 15:18 | 111 | 58 | 64 | 60 | 52 |
| 9715824 | 07/27/18 15:27 | 122 | 67 | 71 | 51 | 73 |
| 9715826 | 07/27/18 15:36 | 90 | 61 | 59 | 62 | 61 |
| 9715827 | 07/27/18 15:45 | 124 | 64 | 65 | 64 | 66 |
| 9715815 | 07/30/18 19:25 | 148 | 58 | 71 | 64 | 72 |
| 9715818DL | 07/30/18 19:34 | 97 | 83 | 80 | 83 | 85 |
| 9715824DL | 07/30/18 19:52 | 95 | 93 | 93 | 94 | 93 |

^{*} Outside QC Limits

FORM 02A SURROGATES LC/MS/MS

SDG No.: FSB30
Matrix: WATER

| 18206014 | | 13C9-PFNA |
|---------------|----------------|------------|
| 18208014 | Limits | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery |
| BLK206014 | 07/27/18 12:54 | 72 |
| LCS206014 | 07/27/18 13:03 | 62 |
| 9715813 | 07/27/18 14:15 | 72 |
| 9715814 | 07/27/18 14:33 | 62 |
| 9715817 | 07/27/18 14:51 | 68 |
| 9715818 | 07/27/18 15:00 | 56 |
| 9715820 | 07/27/18 15:09 | 72 |
| 9715823 | 07/27/18 15:18 | 54 |
| 9715824 | 07/27/18 15:27 | 84 |
| 9715826 | 07/27/18 15:36 | 63 |
| 9715827 | 07/27/18 15:45 | 67 |
| 9715815 | 07/30/18 19:25 | 89 |
| 9715818DL | 07/30/18 19:34 | 79 |
| 9715824DL | 07/30/18 19:52 | 95 |

^{*} Outside QC Limits



Quality Control Summary

Method Blank PFAS Group SDG: FSB30 Matrix: LIQUID

Fraction: PFAS by LC/MS/MS

| 18206014 / BLK206014B | | / | | | | |
|---------------------------|---------------|---------------|-------|------|-----|-----|
| Analyte | Analysis Date | Blank Results | Units | DL | LOD | LOQ |
| Perfluorooctanoic acid | 07/27/18 | N.D. | ng/l | 0.50 | 1.2 | 2.0 |
| Perfluorononanoic acid | 07/27/18 | N.D. | ng/l | 0.40 | 1.2 | 2.0 |
| Perfluoroheptanoic acid | 07/27/18 | N.D. | ng/l | 0.40 | 1.2 | 2.0 |
| Perfluorobutanesulfonate | 07/27/18 | N.D. | ng/l | 0.30 | 1.1 | 2.0 |
| Perfluorohexanesulfonate | 07/27/18 | N.D. | ng/l | 0.40 | 1.1 | 2.0 |
| Perfluoro-octanesulfonate | 07/27/18 | N.D. | ng/l | 0.50 | 1.2 | 2.0 |



Quality Control Summary Laboratory Control Standard (LCS) Laboratory Control Standard Duplicate(LCSD)

SDG: FSB30 Matrix: LIQUID

PFAS Group Fraction: PFAS by LC/MS/MS

| LCS: LCS206014Q | Batch: 18206014 (Sample number(s): 9715813-9715815, 9715817-9715818, 9715820, 9715823-9715824, 9715826-9715827) | | | | | | | |
|---------------------------|---|---------------------|----------------------|-------------|--------------|----------------|------|----------------|
| Analyte | Spike Added ng/l | LCS Conc ng/l | LCSD Conc ng/l | LCS %Rec | LCSD %Rec | %Rec Limits | %RPD | %RPD Limits |
| Perfluorooctanoic acid | 5.44 | 5.85 | NA | 107 | NA | 76-136 | NA | NA |
| Perfluorononanoic acid | 5.44 | 6.75 | NA | 124 | NA | 73-144 | NA | · NA |
| Perfluoroheptanoic acid | 5.44 | 6.63 | NA | 122 | NA | 75-139 | NA | NA |
| Perfluorobutanesulfonate | 4.81 | 5.17 | NA | 107 | NA | 72-127 | NA | NA |
| Perfluorohexanesulfonate | 5.14 | 5.30 | NA | 103 | NA | 71-130 | NA | NA |
| Perfluoro-octanesulfonate | 5.20 | 5.24 | NA | 101 | NA | 67-134 | NA | NA |

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FORM 02A SURROGATES LC/MS/MS

SDG No.: FSB30 Matrix: WATER

| 18207006 | | 13C3-PFBS | 13C3-PFHXS | 13C4-PFHPA | 13C8-PFOA | 13C8-PFOS |
|---------------|----------------|------------|------------|------------|------------|------------|
| 18207006 | Limits | 50-150 | 50-150 | 50-150 | 50-150 | 50-150 |
| LAB SAMPLE ID | DATE/TIME | % Recovery | % Recovery | Recovery | % Recovery | % Recovery |
| BLK207006 | 07/27/18 16:30 | 102 | 88 | 87 | 88 | 86 |
| LCS207006 | 07/27/18 16:39 | 97 | 79 | 78 | 83 | 82 |
| LCSDA | 07/27/18 16:48 | 95 | 79 | 81 | 81 | 82 |
| 9715816 | 07/27/18 17:06 | 101 | 78 | 78 | 79 | 75 |
| 9715819 | 07/27/18 17:15 | 100 | 81 | 80 | 78 | 75 |
| 9715821 | 07/27/18 17:24 | 102 | 71 | 70 | 72 | 74 |
| 9715822 | 07/27/18 17:33 | 100 | 73 | 72 | 76 | 80 |
| 9715825 | 07/27/18 17:51 | 98 | 83 | 83 | 85 | 83 |

^{*} Outside QC Limits

FORM 02A SURROGATES LC/MS/MS

SDG No.: FSB30 Matrix: WATER

| | 13C9-PFNA |
|----------------|---|
| Limits | 50-150 |
| DATE/TIME | % Recovery |
| 07/27/18 16:30 | 84 |
| 07/27/18 16:39 | 83 |
| 07/27/18 16:48 | 78 |
| 07/27/18 17:06 | 75 |
| 07/27/18 17:15 | 74 |
| 07/27/18 17:24 | 71 |
| 07/27/18 17:33 | 72 |
| 07/27/18 17:51 | 84 |
| | DATE/TIME 07/27/18 16:30 07/27/18 16:39 07/27/18 16:48 07/27/18 17:06 07/27/18 17:15 07/27/18 17:24 07/27/18 17:33 |

^{*} Outside QC Limits



Quality Control Summary Method Blank

PFAS Group SDG: FSB30 Matrix: SOLID

Fraction: PFAS by LC/MS/MS

| 18207006 / BLK207006B | | | | | | |
|---------------------------|---------------|---------------|-------|------|------|------|
| Analyte | Analysis Date | Blank Results | Units | DL | LOD | LOQ |
| Perfluorooctanoic acid | 07/27/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorononanoic acid | 07/27/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluoroheptanoic acid | 07/27/18 | N.D. | ng/g | 0.20 | 0.68 | 0.80 |
| Perfluorobutanesulfonate | 07/27/18 | N.D. | ng/g | 0.20 | 0.60 | 0.80 |
| Perfluorohexanesulfonate | 07/27/18 | N.D. | ng/g | 0.20 | 0.64 | 0.80 |
| Perfluoro-octanesulfonate | 07/27/18 | N.D. | ng/g | 0.20 | 0.65 | 0.80 |



Quality Control Summary Laboratory Control Standard (LCS) Laboratory Control Standard Duplicate(LCSD)

SDG: FSB30 Matrix: SOLID

PFAS Group

Fraction: PFAS by LC/MS/MS

| LCS: LCS207006Q | S: LCS207006Q Batch: 18207006 (Sample number(s): 9715816, 9715819, 9715821-9715822, 9715825) | | | | | | | ,- |
|---------------------------|--|-------------|--------------|------|------|--------|------|--------|
| LCSD: LCSDAY | Spike Added | LCS Conc | LCSD Conc | LCS | LCSD | %Rec | | %RPD |
| Analyte | ng/g | ng/g | ng/g | %Rec | %Rec | Limits | %RPD | Limits |
| Perfluorooctanoic acid | 1.36 | 1.48 | 1.53 | 109 | 113 | 70-130 | 4 | 30 |
| Perfluorononanoic acid | 1.36 | 1.56 | 1.69 | 115 | 124 | 70-130 | - 8 | - 30 |
| Perfluoroheptanoic acid | 1.36 | 1.56 | 1.47 | 115 | 108 | 70-130 | 6 | 30 |
| Perfluorobutanesulfonate | 1.20 | 1.24 | 1.30 | 103 | 108 | 70-130 | 4 | 30 |
| Perfluorohexanesulfonate | 1.29 | 1.29 | 1.36 | 100 | 106 | 70-130 | 6 | 30 |
| Perfluoro-octanesulfonate | 1.30 | 1.25 | 1.30 | 96 | 100 | 70-130 | 4 | 30 |









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SAMPLE INFORMATION

Client Sample Description

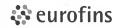
Sample Collection
Date/Time

ELLE#

Schenectady Decon Water Grab Water

04/11/2018 12:15

9555124





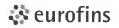




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SAMPLE INFORMATION

| Sample Collection | ELLE# |
|-------------------|--|
| • | |
| | 9659169 |
| | 9659170 |
| | 9659171 |
| | |
| | 9659172 |
| 06/11/2018 10:00 | 9659173 |
| 06/11/2018 10:20 | 9659174 |
| 06/11/2018 11:06 | 9659175 |
| 06/11/2018 11:20 | 9659176 |
| 06/11/2018 11:40 | 9659177 |
| 06/11/2018 11:50 | 9659178 |
| 06/11/2018 12:30 | 9659179 |
| 06/11/2018 12:36 | 9659180 |
| 06/11/2018 | 9659181 |
| 06/11/2018 12:58 | 9659182 |
| 06/11/2018 13:05 | 9659183 |
| 06/11/2018 13:15 | 9659184 |
| 06/11/2018 13:20 | 9659185 |
| 06/11/2018 13:35 | 9659186 |
| 06/11/2018 13:40 | 9659187 |
| | 06/11/2018 11:06 06/11/2018 11:20 06/11/2018 11:40 06/11/2018 11:50 06/11/2018 12:30 06/11/2018 12:36 06/11/2018 06/11/2018 12:58 06/11/2018 13:05 06/11/2018 13:15 06/11/2018 13:20 06/11/2018 13:35 |









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SAMPLE INFORMATION

| Client Sample Description | Sample Collection Date/Time | ELLE# |
|---------------------------|-----------------------------|---------|
| SC-B12-SS01-01 Grab Soil | 06/13/2018 08:20 | 9659222 |
| SC-B12-SB01-07 Grab Soil | 06/13/2018 08:25 | 9659223 |
| SC-B12-SS02-01 Grab Soil | 06/13/2018 08:00 | 9659224 |
| SC-B12-SB02-56 Grab Soil | 06/13/2018 08:05 | 9659225 |
| SC-B02-SS02-01 Grab Soil | 06/13/2018 08:40 | 9659226 |
| SC-B02-SB02-56 Grab Soil | 06/13/2018 08:45 | 9659227 |
| SC-B03-SS02-01 Grab Soil | 06/13/2018 09:40 | 9659228 |
| SC-B03-SB02-23 Grab Soil | 06/13/2018 09:45 | 9659229 |
| SC-B03-DUP03 Grab Soil | 06/13/2018 | 9659230 |
| SC-B03-SS01-01 Grab Soil | 06/13/2018 10:05 | 9659231 |
| SC-B03-SB01-34 Grab Soil | 06/13/2018 10:10 | 9659232 |
| SC-B35-SS02-01 Grab Soil | 06/13/2018 10:55 | 9659233 |
| SC-B35-SB02-34 Grab Soil | 06/13/2018 11:00 | 9659234 |
| SC-B35-SS03-01 Grab Soil | 06/13/2018 11:10 | 9659235 |
| SC-B35-SB03-56 Grab Soil | 06/13/2018 11:15 | 9659236 |
| SC-B35-SS01-01 Grab Soil | 06/13/2018 11:20 | 9659237 |
| SC-B35-SB01-23 Grab Soil | 06/13/2018 11:25 | 9659238 |
| SC-B31-SS02-01 Grab Soil | 06/13/2018 11:40 | 9659239 |
| SC-B31-DUP04 Grab Soil | 06/13/2018 | 9659240 |
| SC-B31-SS01-01 Grab Soil | 06/13/2018 11:50 | 9659241 |
| SC-B31-SB01-45 Grab Soil | 06/13/2018 11:35 | 9659242 |
| SC-B31-SS03-01 Grab Soil | 06/13/2018 12:00 | 9659243 |
| SC-B31-SB03-56 Grab Soil | 06/13/2018 12:05 | 9659244 |









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SAMPLE INFORMATION

| Client Sample Description | Sample Collection Date/Time | ELLE# |
|---------------------------|-----------------------------|---------|
| SC-WTP-SS02-01 Grab Soil | 06/12/2018 08:55 | 9659291 |
| SC-WTP-SB02-23 Grab Soil | 06/12/2018 09:00 | 9659292 |
| SC-WTP-SS01-01 Grab Soil | 06/12/2018 09:10 | 9659293 |
| SC-WTP-SB01-34 Grab Soil | 06/12/2018 09:15 | 9659294 |
| SC-WTP-SS03-01 Grab Soil | 06/12/2018 09:25 | 9659295 |
| SC-WTP-SB03-34 Grab Soil | 06/12/2018 09:30 | 9659296 |
| SC-IRP3-SS01-01 Grab Soil | 06/12/2018 09:45 | 9659297 |
| SC-IRP3-SB01-34 Grab Soil | 06/12/2018 09:50 | 9659298 |
| SC-IRP3-SS02-01 Grab Soil | 06/12/2018 09:55 | 9659299 |
| SC-IRP3-SB02-45 Grab Soil | 06/12/2018 10:00 | 9659300 |
| SC-IRP3-MW01-01 Grab Soil | 06/12/2018 10:15 | 9659301 |
| SC-IRP3-MW01-45 Grab Soil | 06/12/2018 10:20 | 9659302 |
| SC-IRP3-DUP02 Grab Soil | 06/12/2018 | 9659303 |
| SC-B07-SS02-01 Grab Soil | 06/12/2018 13:50 | 9659304 |
| SC-B07-SB02-45 Grab Soil | 06/12/2018 13:52 | 9659305 |
| SC-EB-Macro Grab Water | 06/12/2018 11:00 | 9659306 |
| SC-B07-SS01-01 Grab Soil | 06/12/2018 13:00 | 9659307 |
| SC-B07-SB01-34 Grab Soil | 06/12/2018 13:05 | 9659308 |
| SC-B07-SB01-34 Grab Soil | 06/12/2018 13:05 | 9659309 |
| SC-B07-SB01-34 Grab Soil | 06/12/2018 13:05 | 9659310 |
| SC-B08-SS01-01 Grab Soil | 06/12/2018 14:20 | 9659311 |
| SC-B08-SB01-74 Grab Soil | 06/12/2018 14:25 | 9659312 |
| | | |









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SAMPLE INFORMATION

| Client Sample Description | Sample Collection Date/Time | ELLE# |
|---|-----------------------------|---------|
| SC-B07-MW01 071918 Grab Groundwater | 07/19/2018 10:35 | 9714891 |
| SC-B07-MW01 071918 MS Grab Groundwater | 07/19/2018 10:35 | 9714892 |
| SC-B07-MW01 071918 MSD Grab Groundwater | 07/19/2018 10:35 | 9714893 |
| SC-6MW-24 071918 Grab Groundwater | 07/19/2018 12:10 | 9714894 |
| SC-6MW-20 071918 Grab Groundwater | 07/19/2018 12:30 | 9714895 |
| SC-IPR3-MW01 071918 Grab Groundwater | 07/19/2018 13:50 | 9714896 |
| SC-DRD-SD01 071918 Grab Soil | 07/19/2018 13:55 | 9714897 |
| SC-DRD-SW01 071918 Grab Surface Water | 07/19/2018 14:00 | 9714898 |
| DUP-01 Grab Groundwater | 07/19/2018 | 9714899 |
| Field Blank 1 071918 Grab Groundwater | 07/19/2018 12:15 | 9714900 |









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SAMPLE INFORMATION

| Client Sample Description | Sample Collection Date/Time | ELLE# |
|-------------------------------------|-----------------------------|---------|
| SC-APR-MW01 072018 Grab Groundwater | 07/20/2018 08:30 | 9715813 |
| Field Blank 2 072018 Grab Water | 07/20/2018 08:45 | 9715814 |
| SC-APR-MW03 072018 Grab Groundwater | 07/20/2018 09:38 | 9715815 |
| SC-OF5-SD01 072018 Grab Soil | 07/20/2018 09:56 | 9715816 |
| SC-OF5-SW01 072018 Grab Groundwater | 07/20/2018 09:55 | 9715817 |
| SC-OF3-SW01 072018 Grab Groundwater | 07/20/2018 10:00 | 9715818 |
| SC-OF3-SD01 072018 Grab Soil | 07/20/2018 10:02 | 9715819 |
| SC-OF4-SW01 072018 Grab Groundwater | 07/20/2018 10:15 | 9715820 |
| SC-OF4-SD01 072018 Grab Soil | 07/20/2018 10:20 | 9715821 |
| SC-OF2-SD01 072018 Grab Soil | 07/20/2018 10:45 | 9715822 |
| SC-B35-MW01 072018 Grab Groundwater | 07/20/2018 10:55 | 9715823 |
| SC-B02-MW01 072018 Grab Groundwater | 07/20/2018 11:20 | 9715824 |
| SC-OF1-SD01 072018 Grab Soil | 07/20/2018 12:05 | 9715825 |
| EQ Blank Grab Water | 07/20/2018 11:35 | 9715826 |
| DUP 02 Grab Groundwater | NA | 9715827 |



Case Narrative

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Project Name: Schenectady-Stratton ANGB

ELLE Group #: 1931008

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9555124

The laboratory's DoD Scope of Accreditation does not include the following method: EPA 537 mod QSM 5.1 table B-15.



Case Narrative

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Project Name: Stratton ANGB 60520893

ELLE Group #: 1955015

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9659180, 9659186

The following analytes were manually integrated due to incorrect integrations: Perfluorohexanesulfonate

Sample #s: 9659171, 9659175, 9659182, 9659185

The following analytes were manually integrated due to incorrect integrations: Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659181

The following analytes were manually integrated due to incorrect integrations: Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659170

The following analytes were manually integrated due to incorrect integrations: Perfluoro-octanesulfonate

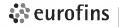
Sample #s: 9659184

The following analytes were manually integrated due to incorrect integrations:

Perfluorooctanoic acid, Perfluorobutanesulfonate, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659177

The following analytes were manually integrated due to incorrect integrations:



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Perfluorooctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659173, 9659174

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluorononanoic acid, Perfluorobetanoic acid, Perfluorobetanoic acid, Perfluorobetanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659169

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659179

The following analytes were manually integrated due to incorrect integrations:

Perfluorooctanoic acid, Perfluorononanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Batch #: 18166010 (Sample number(s): 9659169-9659187 UNSPK: 9659169)

The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Perfluoro-octanesulfonate

SM 2540 G-1997 %Moisture Calc, Wet Chemistry

Batch #: 18169820007B (Sample number(s): 9659179-9659187 BKG: 9659185)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture



Case Narrative

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Project Name: Stratton ANGB 60520893

ELLE Group #: 1955027

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9659239, 9659243

The following analytes were manually integrated due to incorrect integrations: Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659230

The following analytes were manually integrated due to incorrect integrations: Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659237

The following analytes were manually integrated due to incorrect integrations: Perfluorononanoic acid, Perfluoro-octanesulfonate

Sample #s: 9659226

The following analytes were manually integrated due to incorrect integrations: Perfluoroctanoic acid, Perfluorobutanesulfonate, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

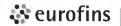
Sample #s: 9659222, 9659224, 9659227, 9659232, 9659244

The following analytes were manually integrated due to incorrect integrations:

Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659223, 9659225, 9659228, 9659229, 9659238

The following analytes were manually integrated due to incorrect integrations:



Case Narrative

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Perfluorooctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659231, 9659240, 9659241

The following analytes were manually integrated due to incorrect integrations:

Perfluoroctanoic acid, Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate,

Perfluoro-octanesulfonate

Sample #s: 9659235

The following analytes were manually integrated due to incorrect integrations: Perfluorocotanoic acid, Perfluoro-octanesulfonate

Batch #: 18170012 (Sample number(s): 9659222-9659229 UNSPK: 9659222)

The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Perfluorocotanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Batch #: 18171018 (Sample number(s): 9659230-9659244 UNSPK: 9659230)

The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: Perfluoro-octanesulfonate

SM 2540 G-1997 %Moisture Calc, Wet Chemistry

Batch #: 18165820010A (Sample number(s): 9659222-9659231 BKG: 9659227)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture

Batch #: 18165820010B (Sample number(s): 9659232-9659241 BKG: 9659236)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture



Case Narrative

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Project Name: Stratton ANGB 60520893

ELLE Group #: 1955055

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9659293

The following analytes were manually integrated due to incorrect integrations:

Perfluoroheptanoic acid, Perfluorobutanesulfonate, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659294, 9659308

The following analytes were manually integrated due to incorrect integrations: Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659299, 9659301

The following analytes were manually integrated due to incorrect integrations: Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659310

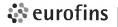
The following analytes were manually integrated due to incorrect integrations: Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659307

The following analytes were manually integrated due to incorrect integrations: Perfluorononanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659303

The following analytes were manually integrated due to incorrect integrations:



Case Narrative

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Perfluoro-octanesulfonate

Sample #s: 9659312

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluorobutanesulfonate, Perfluoro-octanesulfonate

Perfluoro-octanesulfonate

Sample #s: 9659300, 9659305, 9659311

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659292

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluorohexanesulfonate

Sample #s: 9659291, 9659297, 9659298, 9659304

The following analytes were manually integrated due to incorrect integrations: Perfluoroctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659295, 9659309

The following analytes were manually integrated due to incorrect integrations:

Perfluorooctanoic acid, Perfluorononanoic acid, Perfluorobetanoic acid, Perfluorobetanesulfonate,

Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9659296

The following analytes were manually integrated due to incorrect integrations:

Perfluorooctanoic acid, Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate,

Perfluoro-octanesulfonate

Sample #s: 9659302

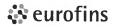
The following analytes were manually integrated due to incorrect integrations: Perfluorocotanoic acid, Perfluoro-octanesulfonate

Batch #: 18168002 (Sample number(s): 9659291-9659305, 9659307-9659312 UNSPK: 9659308)

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Perfluoro-octanesulfonate, Perfluorohexanesulfonate

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside acceptance windows: Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate



Case Narrative

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Project Name: Schenectady ANGB

ELLE Group #: 1968185

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9714896, 9714899

The following analytes were manually integrated due to incorrect integrations: Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9714892, 9714893

The following analytes were manually integrated due to incorrect integrations: Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9714894, 9714895

The following analytes were manually integrated due to incorrect integrations: Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9714891

The following analytes were manually integrated due to incorrect integrations: Perfluorononanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9714897, 9714900

The following analytes were manually integrated due to incorrect integrations: Perfluoro-octanesulfonate

Sample #s: 9714898

The following analytes were manually integrated due to incorrect integrations:



Case Narrative

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Perfluorooctanoic acid, Perfluorononanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Batch #: 18206014 (Sample number(s): 9714891-9714896, 9714898-9714900 UNSPK: 9714891)

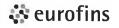
The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Perfluorobutanesulfonate

Batch #: 18207006 (Sample number(s): 9714897 UNSPK: 9714897)

The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: Perfluorononanoic acid

The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Perfluoro-octanesulfonate



Case Narrative

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Project Name: Schenectady ANGB

ELLE Group #: 1968367

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9715815

The following analytes were manually integrated due to incorrect integrations: Perfluorobutanesulfonate, Perfluorobexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9715814, 9715816

The following analytes were manually integrated due to incorrect integrations: Perfluoro-octanesulfonate

Sample #s: 9715813, 9715818, 9715820, 9715822, 9715827

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9715819, 9715825

The following analytes were manually integrated due to incorrect integrations: Perfluoroctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9715817, 9715821, 9715823, 9715824

The following analytes were manually integrated due to incorrect integrations:

Perfluorooctanoic acid, Perfluorononanoic acid, Perfluoroheptanoic acid, Perfluorohexanesulfonate,

Perfluoro-octanesulfonate

Case Narrative

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SM 2540 G-1997 %Moisture Calc, Wet Chemistry

<u>Batch #: 18205820006B (Sample number(s): 9715816, 9715819, 9715821-9715822, 9715825 BKG: 9715819)</u>

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture

Lancaster Laboratories

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

| BMQL | Below Minimum Quantitation Level | mg | milligram(s) |
|------------------|----------------------------------|-----------------------|---|
| С | degrees Celsius | mL | milliliter(s) |
| cfu | colony forming units | MPN | Most Probable Number |
| CP Units | cobalt-chloroplatinate units | N.D. | non-detect |
| F | degrees Fahrenheit | ng | nanogram(s) |
| g | gram(s) | NTU | nephelometric turbidity units |
| IÚ | International Units | pg/L | picogram/liter |
| kg | kilogram(s) | RL | Reporting Limit |
| L | liter(s) | TNTC | Too Numerous To Count |
| lb. | pound(s) | μg | microgram(s) |
| m3 | cubic meter(s) | μ | microliter(s) |
| meq | milliequivalents | umhos/cm | micromhos/cm |
| < | less than | | |
| > | greater than | | |
| ppm | | e equivalent to milli | kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weight juivalent to one microliter per liter of gas. |
| ppb | parts per billion | | |
| Dry weight basis | | | pisture content. This increases the analyte weight ample without moisture. All other results are reported on an |
| | | | |

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

| Qualifier | Definition |
|----------------|---|
| С | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| K1 | Initial Calibration Blank is above the QC limit and the sample result is ND |
| K2 | Continuing Calibration Blank is above the QC limit and the sample result is ND |
| K3 | Initial Calibration Verification is above the QC limit and the sample result is ND |
| K4 | Continuing Calibration Verification is above the QC limit and the sample result is ND |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| Р | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |
| | |

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Kay Hower

Subject:

FW: 1931008-Stratton ANGB 60520893-04/12/2018 10:10:00 Acknowledgement

Attachments:

Schenectady-Stratton ANGB COC.pdf

------ Original Message-----

From: Mullen, Laura [mailto:Laura.Mullen@aecom.com]

Sent: Tuesday, April 17, 2018 1:51 PM

To: Kay Hower

Subject: RE: 1931008-Stratton ANGB 60520893-04/12/2018 10:10:00 Acknowledgement

EXTERNAL EMAIL*

Hi Kay - here is the revised COC which has "Schenectady-Stratton ANGB" as the Base name. Thanks.

Laura

----Original Message-----

From: Kay Hower [mailto:KayHower@eurofinsus.com]

Sent: Tuesday, April 17, 2018 8:04 AM

To: Mullen, Laura

Subject: RE: 1931008-Stratton ANGB 60520893-04/12/2018 10:10:00 Acknowledgement

H Laura, please revise the project name on the attached COC - it has Stratton for the project. Thanks, Kay

----Original Message----

From: Mullen, Laura [mailto:Laura.Mullen@aecom.com]

Sent: Monday, April 16, 2018 4:42 PM

To: Kay Hower

Subject: RE: 1931008-Stratton ANGB 60520893-04/12/2018 10:10:00 Acknowledgement

EXTERNAL EMAIL*

Hi Kay -

Can you please change this sample acknowledgement to "Schenectady ANGB" instead of "Stratton ANGB". Thanks so much.

Laura

----Original Message----

From: <u>LLAutomatedReportingSystem@eurofins.com</u> [mailto:LLAutomatedReportingSystem@eurofins.com]

Sent: Monday, April 16, 2018 1:37 PM To: Myers, Mike; Mullen, Laura



Sample Administration Receipt Documentation Log

Doc Log ID:

213504

Group Number(s): 19 31008

Client: Aecom

Delivery and Receipt Information

Delivery Method:

Fed Ex

Arrival Timestamp:

04/12/2018 10:10

Number of Packages:

1

Number of Projects:

1

Arrival Condition Summary

Shipping Container Sealed:

Yes

Sample IDs on COC match Containers:

Yes

Custody Seal Present:

Yes

Sample Date/Times match COC:

Yes

Custody Seal Intact:

Paperwork Enclosed:

Yes

VOA Vial Headspace ≥ 6mm:

No

Samples Chilled:

Yes

Total Trip Blank Qty:

See Below

2

Samples Intact:

Yes Yes Trip Blank Type: Air Quality Samples Present:

No

Missing Samples:

No

Extra Samples:

No

Discrepancy in Container Qty on COC:

No

Trip Blank Type(s): Unpreserved

Unpacked by Felix Gonzalez (13783) at 13:14 on 04/12/2018

Samples Chilled Details

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

Cooler# Thermometer ID

DT42-01

Corrected Temp

Therm, Type

Ice Type

Ice Present?

Ice Container

Elevated Temp?

2.4

DT

Wet

Ν

Bagged

Ν



Sample Administration Receipt Documentation Log

Doc Log ID: 219099

Group Number(s):

1955015

Client: Aecom

Delivery and Receipt Information

Delivery Method:

Fed Ex

Arrival Timestamp:

06/14/2018 8:00

Number of Packages:

3

Number of Projects:

1

State/Province of Origin:

<u>NY</u>

Arrival Condition Summary

Yes

Yes

Yes

No

No

No

Shipping Container Sealed: Yes

Custody Seal Present:

Custody Seal Intact: Yes
Samples Chilled: Yes

Paperwork Enclosed:

Samples Intact:
Missing Samples:

Extra Samples:

Discrepancy in Container Qty on COC:

Sample IDs on CC

Sample IDs on COC match Containers:

Sample Date/Times match COC:

VOA Vial Headspace ≥ 6mm: Total Trip Blank Qty:

Air Quality Samples Present:

0 No

Yes

Yes

N/A

Unpacked by Felix Gonzalez (13783) at 08:54 on 06/14/2018

Samples Chilled Details

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

| Cooler# | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|---------|----------------|----------------|-------------|----------|--------------|---------------|----------------|
| 1 | 32170023 | 5.7 | IR | Wet | Υ | Loose/Bag | N |
| 2 | DT42-01 | 5.9 | DT | Wet | Υ | Loose/Bag | N |
| 3 | DT42-01 | 4.5 | DT | Wet | Υ | Loose/Bag | N |



Sample Administration Receipt Documentation Log

Doc Log ID: 219099

Group Number(s):

1955027

Client: Aecom

Delivery and Receipt Information

Delivery Method:

Fed Ex

Arrival Timestamp:

06/14/2018 8:00

Number of Packages:

3

Number of Projects:

1

State/Province of Origin:

NY

Arrival Condition Summary

Shipping Container Sealed:

Custody Seal Present:

Yes

Sample IDs on COC match Containers:

Yes

Yes

Yes

Sample Date/Times match COC:

Yes

Custody Seal Intact:

VOA Vial Headspace ≥ 6mm:

N/A

0

Samples Chilled: Paperwork Enclosed: Yes Yes

Total Trip Blank Qty: Air Quality Samples Present:

No

Samples Intact:

Yes No

Missing Samples: Extra Samples:

No

Discrepancy in Container Qty on COC: No

Unpacked by Felix Gonzalez (13783) at 08:54 on 06/14/2018

Samples Chilled Details

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

| Cooler# | Thermometer ID | Corrected Temp | Therm. Type | Ice Type | Ice Present? | Ice Container | Elevated Temp? |
|---------|----------------|----------------|-------------|----------|--------------|---------------|----------------|
| 1 | 32170023 | 5.7 | IR | Wet | Υ | Loose/Bag | N |
| 2 | DT42-01 | 5.9 | DT | Wet | Υ | Loose/Bag | N |
| 3 | DT42-01 | 4.5 | DT | Wet | Υ | Loose/Bag | N |



Sample Administration Receipt Documentation Log

Doc Log ID: 219099

Yes

Yes

N/A

No

0

Group Number(s):

1955055

Client: <u>Aecom</u>

Delivery and Receipt Information

Delivery Method:

Fed Ex

Arrival Timestamp:

06/14/2018 8:00

Number of Packages:

3

Number of Projects:

Sample IDs on COC match Containers:

Sample Date/Times match COC:

VOA Vial Headspace ≥ 6mm:

Air Quality Samples Present:

Total Trip Blank Qty:

1

State/Province of Origin:

<u>NY</u>

Arrival Condition Summary

Shipping Container Sealed: **Custody Seal Present:**

Custody Seal Intact:

Samples Chilled:

Paperwork Enclosed: Samples Intact:

Missing Samples:

Extra Samples:

Discrepancy in Container Qty on COC:

Yes

Yes Yes

Yes

Yes Yes

No No No

Unpacked by Felix Gonzalez (13783) at 08:54 on 06/14/2018

Samples Chilled Details

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

| Cooler# | Thermometer ID | Corrected Temp | Therm. Type | <u>Ice Type</u> | Ice Present? | Ice Container | Elevated Temp? |
|---------|----------------|----------------|-------------|-----------------|--------------|---------------|----------------|
| 1 | 32170023 | 5.7 | IR | Wet | Υ | Loose/Bag | N |
| 2 | DT42-01 | 5.9 | DT | Wet | Υ | Loose/Bag | N |
| 3 | DT42-01 | 4.5 | DT | Wet | Υ | Loose/Bag | N |



Sample Administration Receipt Documentation Log

Doc Log ID:

222108



1968 188

Group Number(s):

Client: AECOM

Delivery and Receipt Information

Delivery Method:

Fed Ex

Arrival Timestamp:

07/20/2018 10:00

Number of Packages:

1

Number of Projects:

1

State/Province of Origin:

<u>NY</u>

Arrival Condition Summary

Shipping Container Sealed:

Yes

Sample IDs on COC match Containers:

Yes

Custody Seal Present:

Yes

Sample Date/Times match COC:

Yes

Custody Seal Intact:

Yes

VOA Vial Headspace ≥ 6mm:

N/A

Samples Chilled:

Yes

Total Trip Blank Qty:

0

Paperwork Enclosed: Samples Intact:

Yes Yes Air Quality Samples Present:

No

Missing Samples:

No

Extra Samples:

No No

Unpacked by Simon Nies (25112) at 1,7:23 on 07/20/2018

Samples Chilled Details

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

Cooler # Thermometer ID

Corrected Temp

Therm. Type

Ice Type Ic

Ice Present?

Ice Container

Elevated Temp?

1 DT42-03

Discrepancy in Container Qty on COC:

3.4

DT

Wet

Υ

Bagged

N



Sample Administration Receipt Documentation Log

Doc Log ID:

222203

1468367 Group Number(s):

Client: AECOM

Delivery and Receipt Information

Delivery Method:

Fed Ex

Arrival Timestamp:

07/21/2018 10:00

Number of Packages:

1

Number of Projects:

1

State/Province of Origin:

NY

Arrival Condition Summary

Shipping Container Sealed:

Yes No

Sample IDs on COC match Containers:

Yes Yes

Custody Seal Present:

Paperwork Enclosed:

Yes

Sample Date/Times match COC: VOA Vial Headspace ≥ 6mm:

N/A

Samples Chilled:

Yes

Total Trip Blank Qty:

0

Samples Intact:

Yes

Air Quality Samples Present:

No

Missing Samples: Extra Samples:

No No

Discrepancy in Container Qty on COC:

No

Unpacked by Melvin Sanchez (8943) at 13:57 on 07/21/2018

Samples Chilled Details

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

Cooler # Thermometer ID

DT131

Corrected Temp

3.9

Therm. Type DT

Ice Type Wet

ice Present?

Ice Container Bagged

Elevated Temp?

Ν

| | COC # 538265 | For the Use Only | FBC: 2/4/.85 | "Préservation Coties H≃HCi T≔Thiosuliate | N=HNO ₀ B=NaOI-I S=H ₂ SO ₄ O=Olher | Remarks | | | The state of the s | | o u popular | | | | | The second secon | The Confidence | Date Thus | Dale Tina | Date Time | Date History | DANG | (20)12xx 62 4/12/13 10.10 | er: | Temperature upon receipt 8 . 4 °C |
|---|--|--------------------|--------------------|---|---|-----------|-----------------|-----------------------|--|------------------------|-------------|--|--|--|--|--|----------------|---|---|--------------------------------|------------------------------|---|-------------------------------------|----------------------------|---|
| V | | Analysis Roquested | Preservation Codes | | - | | | | | | | | | | | | | Received by | Received by | Beceived by | | Racelyad by | Thenked by | Relinquished by | Tempera |
| 00 | he /gi | nalysis | reserva | | | | | | | | | The second secon | | | V | | | Thrub 6117 | Tline | Thre | | All 10 | Time | | No Jume,) |
| 300 | S S S | A | | | | | | -: | | | | CHAMMA CEALS ON WHACH | . 9 | 7 | Water State Communication of the Communication of t | | | Date 175/18 | Date | Date / D | | Onlo | Date | No | Yes ovelquase |
|) (0) | invironme | | ŧ | 50°/5 | W/57 | 19. | | 1. UF | 7 | 7 | | | , , | | | | | | | | | | | Yes | /Dup)? |
| agrresi/Challn | For Eurolling Lanoaslor Laboratorios Environmental use only DUS Group # 1931008 Sample # | Matrix | | Tissue | are [| g | Sedii Jeto9 | ajet | M SC | 7 | | | and Transmit and wild thirty with the months | | | | | Holmquistruglyy | Relitudistind by | Retiregulation by | | Relikuquiahad tay | Refirquished by | EDD Required? | Sile-Specific GC (MS/MSD/Dup)? Yes (No (II) yes, Indicate GC sample and submit triplicate semple volume.) |
| Iysis R | Acot. 11 343 | | Acol. II: | PWSID #: | P,O,# | Quote II: | 2 | Collected | Date Time | 4-11-18 7215 | | | | and the same of th | Market San Care Care Care Care Care Care Care Care | | | lease airolo) | | | | , Corv. | nied) aw Data Only) | TX TRRP-13 | CT RCP |
| 1402 | ratories | Client Information | | | | | For Compliance: | - | | | | | | | The second second | | | lequested (plee | il and surahargo.) | | | e a accord | Type VI (Raw | NJ DKQP | MA MCP |
| Environmental Amalysis Requesit/Challa of Custody | Curofins Lancaster Laboratories Environmental | Cllent | Clent: | Project Name/8: | Project Manugar. | | | Sample Identification | | Schenecholy Decon wolk | | The state of the s | The state of the s | , , , , , , , , , , , , , , , , , , , | a state. | 1 Street and State and Street and Street | 一 | Turnaround Time (TAT) Requested (please airole) | (Rush TAT is subject to laboratory approvel and surchargo.) | ילים לים מים מלוי ואמי מלים רו | Daile leading are indecided. | E-mail address: John Santocare a account to | Type I (EPA Level 3 Type VI (Raw D | Type III (Reduced non-CLP) | NYSDEC Category A or B |

The white copy should accompany samples to Eurolins Lancaster, PA 17601 • 717-656-2300

The white copy should accompany samples to Eurolins Lancaster Laboratories Environmental. The yellow copy should be relating by the client.

FSA88 Page 12 of 827

Page 7 of 13

eurofins 💸

For Eurofins Lancaster Laboratories Environmental use only Acct. # 49343 Group # 795015 Sample # 96596

COC # 562315

| Client Information | u | | | Σ | Matrix | H | | | Analysi | Analysis Requested | | For Lab Use Only | e Only | |
|--|---|--------------|-----------------------|--------------------------|---|--------|-----------------------|------------------|--------------|-----------------------------------|--------------------------|----------------------|--------------------|-----------------------|
| Client: | Acct. #: | | | | | | | Preser | vation a | Preservation and Filtration Codes | Sodes | FSC: | 0 | 1 |
| HECOM | | | | _ <u> </u>] | _ | | | Н | | | | SCR#: | Salk | Ç |
| Project Name/#: | PWSID #: | | | pu nss | | | | | | | | Prese | Preservation Codes | Sodes |
| Schnetidy ANGB | | | | iT uo | ejnr | | | | | | | 무무 | T =1 | T=Thiosulfate |
| Project Manager: | P.O. #: | | | 19 | | S | | | | | | N=HNO3 | B | B=Na0H |
| JOHN SONTHONDE | | | |] ; | | .19 | | | | | - | S=H ₂ SO₄ | | P=H ₃ PO₄ |
| Sampler: | Quote #; | | | | _ | nisi | 1,103 | | | | | F=Field Filtered | - 1 | 0=Other |
| | | - | | | | uc | 5 | | | 4 | | | Kemarks | |
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Eurofins Lancaster Laboratories Enviror**ਸਤਾਇਆਂ ਮੁੱਧ ਨਾ ਬੁਰੀਰੁਣੇ ਪੁਲ੍ਹਾਂ ਪ੍ਰਿਥਾ** ਪ੍ਰਤਿਲ੍ਹੇ, Lancaster, PA 17601 • 717-656-2300 The white copy should accompany samples to Eurofins Lancaster Lancaster (ਤ੍ਰਾਂਗਤਾ ਸਾਹਿਤ ਸਾਹਿਤ ਸਾਹਿਤ ਸੰਗ੍ਰਾਂਗਤਾ ਸੰਗਰਾਂਗਤਾ ਸੰਗ੍ਰਾਂਗਤਾ ਸੰਗ੍ਰਾਂਗਤਾ ਸੰਗ੍ਰਾਂਗਤਾ ਸੰਗ੍ਰਾਂਗਤਾ ਸੰਗਰਾਂਗਤਾ ਸੰਗਰ

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COC # 562326 T=Thiosulfate Time S:00 Preservation Codes B=NaOH P=H₃PO₄ F=Field Filtered O=Other Time ine ပ္ Remarks 1911/19 Temperature upon receipt 5.7, 5.9For Lab Use Only ム、ケ Date Date Date Relinquished by Commercial Carrier: N=HNO₃ S=H2SO4 Other 모모 SCR#: Monzalet FSC: FedEx_ Preservation and Filtration Codes **Analysis Requested** For Eurofins Lancaster Laboratories Environmental use only Granum # $(9550\,\%$ Sample # 965929Received by eceived by Received by Received by 1700 (if yes, indicate QC sample and submit triplicate sample volume.) Time Time Time ž 6/15/18 Yes) 7 7 Date > ž Date Site-Specific QC (MS/MSD/Dup)? Yes otal # of Containers 1 4 ł **EDD Required?** Other: Matrix Surface **NPDES** If yes, format: Ground Sediment lio2 7 Relinquished by linquished by nquished by Relinquished by **Relinquished** by Composite Grab Time Acct. # 4234 TX TRRP-13 900 3 arî 910 John, Sawacroce @ agen. 10-246 987 Collected 26 **12**b 950 8 (Raw Data Only) CT RCP Turnaround Time (TAT) Requested (please circle) Date 6/K/B □ 8 PWSID #: Acct. #: Quote #: P.O. #: Data Package Options (circle If.required) Rush Client Information (Rush TAT is subject to faboratory approval and surcharge.) NJ DKQP MA MCP Yes 🗆 For Compliance Sknolord 6052089 15500, 18 -34 10-0 - 5603 - 34 - SB01 - 34 10-2065d (Sc-WTP-5102-0 Sample Identification Environmental TRP3- 5501-Se- wTP- 5302 - 5363 5301 Θ Type III (Reduced non-CLP) SC- MTP - 5801 NYSDEC Category A or State where samples were collected; Equivalent/non-CLP) Date results are needed: Type I (EPA Level 3 Sc- WTP -Standard Treps TEP3 TARS Sc- MTP AErom といく Stratter E-mail address: 2 36-7, i oject Name/# Ŋ

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Acct. # 42343_ Group # 1955055_ Sample # 9 6 5-921-312 For Eurofins Lancaster Laboratories Environmental use only Lancaster Laboratories seurofins |

COC # 562318

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| Sampler: | Quote #: | | | ļuē | | ui | _ | _ | H | | | F=Field Filtered | _ | 0=Other |
| | | | | эш | əle | - ju | . 5 | _ | 2/11 | | _ | | 1 6 | |
| State where samples were collected: For Compliance: | | | Ľ | | tab | | | 7 | | | | | | |
| Yes | □ 8 | | ətiz | | od dN |) <u>j</u> c | 711, | 211 | • | | | | | |
| Sample Identification | Collected | ted | ubos qı | | 19 1 | 91 # C | \$ } | 1/8/10 | SHL | | | | | |
| MWOL | Date | Time | ະາວ _{ເດ} ວ | ioS | БW | _ | | W | _ | | | | | |
| Sc- IPP3 -855-01 | 8/2/9 | 1017 | 7 | 7 | | 7 | \ | \ | | | | | | |
| Se-IRP3 - 1955-11 | - | 1020 | | 7 | | 2 | 7 | > | _ | Lapana para para para para para para para | | | | |
| Sc - IR73 - Duroz | | , | | 7 | | 4 | > | 7 | | | | 1 | | |
| Sc - 1507 - 5502-01 | | 1376 | | 7 | | 7 | 7 | 7 | | | | | | |
| 5c- 207-5002-45 | | 1302 | | 7 | | 7 | 7 | 7 | | | | | | |
| SC- EB- Macro | | | 7 | | Note: | 2 | -, | 7 | _ | 30,000 | | | | |
| Sc- Bo7 - 5501-01 | | 1300 | | 7 | | 2 | 7 | } | | | | | | |
| ١ | | 13or | | 7 | | 9 | 7 | 7 | | | | Exter | 22 | MS/MSD |
| 5c - Cos - 5501 -01 | | 1420 | | > | | 7 | 7 | > | | | | | | |
| Sc- Bul - 5001 -74 | | (42T | _ | 7 | | | 7 | , | | | | | | |
| Turnaround Time (TAT) Requested (please circle) | (please circle) | | Relinquished by | d by | \ N | | | Date | F | Received by | | | Date | Time |
| Standard | Rush | V | / | $\setminus \setminus$ | 1 | | | 9/L3/1/8 | 700 | - | And the second of the second o | | | |
| (Rush TAT is subject to laboratory approval and surcharge.) | e.) | | Relinquished by | d by | | | | Date | Time | Received by | *envelopmentelestement man, an austraaaste + t e for medid | | Date | Time |
| Date results are needed: | | 10- | Relinquished by | d by | | | | Date | Time | Received by | | | Date | Time |
| E-mail addrage. | 7000 | _ | ad at a state | 14 | | | | | | | | | | |
| Data Package Options (circle if required) | equired) | | Adilinguished by | (<u>}</u> | | | | elect | age of the second | Keceived by | | | 986 | Time |
| Type I (EPA Level 3 Equivalent/non-CLP) | Type VI (Raw Data Only) | | Relinquished by | d by | 1 | | | Date | gul | Received by | (1007a167 | | Date | Time |
| Type III (Reduced non-CLP) NJ DKQP | TX TRRP-13 | RP-13 | | 3 | EDD Required? | ired? | Yes | S S | | Relinquish | Relinquished by Commercial | | 10.11.16 | T |
| | | | | i yes, | II yes, tormat: | | | | | NPS | FedEx | Other | | |
| NYSDEC Category A or B MA MCP | CT RCP | ġ. | S & S | Ite-Spe is, Indica | Site-Specific QC (MS/MSD/Dup)? Yes No (if yes, Indicate QC sample and submit triplicate sample volume.) | IS/MSD and subn | /Dup)? iit triplica | Yes te sample v | No olume.) | Ten | Temperature upon receipt 5. | ecelpt 5. | 75.9 | ů |

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eurofins :

COC # 562323 T=Thiosulfate Preservation Codes B=NaOH P=H3PO4 MSIMSO taken F=Field Filtered O=Other <u>I</u>me ime lime Fime ပ္စ Remarks スプダベ For Lab Use Only J Date Relinquished by Commercial Carrier: S=H2SO4 N=HNO₃ Other 무무 Temperature upon receipt SCR#: FSC: FedEx Preservation and Filtration Codes **Analysis Requested** Received by eceived by Received by Received by NPS Acct. # #2343_Group # [9[00] [5] Sample # 97 14 69 [-0] 四年(1-16) 17-05 (If yes, Indicate QC sample and submit triplicate sample volume.) Ē me Time Time S Yes ž Date Sate Date Site-Specific QC (MS/MSD/Dup)? **Stt**3 Yes Total # of Containers N EDD Required? Alexandra Hollen Other: **Surface** Matrix **NPDES** Z U ろり S S GM 2 S 5 Water If yes, format: Ground Potable R enssiT Sediment lios ゝ elinquished by elinquished by Relinquished by Relinquished by Composite Grab 20890 1230 1350 1035 Time 00 H 012 35 aecom. TX TRRP-13 Collected 7 500 Type VI (Raw Data Only) CT RCP Turnaround Time (TAT) Requested (please circle) 81/6/18 2711911 Date Chenectacky Ang R □ ≗ Acct. #: Data Package Options (circle if required) E-mail address: John , Schtclorde Rush Client Information (Rush TAT is subject to laboratory approval and surcharge.) STANDARD NJ DKQP MA MCP Yes 🗆 For Compliance: 81514.0 9191F0 07 1918 071918 8157 81518 071918 071918 JOHN Santacrole Sample Identification Environmental B Type III (Reduced non-CLP) -DRO-SMO1 NYSDEC Category A or -5001 Sc- 1PR3 - MWOI -807 - MWO! SC-855-11-11 State where samples were collected: Date results are needed: Type I (EPA Level 3 Equivalent/non-CLP) Standard - 6MW-20 - 60 MW - 24 field blank -080 AECOM 10-91X SC

Eurofins Lancaster Laboratories Environ**ાણ્યુલ પ્રિકૃત્કિઓઝુનીનાલુકાના પ્રાથમાના પ્રા**

COC # 56231

9715812-27

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Sample #

468367

Group #

Acct. # 423 43

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T=Thiosulfate 3 preservatives and **Preservation Codes** USED PFOFFE P=H₃PO₄ B=NaOH ime F=Field Filtered O=Other me me Time ပ္ Remarks For Lab Use Only 6.5 Date Date Date Relinquished by Commercial Carrier: S=H,SO4 N=HNO3 무무 Temperature upon receipt SCR#: S FSC: FedEx Preservation and Filtration Codes **Analysis Requested** eceived by Received by Received by Received by Received by UPS (If yes, indicate QC sample and submit triplicate sample volume.) Ë ime Time Ē Yes 4 ŝ Date Date)ate ₩Jd Site-Specific QC (MS/MSD/Dup)? Yes Fotal # of Containers holden EDD Required? Other: Matrix **Surface NPDES** 5 30 33 7 S Water if yes, format: Ground Potable Alexandira 9 ənss<u>ı</u> SD Sediment lioS elinquished by Relinquished by Relinquished by Composite Grab 0956 0938 1002 Time 0955 10.50 aecom. 7000 07/20/18/0830 284V 240 TX TRRP-13 201 Collected Type VI (Raw Data Only) CT RCP Turnargund Time (TAT) Requested (please circle) Date □ 8 ANG 843 PWSID# Quote #: P.O. #: Data Package Options (circle if required) Santacrole a Client Information (Rush TAT is subject to laboratory approval and surcharge.) STANDACO 072018 NJ DKQP 072018 072018 MA MCP Yes 🗆 072018 072018 072018 31 acc For Compliance: 072018 072018 072018 Sontacrale Sample Identification Environmental Type III (Reduced non-CLP) m OF4 - SD DI - OF2 - SDOI SMO - DF3 - SDOI C- RPR- MW03 10MS-SH0-- 0F3 - SMOI ö C-0F5-500 E-mail address: John Schenectady NYSDEC Category A tale where samples were collected: - APR-MWO) Equivalent/non-CLP) Type I (EPA Level 3 Standard Date results are needed: ١ Field Blank AF COM ナユ9・ 7 SONO

5910FZ Eurofins Lancaster Laboratories Environmental JLC : 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

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Sample #

Group #

Acot. # 4243

Lancaster Laboratories

** eurofins

COC # 562322

T=Thiosulfate No PRSKNOPICS Preservation Codes B B=NaOH P=H₃PO₄ F=Field Filtered O=Other Ē Time USCO DF & FIRE ပ္စ Remarks For Lab Use Only 0 Date Relinquished by Commercial Carrier: Other N=HNO3 S=H,SO, 무무 Temperature upon receipt SCR#: FedEx Preservation and Filtration Codes **Analysis Requested** Received by Received by Received by Received by Received by UPS (if yes, Indicate QC sample and submit triplicate sample volume.) īme Time lime <u>Time</u> ŝ Yes £ Date Dale Date Date Site-Specific QC (MS/MSD/Dup)? Yes 0 Fotal # of Containers ÉDD Required? Other: Matrix PFC W Surace **NPDES** 2 3 2 9 If yes, format: Ground Potable lios Refindulahed by Relinquished by Refinquished by Relinquished by Relinquished by Composite Grab Time 1205 11.20 TX TRRP-13 STROUGHOSTS Collected 113 Type VI (Raw Data Only) CT RCP Turnaround Time (TAT) Requested (please circle) Date □ 2 PWSID #: Quote #: Acct. #: P.O. #: Data Package Options (circle if required) Client Information (Rush TAT is subject to laboratory approval and surcharge.) Sce PS NJ DKQP MA MCP 072018 072013 Yes \square 810250 For Compliance 672018 Sample Identification Environmental 5 Type III (Reduced non-CLP) B 500V ō MMOI SC- B35- MWOI NYSDEC Category A State where samples were collected: Equivalent/non-CLP) rype I (EPA Level 3 Date results are needed: Standard Blank 170 B02 E-mail address: 62 roject Name/# Project Manager anc

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Data Qualifying Codes

either indicate data that are (1) not usable for decision-making, (2) more than normally biased and/or variable, or (3) not representative Two types of data qualifying codes or flags are applied in the course of the data review. The first type are the data validation flags of field conditions. These codes and their definitions are presented below in the hierarchy stipulated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic and Inorganic (January 2017) Data Review.

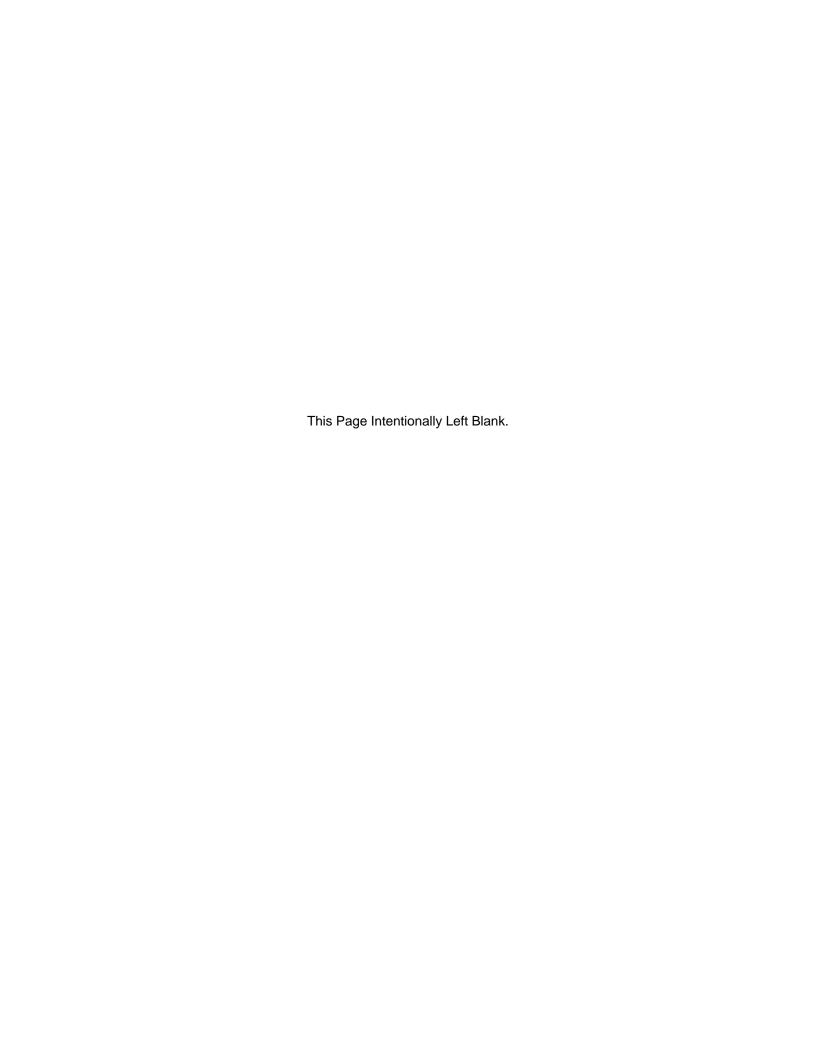
Data Validation Flags

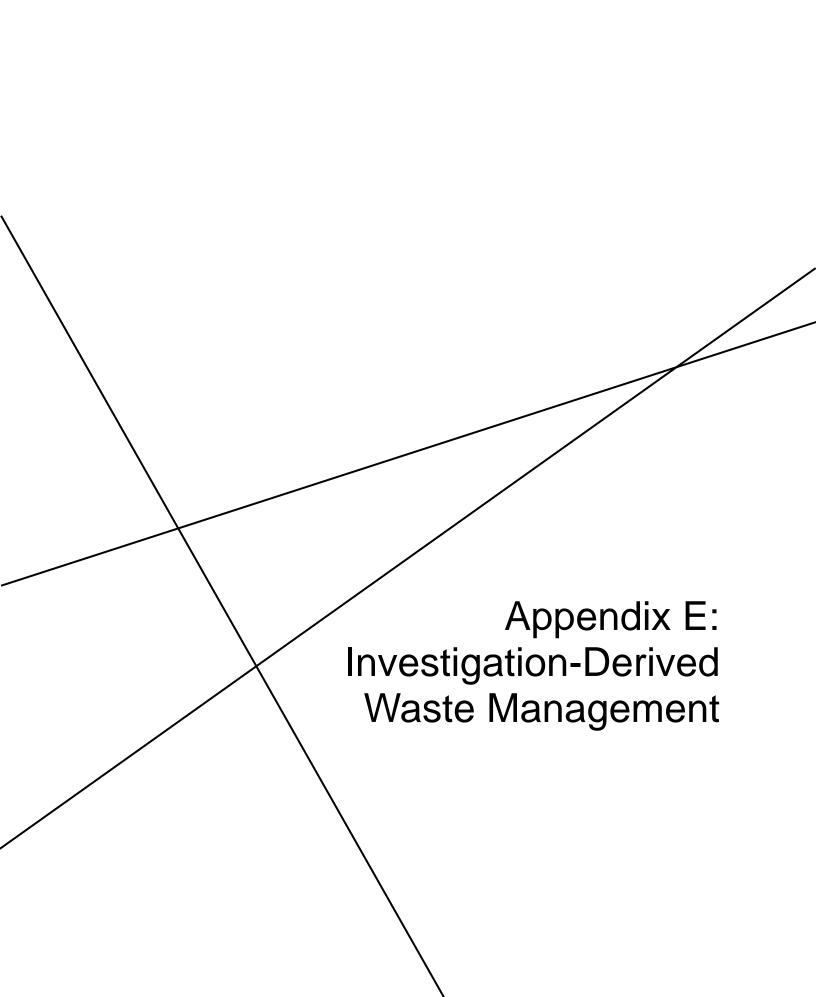
| Flag | Interpretation |
|------|--|
| | |
| 24 | The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample. |
| n | Analyte not detected at level significantly greater than the detection found in an associated blank. |
| J+ | Analyte present. Reported value may not be accurate or precise, but the result may be biased high. |
| Ţ. | Analyte present. Reported value may not be accurate or precise, but the result may be biased low. |
| ī | The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the Limit of Detection (LOD). |
| N | The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. |
| m | The analyte was not detected at a level greater than or equal to the adjusted DL. However, the reported adjusted DL is approximate and may be inaccurate or imprecise. |
| C | This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by gas Chromatograph/Mass Spectrometer (GC/MS) |
| Х | This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful. |

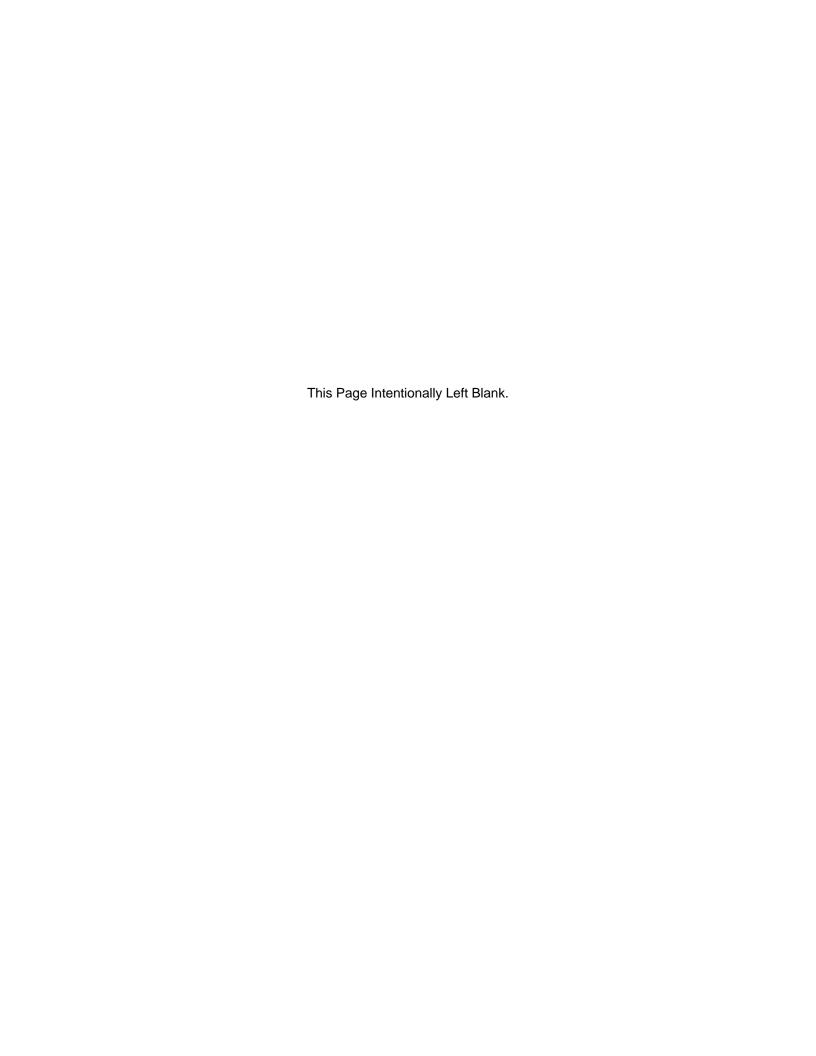
The other type of code used by URS is a "Reason Code". The reason code indicates the type of quality control failure that led to the application of the data validation flag.

Reason Codes

| Code Inte | Interpretation |
|-----------|--|
| | |
| | |
| | Incorrect or incomplete analytical sequence |
| | Bubble found in vial >6mm |
| | Calibration failure; poor or unstable response |
| /SW P | MS/MSD imprecision |
| c TCS | LCSD imprecision |
| f Fiel | Field duplicate imprecision |
| g Tun | Tuning failure or poor mass spec performance |
| h Hol | Holding time violation |
| i Inte | Internal standard failure |
| k Coo | Cooler receipt temperature exceeds limits |
| 1 TCS | LCS recovery failure |
| m MS/ | MS/MSD recovery failure |
| n Imp | Improper sample preservation |
| p Poo | Poor chromatography |
| q Con | Concentration exceeded the linear range |
| r Line | Linearity failure in initial calibration |
| s Sur | Surrogate failure |
| t TIC | |
| w Iden | Identification criteria failure |
| x Fiel | Field/Equipment blank contamination |
| y Fiel | Field Trip Blank contamination |
| z Met | Method blank contamination |









WASTE MATERIAL PROFILE SHEET

Clean Harbors Profile No. CH1723068

A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION # GENERATOR CODE (Assigned by Clean Harbors) PENDING

NE26347

GENERATOR NAME: CITY Scotia

New York Air National Guard

PHONE: (703) 399-3920

STATE/PROVINCE

NY ZIP/POSTAL CODE 12302

ADDRESS 1 Air National Guard Road (Schenectady Air National Guard)

CUSTOMER CODE (Assigned by Clean Harbors)

AE12881

ADDRESS 12420 Milestone Dr Ste 150

CUSTOMER NAME Germantown

AECOM STATE/PROVINCE

ZIP/POSTAL CODE

20876

B. WASTE DESCRIPTION

WASTE DESCRIPTION: Soil w/ PFAS

PROCESS GENERATING WASTE:

Soil sampling

IS THIS WASTE CONTAINED IN SMALL PACKAGING CONTAINED WITHIN A LARGER SHIPPING CONTAINER ?

C. PHYSICAL PROPERTIES (at 25C or 77F)

| PHYSICAL STATE SOLID WITHOUT F POWDER MONOLITHIC SOLI LIQUID WITH NO S LIQUID/SOLID MIX | D OLIDS | 78 DT VOLDIVIL (Approx.) | P 0.00 DDLE 0.00 TTOM 0.00 | VISCOSITY (If liquid present) 1 - 100 (e.g. Water) 101 - 500 (e.g. Motor Oil) 501 - 10,000 (e.g. Molasses | brown |
|--|--|---|--|---|---|
| % FREE LIQUID % SETTLED SOLID % TOTAL SUSPEND SLUDGE GAS/AEROSOL | | ODOR NONE MILD STRONG Describe: | BOILING POINT °F (°C) <= 95 (<=35) 95 - 100 (35-38) 101 - 129 (38-54) >= 130 (>54) | > 10,000 MELTING POINT °F (°C) < 140 (<60) 140-200 (60-93) ✓ > 200 (>93) | TOTAL ORGANIC CARBON <= 1% 1-9% >= 10% |
| FLASH POINT °F (°C) < 73 (<23) 73 - 100 (23-38) 101 -140 (38-60) 141 -200 (60-93) > 200 (>93) | pH <= 2 2.1 - 6.9 ✓ 7 (Neutral) 7.1 - 12.4 >= 12.5 | SPECIFIC GRAVITY < 0.8 (e.g. Gasoline) 0.8-1.0 (e.g. Ethanol) 1.0 (e.g. Water) 1.0-1.2 (e.g. Antifreeze) ✓ > 1.2 (e.g. Methylene Chloride) | | Unknown | (4.6) 00 (4.6-11.6) 000 (11.6-23.2) |

D. COMPOSITION (List the complete composition of the waste, include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used,

| CHEMICAL | MIN | MA | X UOM |
|--|---|------------|-------|
| POLYFLUOROALKYL SUBSTANCES | 0.0000000 | 500.000000 | O PPM |
| SOIL | 100.0000000 | 100.000000 | 0 % |
| DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRIS OR OTHER LARGE OBJECTS (EX., M. >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRE >12" LONG, METAL VALVES, PIPE FI PIECES OF CONCRETE >3")? | METAL PLATE OR PIPING >1/4" THICK OR TTINGS, CONCRETE REINFORCING BAR OR | YES ' | NO NO |
| If yes, describe, including dimensions: | | | |
| DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR OTHER FINELY DIVIDED FORM? | | YES | NO |
| DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF THE FOLLOWING; ANIMAL WASTES, F FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, HUMAN OR ANIMAL DERIVED SERUM POTENTIALLY INFECTIOUS MATERIAL? | RUMAN BLOOD, BLOOD PRODUCTS, BODY S OR PROTEINS OR ANY OTHER | YES | / NO |
| I acknowledge that this waste material is neither infectious nor does it contain any organism known to be based on my knowledge of the material. Select the answer below that applies: | a threat to human health. This certification is | | |
| The waste was never exposed to potentially infectious material. | | YES | NO |
| Chemical disinfection or some other form of sterilization has been applied to the waste. | | YES | NO |
| I ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HARBORS BATTERY PACKAGING REQUIR | EMENTS | YES | NO |
| I ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DOUBLE BAGGED AND WETTED. | | YES | NO |
| SPECIFY THE SOURCE CODE ASSOCIATED WITH THE G39 SPECIFY THE WASTE. | FORM CODE ASSOCIATED WITH THE WASTE | W301 | |



Clean Harbors Profile No. CH1723068

E. CONSTITUENTS

Are these values based on testing or knowledge?

Knowledge V Testing

If constituent concentrations are based on analytical testing, analysis must be provided. Please attach document(s) using the link on the Submit tab.

Please indicate which constituents below apply. Concentrations must be entered when applicable to assist in accurate review and expedited approval of your waste profile. Please note that the total regulated metals and other constituents sections require answers.

| | | LEVEL (mg/l) | mg/l | | | | | |
|------|--------------------------------|--------------|------|--------------------|---|---------------------------|-----|----------------------|
| D004 | ARSENIC | 5.0 | | | | ~ | | |
| D005 | BARIUM | 100.0 | | | | V | | |
| D006 | CADMIUM | 1.0 | | | | ✓ | | |
| D007 | CHROMIUM | 5.0 | | | | ✓ | | |
| D008 | LEAD | 5.0 | | | | <u>~</u> | | |
| D009 | MERCURY | 0.2 | | | | <u>~</u> | | |
| D010 | SELENIUM | 1.0 | | | | ····· | | |
| D011 | SILVER | 5.0 | | | | ······ | | |
| | VOLATILE COMPOUNDS | | | OTHER CONSTITUENTS | | MAY | LOM | NOT |
| D018 | BENZENE | 0.5 | | OTHER CONSTITUENTS | • | MAX | UOM | NOT APPLICABLE |
| D019 | CARBON TETRACHLORIDE | 0.5 | | BROMINE | | | | ~ |
| D021 | CHLOROBENZENE | 100.0 | | CHLORINE | | | | ····· <u>A</u> ····· |
| D022 | CHLOROFORM | 6.0 | | . FLUORINE | | | | ····· |
| D028 | 1,2-DICHLOROETHANE | 0.5 | | IODINE | | | | ····· |
| D028 | | 0.3 | | SULFUR | | | | ····· 🛱 ····· |
| | 1,1-DICHLOROETHYLENE | | | POTASSIUM | | | | ····· 🛱 ······ |
| D035 | METHYL ETHYL KETONE | 200.0 | | SODIUM | | | | ····· 😽 ······ |
| D039 | TETRACHLOROETHYLENE | 0.7 | | AMMONIA | | | | ····· 😽 ······ |
| D040 | TRICHLOROETHYLENE | 0.5 | | | | | | 💳 |
| D043 | VINYL CHLORIDE | 0.2 | | CYANIDE AMENABLE | | | | ····· 💆 · · · · · · |
| | SEMI-VOLATILE COMPOUND | S | | CYANIDE REACTIVE | | | | <u>V</u> |
| D023 | o-CRESOL | 200.0 | | CYANIDE TOTAL | | | | <u>V</u> |
| D024 | m-CRESOL | 200.0 | | SULFIDE REACTIVE | | | | <u>~</u> |
| D025 | p-CRESOL | 200.0 | | HOCs | | PCBs | | |
| D026 | CRESOL (TOTAL) | 200.0 | | NONE | | NONE | | |
| D027 | 1,4-DICHLOROBENZENE | 7.5 | | < 1000 PPM | | < 50 PP | М | |
| D030 | 2,4-DINITROTOLUENE | 0.13 | | >= 1000 PPM | | >=50 PF | | |
| D032 | HEXACHLOROBENZENE | 0.13 | | | | | | IC THE |
| D033 | HEXACHLOROBUTADIENE | 0.5 | | · | | IF PCBS ARE WASTE REGI | | |
| D034 | HEXACHLOROETHANE | 3.0 | | • | | CFR 761? | | |
| D036 | NITROBENZENE | 2.0 | | · | | YES | ~ | NO |
| D037 | PENTACHLOROPHENOL | 100.0 | | • | | | _ | |
| D038 | PYRIDINE | 5.0 | | • | | | | |
| D041 | 2,4,5-TRICHLOROPHENOL | 400.0 | | • | | | | |
| D042 | 2,4,6-TRICHLOROPHENOL | 2.0 | | • | | | | |
| | PESTICIDES AND HERBICIDE | | | | | | | |
| D012 | ENDRIN | 0.02 | | | | | | |
| D013 | LINDANE | 0.4 | | • | | | | |
| | METHOXYCHLOR | 10.0 | | | | | | |
| | TOXAPHENE | 0.5 | | • | | | | |
| | | 10.0 | | • | | | | |
| | | | | • | | | | |
| D030 | 2,4,5-TP (SILVEX) CHLORDANE | 1.0 | | | | | | |
| | | 0.03 | | • | | | | |
| D031 | HEPTACHLOR (AND ITS EPOXIDE |) 0.008 | | | | | | |

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES NO (If yes, explain)

CHOOSE ALL THAT APPLY

DEA REGULATED SUBSTANCES EXPLOSIVE FUMING OSHA REGULATED CARCINOGENS
POLYMERIZABLE RADIOACTIVE REACTIVE MATERIAL NONE OF THE ABOVE

Clean Harbors Profile No. CH1723068

| 2 CONTAINERS/SHIPMENT GALLONS/SHIPMENT: 0 Min -0 Max GAL. SHIPMENT UO | | | | | | | | | |
|--|---|--|--|--|--|--|--|--|--|
| Texas Waste Code YES NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY? YES NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART LDR CATEGORY: WARRANCE INFO: WARRA | | | | | | | | | |
| YES NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY? YES NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART LDR CATEGORY. VARIANCE INPO. YES NO IS THIS A UNIVERSAL WASTE? YES NO IS THIS GENERATOR OF THE WASTE CLASSIFIED AS VERY SMALL QUANTITY GENERATOR (VSQG) OR A: YES NO DOES TREATMENT OF THIS WASTE GENERATE A FOOD OR F019 SLUDGE? YES NO DOES TREATMENT OF THIS WASTE GENERATE A FOOD OR F019 SLUDGE? YES NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS >= 500 PPM? YES NO DOES THIS WASTE CONTAIN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE NO DOES THIS WASTE CONTAIN A ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE NO DOES THIS WASTE CONTAIN A ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE NO DOES THE WASTE CONTAIN A ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE NO DOES THE WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE NO DOES THE WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE NO DOES THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES? Hazardous Organic NESHAP (HON) rule (subpart G) Pharmaceuticals production (subpart GC NESHAP RULES PRESSURE NO DOES THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES? YES NO Does the waste stream come from a facility with one of the SIC codes listed under benzene NESHAP or the NESHAP RULE DEVELOPMENT OF THE FORMATION OF THE FOLLOWING NESHAP RULES (PHARMACIAN TORONAL TORO | ANY STATE WASTE CODES APPLY? | | | | | | | | |
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| NESHAP rules because the original source of the waste is from a chemical manufacturing, coke by-produ YES NO Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) >10 Mg/year? What is the TAB quantity for your facility? Megagram/year (1 Mg = 2,200 lbs) The basis for this determination is: Knowledge of the Waste Or Test Data Knowledge Describe the knowledge: G. DOT/TDG INFORMATION DI/TDG PROPER SHIPPING NAME: NON D.O.T. REGULATED, (SOIL, PFAS) TRANSPORTATION REQUIREMENTS TIMATED SHIPMENT FREQUENCY ✓ ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY OTHER CONTAINERIZED CONTAINERIZED CONTAINERS/SHIPMENT DRAGE CAPACITY: NTAINER TYPE: PORTABLE TOTE TANK BOXICARTONICASE CUBIC VARD BOX OTHER DRUM SIZE 55 SPECIAL REQUEST COMMENTS OR REQUESTS: Office is written as worst case analysis. | 100 100 100 100 100 100 100 100 100 100 | | | | | | | | |
| TRANSPORTATION REQUIREMENTS TIMATED SHIPMENT FREQUENCY ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY OTHER CONTAINERIZED CONTAINERS/SHIPMENT DRAGE CAPACITY: NTAINER TYPE: PORTABLE TOTE TANK OTHER DRUM SIZE DRUM OTHER DRUM SIZE SPECIAL REQUESTS: GIBIO IS Written as worst case analysis. | | | | | | | | | |
| TIMATED SHIPMENT FREQUENCY ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY OTHER CONTAINERIZED CONTAINERS/SHIPMENT DRAGE CAPACITY: NTAINER TYPE: PORTABLE TOTE TANK DRUM SIZE DRUM DRUM SIZE SHIPMENT UD TONS/YARDS/ TONS/YARDS/ SPECIAL REQUEST COMMENTS OR REQUESTS: Office is written as worst case analysis. | | | | | | | | | |
| 2 CONTAINERS/SHIPMENT DRAGE CAPACITY: NTAINER TYPE: PORTABLE TOTE TANK BOXICARTONICASE CUBIC YARD BOX OTHER DRUM SIZE 55 SPECIAL REQUEST COMMENTS OR REQUESTS: Office is written as worst case analysis. | | | | | | | | | |
| 2 CONTAINERS/SHIPMENT ORAGE CAPACITY: NTAINER TYPE: PORTABLE TOTE TANK BOXICARTONICASE CUBIC YARD BOX DRUM OTHER DRUM SIZE 55 SPECIAL REQUEST COMMENTS OR REQUESTS: offile is written as worst case analysis. | BULK SOLID | | | | | | | | |
| DRAGE CAPACITY: NTAINER TYPE: PORTABLE TOTE TANK BOXICARTONICASE CUBIC YARD BOX DRUM OTHER DRUM SIZE 55 SPECIAL REQUEST COMMENTS OR REQUESTS: Office is written as worst case analysis. | | | | | | | | | |
| PORTABLE TOTE TANK BOXICARTONICASE CUBIC YARD BOX DRUM OTHER DRUM SIZE 55 SPECIAL REQUEST COMMENTS OR REQUESTS: offile is written as worst case analysis. | | | | | | | | | |
| CUBIC YARD BOX DRUM OTHER DRUM SIZE 55 SPECIAL REQUEST COMMENTS OR REQUESTS: offile is written as worst case analysis. | SHIPMENT: <u>0 Min - 0 Max</u> | | | | | | | | |
| SPECIAL REQUEST COMMENTS OR REQUESTS: ofile is written as worst case analysis. | | | | | | | | | |
| SPECIAL REQUEST COMMENTS OR REQUESTS: offile is written as worst case analysis. | | | | | | | | | |
| COMMENTS OR REQUESTS: offile is written as worst case analysis. | | | | | | | | | |
| ofile is written as worst case analysis. | | | | | | | | | |
| ENERATOR'S CERTIFICATION | | | | | | | | | |
| NERATOR'S CERTIFICATION | | | | | | | | | |
| | | | | | | | | | |
| ertify that I am authorized to execute this document as an authorized agent. I hereby certify that all information submitted in this and attached documents is correct mples submitted are representative of the actual waste. If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors them secessary to reflect the discrepancy. | to the best of my knowledge. I also certify that an e authority to amend the profile, as Clean Harbors | | | | | | | | |
| AUTHORIZED SIGNATURE NAME (PRINT) | 2.24 | | | | | | | | |
| The Koth Fire MA 1. | DATE | | | | | | | | |
| 1/1/1 STORES | ~ VOC+18 | | | | | | | | |



WASTE MATERIAL PROFILE SHEET

Clean Harbors Profile No. CH1723064

A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION #

PENDING

GENERATOR NAME:

New York Air National Guard

GENERATOR CODE (Assigned by Clean Harbors)

ADDRESS 1 Air National Guard Road (Schenectady Air National Guard)

NE26347

CITY Scotia

Germantown

STATE/PROVINCE NY ZIP/POSTAL CODE

PHONE: (703) 399-3920

CUSTOMER CODE (Assigned by Clean Harbors)
ADDRESS 12420 Milestone Dr Ste 150

AE12881

CUSTOMER NAME:

AECOM STATE/PROVINCE

ND ZIP/POSTAL CODE

20876

12302

B. WASTE DESCRIPTION

PI

WASTE DESCRIPTION:

IDW Water

PROCESS GENERATING WASTE:

Water sampling

IS THIS WASTE CONTAINED IN SMALL PACKAGING CONTAINED WITHIN A LARGER SHIPPING CONTAINER ?

| 0 | PHYSICAL | PROPERTIES | 121 25C | or 77E) |
|---|----------|------------|---------|---------|
| | | | | |

| ŀ | HYSICAL STATE | |
|---|---------------------------|--|
| | SOLID WITHOUT FREE LIQUID | |
| | POWDER | |
| | MONOLITHIC SOLID | |
| • | LIQUID WITH NO SOLIDS | |
| | LIQUID/SOLID MIXTURE | |
| | % FREE LIQUID | |
| | % SETTLED SOLID | |
| | % TOTAL SUSPENDED SOLID | |
| | SLUDGE | |
| | GAS/AEROSOL | |
| | | |

| NUMBER OF PHASES/LA ✓ 1 2 3 % BY VOLUME (Approx.) | MDDI 5 000 101 500/ 11 | | color clear | |
|---|---|--------------------------------|--|--|
| ODOR ✓ NONE MILD STRONG Describe: | BOILING POINT °F (°C) <= 95 (<=35) 95 - 100 (35-38) 101 - 129 (38-54) ✓ >= 130 (>54) | < 140 (<60) 140-200 (60-93) | OTAL ORGANIC CARBON <= 1% 1-9% >= 10% | |
| PECIFIC GRAVITY | ASH | BTU/LB (MJ/kg) | | |

| FLASH POINT °F (°C) | pH | SPECIFIC GRAVITY | ASH | | BTU/LB (MJ/kg) |
|---|---|--|---|-----------------|---|
| <73 (<23) 73 - 100 (23-38) 101 -140 (38-60) 141 -200 (60-93) > > 200 (>93) | <= 2 2.1 - 6.9 7 (Neutral) 7.1 - 12.4 >= 12.5 | < 0.8 (e.g. Gasoline) 0.8-1.0 (e.g. Ethanol) 1.0 (e.g. Water) 1.0-1.2 (e.g. Antifreeze) > 1.2 (e.g. Methylene Chloride) | ✓ < 0.1 0.1 - 1.0 1.1 - 5.0 5.1 - 20.0 | > 20 Unknown | < 2,000 (<4.6) 2,000-5,000 (4.6-11.6) 5,000-10,000 (11.6-23.2) > 10,000 (>23.2) Actual: |

D. COMPOSITION (List the complete composition of the waste, include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use appreciations.)

| CHEMICAL | | MIN - | | MAX | UOM |
|---|--------------------------------------|-------------------------------|---------|------|-----|
| POLYFLUOROALKYL SUBSTANCES | | 0.0000000 - | 500.000 | 0000 | PPM |
| WATER | | 100.0000000 - | 100.000 | 0000 | % |
| DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRI >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRI PIECES OF CONCRETE >3")? | | | YES | | NO |
| If yes, describe, including dimensions: | | | | | |
| DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR | OTHER FINELY DIVIDED FORM? | | YES | 4 | NO |
| DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, POTENTIALLY INFECTIOUS MATERIAL? | | | YES | * | NO |
| l acknowledge that this waste material is neither infectious nor obased on my knowledge of the material. Select the answer belonger | | health. This certification is | | | |
| The waste was never exposed to potentially infectious material. | | | YES | | NO |
| Chemical disinfection or some other form of sterilization has been | en applied to the waste. | | YES | | NO |
| ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HAR | BORS BATTERY PACKAGING REQUIREMENTS. | | YES | | NO |
| ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DO | UBLE BAGGED AND WETTED. | | YES | | NO |
| SPECIFY THE SOURCE CODE ASSOCIATED WITH THE WASTE. | G12 SPECIFY THE FORM CODE AS | SOCIATED WITH THE WAS | TE. W10 | 1 | |



Clean Harbors Profile No. CH1723064

E. CONSTITUENTS

Are these values based on testing or knowledge?

Knowledge V Testing

If constituent concentrations are based on analytical testing, analysis must be provided. Please attach document(s) using the link on the Submit tab.

Please indicate which constituents below apply. Concentrations must be entered when applicable to assist in accurate review and expedited approval of your waste profile. Please note that the total regulated metals and other constituents sections require answers.

| RCRA | REGULATED METALS | REGULATORY LEVEL (mg/l) | TCLP mg/l | TOTAL | UOM | NOT APPLI | CABLE | |
|------|-----------------------------|----------------------------|--------------|--------------------|-----|-----------|-------------------------|---------------------|
| D004 | ARSENIC | 5.0 | | | | ✓ | | |
| D005 | BARIUM | 100.0 | | | | ~ | | |
| D006 | CADMIUM | 1.0 | | | | ~ | | |
| D007 | CHROMIUM | 5.0 | | | | ✓ | | |
| D008 | LEAD | 5.0 | | | | ~ | | |
| D009 | MERCURY | 0.2 | | | | <u>~</u> | | |
| D010 | SELENIUM | 1.0 | | | | ······ | | |
| D011 | SILVER | 5.0 | | | | ····· | | |
| | VOLATILE COMPOUNDS | | | OTHER CONSTITUENTS | | MAY | LIOM | NOT |
| D018 | BENZENE | 0.5 | | OTHER CONSTITUENTS | • | MAX | UOM | NOT APPLICABLE |
| D019 | CARBON TETRACHLORIDE | 0.5 | | BROMINE | | | | ~ |
| D021 | CHLOROBENZENE | 100.0 | | CHLORINE | | | | ····· |
| D022 | CHLOROFORM | 6.0 | | FLUORINE | | | | ····· |
| D028 | 1,2-DICHLOROETHANE | 0.5 | | IODINE | | | | ····· |
| D028 | 1,1-DICHLOROETHYLENE | 0.5 | | SULFUR | | | | ····· |
| D025 | METHYL ETHYL KETONE | | | POTASSIUM | | | | ····· |
| | | 200.0 | | SODIUM | | | | ····· |
| D039 | TETRACHLOROETHYLENE | 0.7 | | AMMONIA | | | | ····· 🛱 ····· |
| D040 | TRICHLOROETHYLENE | 0.5 | | | | | | ····· \\ |
| D043 | VINYL CHLORIDE | 0.2 | | CYANIDE AMENABLE | | | | ····- |
| | SEMI-VOLATILE COMPOUNDS | S | | CYANIDE REACTIVE | | | | 🚤 |
| D023 | o-CRESOL | 200.0 | | CYANIDE TOTAL | | | | <u>~</u> |
| D024 | m-CRESOL | 200.0 | | SULFIDE REACTIVE | | | | <u> </u> |
| D025 | p-CRESOL | 200.0 | | HOCs | | PCBs | | |
| D026 | CRESOL (TOTAL) | 200.0 | | - NONE | | ✓ NON | = | |
| D027 | 1,4-DICHLOROBENZENE | 7.5 | | < 1000 PPM | | < 50 | | |
| D030 | 2,4-DINITROTOLUENE | 0.13 | | >= 1000 PPM | | >=50 | | |
| D032 | HEXACHLOROBENZENE | 0.13 | | | | | | IT IOTUE |
| D033 | HEXACHLOROBUTADIENE | 0.5 | | | | | RE PRESEN :GULATED I | BY TSCA 40 |
| D034 | HEXACHLOROETHANE | 3.0 | | | | CFR 761? | | |
| D036 | NITROBENZENE | 2.0 | | • | | YE | s 🗸 | NO |
| D037 | PENTACHLOROPHENOL | 100.0 | | - | | | | |
| D038 | PYRIDINE | 5.0 | | <u>-</u> | | | | |
| D041 | 2,4,5-TRICHLOROPHENOL | 400.0 | | • | | | | |
| D042 | 2,4,6-TRICHLOROPHENOL | 2.0 | | • | | | | |
| | PESTICIDES AND HERBICIDE | | | - | | | | |
| D012 | ENDRIN | 0.02 | | | | | | |
| D013 | LINDANE | 0.4 | | - | | | | |
| D014 | METHOXYCHLOR | 10.0 | | - | | | | |
| D014 | | 0.5 | | - | | | | |
| D016 | 2,4-D | 10.0 | | - | | | | |
| D010 | | 1.0 | | - | | | | |
| | 2,4,5-TP (SILVEX) | | | | | | | |
| D020 | CHLORDANE | 0.03 | | - | | | | |
| D031 | HEPTACHLOR (AND ITS EPOXIDE |) 0.008 | | | | | | |

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES NO (If yes, explain)

CHOOSE ALL THAT APPLY

DEA REGULATED SUBSTANCES EXPLOSIVE FUMING OSHA REGULATED CARCINOGENS
POLYMERIZABLE RADIOACTIVE REACTIVE MATERIAL ✓ NONE OF THE ABOVE



Clean Harbors Profile No. CH1723064

| YES | | STAT | US | | | | | | | | |
|--|---|---|--|--|---|--|--|--|--|--|--|
| | - | NO | USEPA HAZARDOUS V | VASTE? | | | | | | | |
| YES | ~ | NO | DO ANY STATE WASTE | E CODES APPLY? | | | | | | | |
| | | | Tayas Wasta Coda | | | | | | | | |
| YES | | NO | | O ANY CANADIAN PROVINCIAL WASTE CODES APPLY? | | | | | | | |
| | | | | STATE THE TO SECOND FOR | | | | | | | |
| YES | ~ | NO | IS THIS WASTE PROHI | BITED FROM LAND DISPOSAL WITHOUT FURTHER TRE | ATMENT PER 40 CFR PART 268? | | | | | | |
| | | | VARIANCE INFO: | Not subject to LDR | | | | | | | |
| YES | ~ | NO | IS THIS A UNIVERSAL | WASTE? | | | | | | | |
| YES | | NO | IS THE GENERATOR O | F THE WASTE CLASSIFIED AS VERY SMALL QUANTITY | GENERATOR (VSQG) OR A STATE EQUIVALENT DESIGNATION? | | | | | | |
| YES | | NO | | NG TO BE MANAGED AS A RCRA EXEMPT COMMERCIA | | | | | | | |
| YES | - | NO | | THIS WASTE GENERATE A F006 OR F019 SLUDGE? | 1-1-1-1 | | | | | | |
| YES | | NO | | M SUBJECT TO THE INORGANIC METAL BEARING WAS | TE PROHIBITION FOUND AT 40 CFR 268 3(C)? | | | | | | |
| YES | ~ | NO | | NTAIN VOC'S IN CONCENTRATIONS >=500 PPM? | | | | | | | |
| YES | | NO | | NTAIN GREATER THAN 20% OF ORGANIC CONSTITUEN | TS WITH A VAPOR PRESSURE >= 3KPA / 044 PSIA)? | | | | | | |
| YES | | NO | | | FORM HAS A VAPOR PRESSURE > 77 KPA (11.2 PSIA)? | | | | | | |
| YES | - | NO | | | FORM HAS A VAPOR PRESSURE > 17 KPA (11.2 PSIA)? | | | | | | |
| YES | - | NO | | LATED (SUPERFUND) WASTE ? CT TO ONE OF THE FOLLOWING NESHAP RULES? | | | | | | | |
| 120 | 256 | 140 | | | ON THE STATE OF THE PARTY. | | | | | | |
| | | 1.2 | | | uticals production (subpart GGG) | | | | | | |
| YES | | NO | IF THIS IS A US EPA HA | AZARDOUS WASTE, DOES THIS WASTE STREAM CONTA | AIN BENZENE? | | | | | | |
| | The | at is the | NO is the generating TAB quantity for your fac | g source of this waste stream a facility with Total Annual Ber | | | | | | | |
| | | | io mioritage | | | | | | | | |
| G. DO1 | /TDG II | NFOR | MATION | | | | | | | | |
| | | | | | | | | | | | |
| DOT/TDG | PROPE | R SH | MATION | , PFAS) | | | | | | | |
| NC I. TRANS | PROPE ON D.O | TION | MATION PPING NAME: EGULATED, (WATER | | | | | | | | |
| NC NC | PROPE ON D.O | TION | MATION PPING NAME: | | LY OTHER | | | | | | |
| NC I. TRANS | PROPE ON D.O | TION MENT | MATION PPING NAME: EGULATED, (WATER | | LY OTHER BULK SOLID | | | | | | |
| NC I. TRANS | PROPE ON D.O PORTA D SHIP | TION MENT | MATION PPING NAME: EGULATED, (WATER REQUIREMENTS FREQUENCY ONE | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID | BULK SOLID | | | | | | |
| NC I. TRANS STIMATE 1 TORAGE | PORTA D SHIP CONT | TION MENT CO | MATION PPING NAME: EGULATED, (WATER REQUIREMENTS FREQUENCY ONE | TIME WEEKLY MONTHLY QUARTERLY YEAR | BULK SOLID GAL. SHIPMENT UOM: TON YARD | | | | | | |
| NC I. TRANS ESTIMATE I. TORAGE CONTAINE | PORTA D SHIP CONT | ATION MENT CO | MATION PPING NAME: EGULATED, (WATER REQUIREMENTS FREQUENCY ✓ ONE NTAINERIZED RS/SHIPMENT | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max | BULK SOLID | | | | | | |
| I. TRANS ESTIMATE TORAGE CONTAINE | PROPE DN D.O PORTA D SHIP CONT CAPAC | TION MENT CO TAINER | MATION PPING NAME: EGULATED, (WATER REQUIREMENTS FREQUENCY ONE NTAINERIZED RS/SHIPMENT | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max | BULK SOLID GAL. SHIPMENT UOM: TON YARD | | | | | | |
| I. TRANSESTIMATE 1 STORAGE CONTAINE | PROPE DN D.O PORTA D SHIP CONT CAPAC ER TYPE | TION MENT CO TAINER | MATION PPING NAME: EGULATED, (WATER REQUIREMENTS FREQUENCY ONE INTAINERIZED RS/SHIPMENT BOXICARTONICAL DRUM | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max | BULK SOLID GAL. SHIPMENT UOM: TON YARD | | | | | | |
| NC I. TRANS STIMATE TORAGE CONTAINE PC CL OT | PROPE DN D.O PORTA D SHIP CONT CAPAC ER TYPE PRIABLE 1 | ATION MENT CO TAINEF CITY: E: TOTE TAI | MATION PPING NAME: EGULATED, (WATER REQUIREMENTS FREQUENCY ✓ ONE NTAINERIZED RS/SHIPMENT #K BOXICARTONICA | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max | BULK SOLID GAL. SHIPMENT UOM: TON YARD | | | | | | |
| NC I, TRANS STIMATE TORAGE CONTAINE PC CL OT | PROPE DN D.O PORTA D SHIP CONT CAPAC R TYPE PRIABLE 1 HER | TION MENT CO CAINER CITY: E: TOTE TAIN BOX | PPING NAME: EGULATED, (WATER: REQUIREMENTS FREQUENCY ONE NTAINERIZED RS/SHIPMENT WE BOXICARTONICA DRUM DRUM SIZE 55 | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max | BULK SOLID GAL. SHIPMENT UOM: TON YARD | | | | | | |
| NC I, TRANS STIMATE TORAGE CONTAINE PC CL OT | PROPE DN D.O PORTA D SHIP CONT CAPAC ER TYPE PRIABLE 1 | TION MENT CO CAINER CITY: E: TOTE TAIN BOX | PPING NAME: EGULATED, (WATER: REQUIREMENTS FREQUENCY ONE NTAINERIZED RS/SHIPMENT WE BOXICARTONICA DRUM DRUM SIZE 55 | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max | BULK SOLID GAL. SHIPMENT UOM: TON YARD | | | | | | |
| NC I, TRANS STIMATE TORAGE CONTAINE PC CL OT | PROPE DN D.O PORTA D SHIP CONT CAPAC R TYPE PRIABLE 1 HER | TION MENT CO CAINER CITY: E: TOTE TAIN BOX | PPING NAME: EGULATED, (WATER: REQUIREMENTS FREQUENCY ONE NTAINERIZED RS/SHIPMENT WE BOXICARTONICA DRUM DRUM SIZE 55 | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max | BULK SOLID GAL. SHIPMENT UOM: TON YARD | | | | | | |
| NC I. TRANS STIMATE TORAGE CONTAINE PC CL OT I. SPECIA COMME | PROPE DN D.O PORTA D SHIP CONT CAPACE R TYPE RITABLE 1 BIC YARD HER | O.T. R ATION MENT COTAINER CITY E BOX UEST REQUI | PPING NAME: EGULATED, (WATER: REQUIREMENTS FREQUENCY ONE NTAINERIZED RS/SHIPMENT WE BOXICARTONICATION DRUM DRUM SIZE 55 | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max | BULK SOLID GAL. SHIPMENT UOM: TON YARD | | | | | | |
| NC I. TRANS STIMATE T STORAGE CONTAINE CL COMME COMME COMME COMME | PROPE DN D.O PORTA D SHIP CONT CAPAC R TYPE PRIABLE 1 BIC YARD HER L REQUENTS OR | ER SHI D.T. R TION MENT CO AINEF E E E E E E E E E E E E E E E E E E | MATION PPING NAME: EGULATED, (WATER. REQUIREMENTS FREQUENCY VONE NTAINERIZED RS/SHIPMENT BOXICATONICA DRUM TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max ASE | BULK SOLID GAL. SHIPMENT UOM: TON YARD | | | | | | |
| NC I. TRANS STIMATE T STORAGE CONTAINE CL COMME | PROPE DN D.O PORTA D SHIP CONT CAPAC R TYPE PRIABLE 1 BIC YARD HER L REQUENTS OR | ER SHI D.T. R TION MENT CO AINEF E E E E E E E E E E E E E E E E E E | MATION PPING NAME: EGULATED, (WATER. REQUIREMENTS FREQUENCY ONE NTAINERIZED RS/SHIPMENT DRUM DRUM DRUM SIZE 55 ESTS: TION DO execute this document as an sentative of the actual waste. If | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max ASE | GAL. SHIPMENT UOM: TON YARD TONS/YARDS/SHIPMENT: 0 Min - 0 Max | | | | | | |
| NC I. TRANS STIMATE I. SPECIA COMME COMM | PROPE DN D.O PORTA D SHIP CONT CAPAC ER TYPE ORTABLE 1 BIG YARD HER LL REQUENTS OR ENTS OR | ER SHI D.T. R TION MENT CO AINEF E B B B CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE MATION PPING NAME: EGULATED, (WATER. REQUIREMENTS FREQUENCY ONE NTAINERIZED RS/SHIPMENT DRUM DRUM DRUM SIZE 55 ESTS: TION DO execute this document as an sentative of the actual waste. If | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max ASE | GAL. SHIPMENT UOM: TON YARD TONS/YARDS/SHIPMENT: 0 Min - 0 Max | | | | | | |
| NC I. TRANS STIMATE I. SPECIA COMME COMM | PROPE DN D.O PORTA D SHIP CONT CAPAC ER TYPE ORTABLE 1 BIG YARD HER LL REQUENTS OR ENTS OR | ER SHI D.T. R TION MENT CO AINEF E B B B CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE CO TO AINEF CO TO AINE CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINEF CO TO AINE PPING NAME: EGULATED, (WATER. REQUIREMENTS FREQUENCY ONE INTAINERIZED RS/SHIPMENT DRUM DRUM SIZE 55 ESTS: TION o execute this document as an asentative of the actual waste. If he discrepancy. | TIME WEEKLY MONTHLY QUARTERLY YEAR BULK LIQUID GALLONS/SHIPMENT: 0 Min -0 Max ASE authonized agent. 1 hereby certify that all information submitted in this Clean Harbors discovers a discrepancy during the approval process, C | BULK SOLID GAL. SHIPMENT UOM: TON YARD TONS/YARDS/SHIPMENT: 0 Min - 0 Max and attached documents is correct to the best of my knowledge. I also certify that any Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors | | | | | | |



DATI V TAILGATE SAFETY BRIEFING SIGN-IN LOG

Site Address:

SAME

SC PPW 7/12/2018

| 11 | 112689 | WORK ORDER NØ2 1805327285 |
|---------------|--|------------------------------|
| DOCUMENT NO. | STRAIGHT BILL OF LADING | |
| TRANSPORTER 1 | Clean Harbors Environmental Services, Inc. | VEHICLE ID # |
| EPAID# | WAD03932250 | TRANS. 1 PHONE (781)792-5000 |
| TRANSPORTER 2 | | VEHICLE ID # |
| EPA ID # | | TRANS. 2 PHONE |
| | | |

| DESIGNATED | FACILITY Grove Reso | urce Rec | overy inc. | | SHIPPER New York Air Na | tional Guard | | |
|--------------------------|---------------------|----------|--|------------------------------------|----------------------------|--------------|------------------|---------------|
| FACILITY EP | | | | | SHIPPER EPA III | 5897 | | |
| ADDRESS795 | Spring Grove | Avenue | | | ADDRESS Conai C | auard Road S | chenectady Air N | lational Guar |
| CITY | | | STATE | | CITY | | STATE Z | 12302 |
| CONTAINERS NO. & SIZE | TYPE | нм | OH | DESCRIPTION | OF MATERIALS | | TOTAL QUANTITY | UNIT |
| 125 | 0- | | A. NON D.O. | | | | 500 | P |
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| | | | C. | | | | | |
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| | | | E. | | | | | |
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| | | | G. | | | | | |
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| ECIAL HANDI | IN IO IN IOT | DUOTIO | 2010 | | | | | |

SPECIAL HANDLING INSTRUCTIONS

A.CH1723068 B.CH1723064

EMERGENCY PHONE #: (800) 483-3718

GENERATOR: New York Air National Guard

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

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|---------------------------------|---|--|
| TRANSPORTER 1 PRINT PRINT | SIGN | DATE |
| TRANSPORTER 2 PRINT RECEIVED BY | SIGN | DATE |



DAILY TAILGATE SAFETY BRIEFING SIGN-IN LOG Date: 16/22/18 Time: 15-30 Briefing Conducted By. Signature: This sign-in log documents the tailgate safety briefing conducted in accordance with 29 CFR. 1910.120 "Hazardous Waste Operations and Emergency Response" as well as other applicable regulatory requirements. Personnel who perform work operations onsite are required to attend each safety briefing and acknowledge receipt of such briefings daily. **TOPICS COVERED:** Emergency Procedures General PPE usage Decontamination Procedures Smoking, Eating, & Drinking Existing Work Zones Hearing Conservation Slips, Trips, and Falls Respiratory Protection Lockout/Tag out Safety Heat/Cold Stress Personal Hygiene Excavation/Confined Space Safety Exposure Guidelines ☐ Site Control New Work Procedures **Personnel Sign-in List Printed Name** Company Name

onsite 1515 CH: 1535
meet with Jen for escort

1112689

WORK ORDER NO. 1805321285

| DOCUMENT NO | O . | | STRAIGHT BIL | L OF LADING | | | |
|-----------------------------|---------------|---------|--------------------------------|-----------------|-------------|-------------------|----------------|
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| EPA ID # | | MADU | 39342250 | | TRANS. 1 PH | IONE (/63.) / | ay 6000 . |
| TRANSPORTER | 32 | | | | VEHICLE ID | # | |
| EPA ID # | | | | | TRANS. 2 PH | IONE | |
| DESIGNATED | FACILITY | ice hec | every inc. | SHIPPER | | | |
| FACILITY EPA | ID# 100 | 28 | | SHIPPER EPA I | D # | | |
| ADDRESS/ # 54 | piing Grove : | Avenue | | ADDRESS | (4 9 | 1.0 | ru i ta i |
| City | 518 | | STATE ZIP | CITY | | STATE Z | ZIP U |
| CONTAINERS NO. & SIZE | TYPE | НМ | | ON OF MATERIALS | | TOTAL QUANTITY | UNIT WT/VOL |
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SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

| / / | PRINT Employed by AFCOM | SIGN | DATE |
|-----------------|--------------------------|--|----------|
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| | PRINT / () P | SIGN | DATE |
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| 14224K | Chry Custer | | |
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| A. No-time Re-52-1: 60. Grand, Wash | 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Arcen 2 | |
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