SHANNON & WILSON
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

February 13, 2023

Mr. Andrew Niemiec, P.E.
Stantec
2515 A Street
Anchorage, Alaska 99503

RE: FINAL REVISION 1 – PFAS INVESTIGATION REPORT, DEADHORSE AIRPORT (SCC) FENCE INSTALLATION PROJECT NFAPT00549, AIP 3-02-0339-XXX-20XX, DEADHORSE, ALASKA

Dear Mr. Niemiec,

Shannon & Wilson, Inc has prepared this revised letter report to document our findings from the initial per- and polyfluoroalkyl substances (PFAS) analytical sampling at the Deadhorse Airport (SCC) in Deadhorse, Alaska (Figure 1). The findings supersede those provided in the previous version of this letter report. This work was completed in association with Stantec and the Alaska Department of Transportation & Public Facilities (DOT&PF).

## PURPOSE AND SCOPE OF SERVICES

The purpose of this investigation was to provide analytical information for PFAS and other potential contaminants in areas that will require soil disturbing activities during the SCC Fence Installation Project NFAPT00549 (AIP 3-02-0339-XXX-20XX). We understand the project includes:

- drainage improvements at SCC, including drainage along Deadhorse Drive;
- relocating utilities impacted by drainage improvements;
- regrading and filling in fields for wildlife control and drainage;
- constructing wildlife fence and fence service roads (including security fence improvements as may be identified); and
- other airport improvements as requested (i.e., filling areas of poor drainage near taxiways).

Based on our understanding of the project, ground disturbing activities are limited to culvert areas and drainage ditches that will be upgraded to improve overall site drainage. The other activities will not disturb existing soils.


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Our scope of services, as documented in our March 21, 2022 proposal, included pre-investigation and soil sampling activities, analytical laboratory testing, and reporting. Our scope was performed in accordance with the Alaska Department of Environmental Conservation (DEC) approved *DOT&PF Deadhorse Airport Preliminary PFAS Investigation Work Plan* (Work Plan), dated May 2022.

## CONTAMINANTS OF CONCERN

The primary contaminants of concern for the site are perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), two PFAS commonly found at airports and fire training areas. This preliminary investigation and overall improvement project did not include ground disturbances at aqueous film forming foam (AFFF) training areas, although several culvert replacements are adjacent to or along the drainage system associated with AFFF training areas. In addition, there are several known contaminated sites adjacent to the soil disturbing areas or within the drainage system. The primary contaminants of concern for these sites are fuel analytes. Figure 2 displays the approximate location of the contaminated sites in relation to the culverts and drainage areas. Refer to the DEC-approved Work Plan for a list of active DEC Contaminated Sites in the area.

The contaminants of concern for this preliminary investigation include:

- gasoline range organics (GRO);
- diesel range organics (DRO);
- benzene, toluene, ethylbenzene, and xylenes (BTEX);
- polynuclear aromatic hydrocarbons (PAHs); and
- PFAS.

## FIELD ACTIVITIES

Shannon & Wilson personnel, Mason Craker (DEC qualified sampler) collected 32 near-surface soil samples from inlets and outlets for each of the nine culverts within the secure area and seven culverts along Deadhorse Drive. A total of 32 primary PFAS samples were collected with an additional three field-duplicate samples collected for quality control (QC) purposes. Of the primary samples, 24 sample locations were near contaminated sites

**Exhibit 1** – Drainage ditch and culvert within the secured area.

or along the drainage from contaminated sites. Theses samples were also analyzed for GRO, DRO, BTEX, and PAHs. Drainage ditches were partially frozen during field activities, with some sections of standing water. Soils consisted of mostly wet gravel. Samples were collected from the walls of the drainage ditch directly above the water level and just below the vegetated surface, if present. Copies of our field logs are presented in Appendix A.

## SAMPLE CUSTODY, STORAGE, AND TRANSPORT

Immediately after collection, Shannon & Wilson placed PFAS sample jars into Ziploc bags and stored the soil samples in a designated sample cooler. The samples for fuel analyses were wrapped in bubble wrap and placed in a separate cooler. The coolers were maintained between 0 °C and 6 °C with frozen gel ice, using packing material as necessary to prevent bottle breakage. Trip blanks were kept with the volatile samples during sampling and packed in the fuel sample cooler during transport. Shannon & Wilson is aware of the potential for cross-contamination of PFAS samples from numerous everyday household items and took appropriate precautions to prevent cross-contamination.

Shannon & Wilson shipped the PFAS sample cooler to Eurofins Environmental Testing America (Eurofins) in West Sacramento, California on June 10, 2022 using Alaska Air Cargo priority service direct from SCC. Samples were kept refrigerated by Alaska Air Cargo until picked up by Eurofins staff. PFAS samples were submitted for determination of the 18 PFAS analytes by the Modified EPA Method 537 compliant with the DoD-QSM Version 5.3 Table B-15.

Shannon & Wilson hand delivered samples for GRO, DRO, BTEX, and PAHs analysis to the SGS North America, Inc. (SGS) Fairbanks receiving office on June 13, 2022. The samples were submitted for determination of fuel analyses by the following methods:

- GRO by the Alaska Method AK101;
- DRO by the Alaska Method AK102;
- BTEX by the Environmental Protection Agency (EPA) Method SW8260D; and
- PAH by the EPA Method SW8270D-SIM.

Shannon & Wilson completed a Chain of Custody (COC) record at the time each cooler was packed. The COC records were placed in plastic bags and taped to the inside of the corresponding cooler. The COC records document sample possession from the point of collection to the time of receipt by the laboratory sample-control center and through

analysis by the laboratory. A copy of the COC records was kept to identify sample custody between field and laboratory.

## ANALYTICAL RESULTS

The PFAS analytical results were reported by Eurofins in work order number 320-89051-1, dated July 7, 2022 (Appendix B). The fuels analytical results were reported by SGS in work order number 1223040, dated July 12, 2022 (Appendix C). In accordance with the DEC-approved Work Plan, analytical results were compared to the most stringent DEC Cleanup Levels from 18 AAC 75 *Table B1. Method Two – Soil Cleanup Levels* and *Table B2. Method Two – Arctic Zone*. Summaries of the PFAS and fuel analytical results are presented in Table 1 and Table 2, respectively. Below is a discussion of the analytical results.

- One or more PFAS analytes were detected in 30 of the 32 primary samples (Table 1). PFOS detections exceeded the DEC Migration to Groundwater Cleanup Level of 3.0 micrograms per kilogram (µg/kg) in samples *22SCC-SS-9*, *22SCC-SS-11*, *22SCC-SS-12*, *22SCC-SS-25*, *22SCC-SS-125*, and *22SCC-SS-28*. These samples had detections for PFOS ranging from to 3.7 µg/kg to 31 µg/kg.
- Several fuel analytes were detected in the 24 primary samples (Table 2). Of the detected results, only benzene was detected above the DEC Migration to Groundwater Cleanup Level of 0.022 milligrams per kilogram (mg/kg) in sample *22SCC-SS-9* at a concentration of 0.0247 mg/kg.
- The remaining detections were below the DEC Cleanup Levels, where such limits exist.

The PFOS results are displayed in Figures 3 – 7.

### QUALITY ASSURANCE / QUALITY CONTROL

Quality Assurance/Quality Control (QA/QC) procedures assist in producing data of acceptable quality and reliability. Shannon & Wilson reviewed the analytical results for laboratory QC samples and conducted a QA assessment for this project. The QA assessment included a review of the chain-of -custody records and laboratory-receipt forms to check that custody was not breached, sample holding-times were met, and the samples were properly handled from the point of collection through analysis by the laboratory. The QA review procedures allowed Shannon & Wilson to document the accuracy and precision of the analytical data, as well as check the analyses were sufficiently sensitive to detect analytes at levels below regulatory standards.

Shannon & Wilson reviewed the data using the current DEC Laboratory Data Review Checklist (LDRC; Appendices B and C). During the QC review, Shannon & Wilson applied flags indicating estimated data or analytical bias due to QC failures, as follows.

- Samples *22SCC-SS-4*, *22SCC-SS-15*, *22SCC-SS-16*, *22SCC-SS-20*, *22SCC-SS-120*, *22SCC-SS-22*, *22SCC-SS-23*, and *22SCC-SS-24* were analyzed at a dilution for PAH analysis due to the dark color of the laboratory extract. As a result, the laboratory limit of detection (LOD) for naphthalene exceeded the DEC Soil-Cleanup Level for these samples. The analyte was not detected in the project samples; however, we cannot assess if the analyte is present in the samples at concentrations greater than the DEC Soil-Cleanup Levels, but less than the LOD. These analytes are identified in bold in the analytical summary table.
- GRO were detected at estimated concentrations (less than the laboratory limit of quantitation [LOQ]) in the method blank samples. The project samples had similar detections for GRO at estimated concentrations less than five times the associated method blank sample detections. The project sample results are considered possible laboratory artifacts. The results are considered non-detect at the LOQ and are flagged "B*" in the analytical summary tables due to the potential for laboratory cross contamination. We note, the LOQs are reported below the DEC Soil-Cleanup Levels for this analyte and the results are considered usable for decision making for this project.
- The field duplicate pair *22SCC-SS-10* / *22SCC-SS-110* had precision errors for perfluorohexanesulfonic acid (PFHxS) and PFOS. The sample results are considered estimated, no direction of bias, and are flagged "J*" in the analytical summary tables. However, the higher detected result between the duplicate pair is reported at a concentration below applicable DEC Soil-Cleanup Levels for these analytes and the results are considered usable for decision making for this project.
- The transition mass ratio for PFOS for samples *22SCC-SS-3*, *22SCC-SS-4*, *22SCC-SS-5*, *22SCC-SS-6*, *22SCC-SS-8*, *22SCC-SS-14*, *22SCC-SS-15*, *22SCC-SS-16*, *22SCC-SS-17*, *22SCC-SS-18*, *22SCC-SS-19*, *22SCC-SS-20*, *22SCC-SS-120*, *22SCC-SS-23*, *22SCC-SS-27*, *22SCC-SS-29*, *22SCC-SS-30*, and *22SCC-SS-31* were outside laboratory ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. The sample results are considered estimated, biased high, and are flagged "JH*" in the analytical summary tables. However, the reported results with these failures did not have detections that exceeded the DEC Soil-Cleanup Levels for PFOS, and the results are considered usable for decision making for this project.

Additional QC failures were observed that did not affect the sample results. Refer to the LDRCs for additional details (Appendices B and C).

## DISCUSSION AND CLOSURE

PFOS was detected above the DEC Soil-Cleanup Level in six soil samples from the project area. These PFAS exceedances are located as follows:

- Sample *22SCC-SS-9* was collected from the culvert along Deadhorse Drive near the Northern Oilfield Services Fuel Station;
- Samples *22SCC-SS-11* and *22SCC-SS-12* were collected from the culvert along Deadhorse Drive near the CCI, Inc. General Contractors lot;
- Samples *22SCC-SS-25* and the field-duplicate *22SCC-SS-125* were collected from the culvert within the secured area along the western edge of the Terminal Apron; and
- Sample *22SCC-SS-28* was collected from the culvert within the secured area along Taxiway B.

In addition, benzene was detected above the DEC Soil-Cleanup Level in soil sample *22SCC-SS-9* from the culvert along Deadhorse Drive near the Northern Oilfield Service Fuel Station. This detection is consistent with fuel contamination observed in soils at the Contaminated Site NANA Oilfield Services Fuel Station (DEC File Number 300.38.298; Hazard ID 25765).

Proper handling and disposal should be conducted for PFAS and benzene exceedances for soil excavated during construction at the areas identified above the DEC Soil-Cleanup Levels in this preliminary investigation. This conclusion should be re-evaluated if regulatory limits change prior to commencement of earth disturbing activities, observations during construction suggest the presence of PFAS or fuel contaminants, or other information becomes available regarding the potential for contaminants to be present.

Shannon & Wilson has prepared the enclosed document "*Important Information about Your Geotechnical/Environmental Report*" to assist you and others in understanding the use and limitations of this report. This data report was prepared for the exclusive use of the Stantec and their representatives in accordance with our scope of services. Regulatory agencies may reach different conclusions than Shannon & Wilson.

Shannon & Wilson's observations represent site conditions as they existed during our June 2022 sampling effort. Our observations are specific to the locations and dates noted herein and may not be applicable to all areas of the site. This analytical testing effort cannot precisely predict the characteristics, quality, or distribution of contamination throughout the site.

Potential variations include, but are not limited to:

- The conditions between sampling points may be different than those observed at the sampling points.
- The passage of time or intervening causes (natural and manmade) may result in changes to site conditions.
- Contaminant concentrations may change in response to other natural processes, chemical reactions, and/or other events.
- The presence, distribution, and concentration of contaminants throughout the project area may vary from those observed at our sampling locations. Our tests may not represent the highest contaminant concentrations at the site.

The report should not be used without our approval if any of the following occurs:

- Project details change or new information becomes available, such as revised regulatory levels or the discovery of additional source areas.
- Conditions change due to natural forces or human activity at, under, or adjacent to the project site.
- If the site ownership or land use has changed.
- If the land use or site ownership has changed.
- Regulations, laws, or cleanup levels change.
- If the site's regulatory status has changed.

## REFERENCES

Alaska Department of Environmental Conservation, May 202, *Laboratory Data Review Checklist*, available at: https://dec.alaska.gov/spar/csp/guidance-forms.

Alaska Department of Environmental Conservation, November 2021, *18 AAC 75: Oil and Other Hazardous Substances Pollution Control*, available at: https://dec.alaska.gov/commish/regulations/.

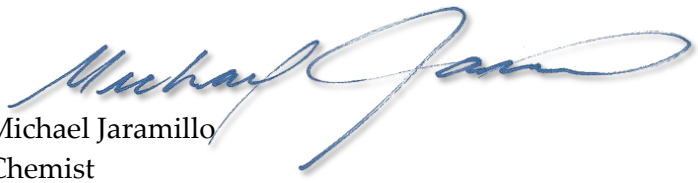
Alaska Department of Environmental Conservation, January 2022, *Field Sampling Guidance for Contaminated Sites and Leaking Underground Storage Tank Sites*, available at: https://dec.alaska.gov/spar/csp/guidance-forms.

Alaska Department of Environmental Conservation, August 15, 2022, *Guidelines for Data Reporting Technical Memorandum 22-001*, available at: https://dec.alaska.gov/spar/csp/guidance-forms.

If any of these occur, we should be retained to review the applicability or our analyses, conclusions, and recommendations.

Sincerely,

SHANNON & WILSON



Michael Jaramillo
Chemist

MXJ:KRF:CBD/czh:mxj

Enc. Table 1 – June 2022 PFAS Analytical Summary
Table 2 – June 2022 Fuels Analytical Summary
Figure 1 – Vicinity Map
Figure 2 – DEC Contaminated Sites and Drinking Water Protection Areas
Figure 3 – Surface Soil PFAS Results
Figure 4 – Surface Soil PFAS Results – West Deadhorse Drive
Figure 5 – Surface Soil PFAS Results – East Deadhorse Drive
Figure 6 – Surface Soil PFAS Results – T/W A East
Figure 7 – Surface Soil PFAS Results – T/W A West
Appendix A – Field Logs
Appendix B – Eurofins Laboratory Report and LDRC
Appendix C – SGS Laboratory Report and LDRC

## Table 1 — June 2022 PFAS Analytical Results Summary

| Analytical Method | Analyte | Regulatory Limit | Units | *22SCC-SS-1* | *22SCC-SS-2* | *22SCC-SS-3* | *22SCC-SS-4* | *22SCC-SS-5* | *22SCC-SS-6* | *22SCC-SS-7* | *22SCC-SS-8* | *22SCC-SS-9* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EPA 537M (PFAS) | Perfluorohexanesulfonic acid (PFHxS) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | 0.43 | <0.20 | 3.2 |
| | Perfluorohexanoic acid (PFHxA) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | 0.034 J | 0.047 J | <0.22 | 0.090 J | 0.073 J | 0.52 |
| | Perfluoroheptanoic acid (PFHpA) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | <0.20 | <0.20 | 0.14 J |
| | Perfluorononanoic acid (PFNA) | NE | µg/Kg | <0.21 | <0.21 | 0.038 J | <0.21 | 0.14 J | 0.078 J | 0.071 J | <0.20 | 0.12 J |
| | Perfluorobutanesulfonic acid (PFBS) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | <0.20 | <0.20 | 0.13 J |
| | Perfluorodecanoic acid (PFDA) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | <0.20 | <0.20 | 0.071 J |
| | Perfluoroundecanoic acid (PFUnA) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | 0.29 | 0.17 J | <0.20 | <0.20 | 0.22 J |
| | Perfluorododecanoic acid (PFDoA) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | <0.20 | <0.20 | <0.23 |
| | Perfluorotridecanoic acid (PFTrDA) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | 0.17 J | 0.098 J | <0.20 | <0.20 | 0.031 J |
| | Perfluorotetradecanoic acid (PFTeA) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | <0.20 | <0.20 | <0.23 |
| | N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | <0.20 | <0.20 | <0.23 |
| | N-Ethyl perfluorooctane sulfonamidoacetic acid (N-EtFOSAA) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | <0.20 | <0.20 | <0.23 |
| | 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | <0.20 | <0.20 | <0.23 |
| | 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | <0.20 | <0.20 | <0.23 |
| | 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | <0.20 | <0.20 | <0.23 |
| | Hexafluoropropylene oxide dimer acid (HFPO-DA) | NE | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | <0.20 | <0.20 | <0.23 |
| | Perfluorooctanesulfonic acid (PFOS) | 3.0 | µg/Kg | <0.21 | <0.21 | 0.62 JH* | 0.52 JH* | 0.40 JH* | 1.5 JH* | 1.2 | 0.57 JH* | **16** |
| | Perfluorooctanoic acid (PFOA) | 1.7 | µg/Kg | <0.21 | <0.21 | <0.23 | <0.21 | <0.21 | <0.22 | 0.097 J | <0.20 | 0.45 |

Notes:

Results reported from Eurofins Environmental Testing America work order 320-89051-1.

Regulatory limit obtained from the most stringent Cleanup Level from 18 AAC 75 *Table B1. Method Two - Soil Cleanup Levels* .

PFAS analyzed by the Modified EPA 537 Method compliant with the DoD QSM Version 5.3 Table B-15.

Sample *22SCC-SS-110* is a field duplicate of sample *22SCC-SS-10* .

Sample *22SCC-SS-120* is a field duplicate of sample *22SCC-SS-20* .

Sample *22SCC-SS-125* is a field duplicate of sample *22SCC-SS-25* .

NE Regulatory limit not established for the given analyte.

< Analyte not detected; listed as less than the reporting limit (RL) unless otherwise flagged due to quality-control failures.

J Estimated concentration, detected greater than the method detection limit (MDL) and less than the reporting limit (RL). Flag applied by the laboratory.

J* Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson, Inc. (*)

JH* Estimated concentration, biased high due to quality control failures. Flag applied by Shannon & Wilson, Inc. (*)

DoD = Department of Defense; DUP = field duplicate; EPA = Environmental Protection Agency; µg/kg = microgram per kilogram; PFAS = per- and polyfluoroalkyl substances; QSM = Quality Systems Manual

## Table 1 — June 2022 PFAS Analytical Results Summary

| Analytical Method | Analyte | Regulatory Limit | Units | *22SCC-SS-10* | *22SCC-SS-110* DUP | *22SCC-SS-11* | *22SCC-SS-12* | *22SCC-SS-13* | *22SCC-SS-14* | *22SCC-SS-15* | *22SCC-SS-16* | *22SCC-SS-17* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EPA 537M (PFAS) | Perfluorohexanesulfonic acid (PFHxS) | NE | µg/Kg | 0.69 J* | 0.28 J* | 0.14 J | 1.4 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | Perfluorohexanoic acid (PFHxA) | NE | µg/Kg | 0.096 J | <0.21 | <0.22 | 0.37 | <0.23 | <0.21 | 0.058 J | <0.23 | 0.037 J |
| | Perfluoroheptanoic acid (PFHpA) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | 0.058 J | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | Perfluorononanoic acid (PFNA) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | 0.060 J | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | Perfluorobutanesulfonic acid (PFBS) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | 0.044 J | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | Perfluorodecanoic acid (PFDA) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | <0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | Perfluoroundecanoic acid (PFUnA) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | <0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | Perfluorododecanoic acid (PFDoA) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | <0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | Perfluorotridecanoic acid (PFTrDA) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | <0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | Perfluorotetradecanoic acid (PFTeA) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | <0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | <0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | N-Ethyl perfluorooctane sulfonamidoacetic acid (N-EtFOSAA) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | <0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | <0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | <0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | <0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | Hexafluoropropylene oxide dimer acid (HFPO-DA) | NE | µg/Kg | <0.22 | <0.21 | <0.22 | <0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |
| | Perfluorooctanesulfonic acid (PFOS) | 3.0 | µg/Kg | 2.7 J* | 1.2 J* | **4.8** | **31** | 0.80 | 0.18 JH* | 2.5 JH* | 1.1 JH* | 0.50 JH* |
| | Perfluorooctanoic acid (PFOA) | 1.7 | µg/Kg | 0.063 J | <0.21 | <0.22 | 0.21 | <0.23 | <0.21 | <0.24 | <0.23 | <0.23 |

Notes:

Results reported from Eurofins Environmental Testing America work order 320-89051-1.

Regulatory limit obtained from the most stringent Cleanup Level from 18 AAC 75 *Table B1. Method Two - Soil Cleanup Levels* .

PFAS analyzed by the Modified EPA 537 Method compliant with the DoD QSM Version 5.3 Table B-15.

Sample *22SCC-SS-110* is a field duplicate of sample *22SCC-SS-10* .

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NE Regulatory limit not established for the given analyte.

< Analyte not detected; listed as less than the reporting limit (RL) unless otherwise flagged due to quality-control failures.

J Estimated concentration, detected greater than the method detection limit (MDL) and less than the reporting limit (RL). Flag applied by the laboratory.

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## Table 1 — June 2022 PFAS Analytical Results Summary

| Analytical Method | Analyte | Regulatory Limit | Units | *22SCC-SS-18* | *22SCC-SS-19* | *22SCC-SS-20* | *22SCC-SS-120* DUP | *22SCC-SS-21* | *22SCC-SS-22* | *22SCC-SS-23* | *22SCC-SS-24* | *22SCC-SS-25* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EPA 537M (PFAS) | Perfluorohexanesulfonic acid (PFHxS) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | Perfluorohexanoic acid (PFHxA) | NE | µg/Kg | 0.038 J | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | 0.041 J | 0.037 J |
| | Perfluoroheptanoic acid (PFHpA) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | Perfluorononanoic acid (PFNA) | NE | µg/Kg | 0.025 J | <0.22 | 0.051 J | 0.044 J | <0.21 | <0.21 | <0.22 | <0.21 | 0.17 J |
| | Perfluorobutanesulfonic acid (PFBS) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | Perfluorodecanoic acid (PFDA) | NE | µg/Kg | <0.21 | <0.22 | 0.072 J | 0.069 J | <0.21 | <0.21 | <0.22 | <0.21 | 0.090 J |
| | Perfluoroundecanoic acid (PFUnA) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | Perfluorododecanoic acid (PFDoA) | NE | µg/Kg | <0.21 | <0.22 | 0.036 J | 0.052 J | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | Perfluorotridecanoic acid (PFTrDA) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | Perfluorotetradecanoic acid (PFTeA) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | N-Ethyl perfluorooctane sulfonamidoacetic acid (N-EtFOSAA) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | 0.080 J | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | Hexafluoropropylene oxide dimer acid (HFPO-DA) | NE | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | <0.22 |
| | Perfluorooctanesulfonic acid (PFOS) | 3.0 | µg/Kg | 0.26 JH* | 0.34 JH* | 1.1 JH* | 0.88 JH* | 1.2 | 1.4 | 0.61 JH* | 1.8 | **18** |
| | Perfluorooctanoic acid (PFOA) | 1.7 | µg/Kg | <0.21 | <0.22 | <0.24 | <0.25 | <0.21 | <0.21 | <0.22 | <0.21 | 0.12 J |

Notes:

Results reported from Eurofins Environmental Testing America work order 320-89051-1.

Regulatory limit obtained from the most stringent Cleanup Level from 18 AAC 75 *Table B1. Method Two - Soil Cleanup Levels* .

PFAS analyzed by the Modified EPA 537 Method compliant with the DoD QSM Version 5.3 Table B-15.

Sample *22SCC-SS-110* is a field duplicate of sample *22SCC-SS-10* .

Sample *22SCC-SS-120* is a field duplicate of sample *22SCC-SS-20* .

Sample *22SCC-SS-125* is a field duplicate of sample *22SCC-SS-25* .

NE Regulatory limit not established for the given analyte.

< Analyte not detected; listed as less than the reporting limit (RL) unless otherwise flagged due to quality-control failures.

J Estimated concentration, detected greater than the method detection limit (MDL) and less than the reporting limit (RL). Flag applied by the laboratory.

J* Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson, Inc. (*)

JH* Estimated concentration, biased high due to quality control failures. Flag applied by Shannon & Wilson, Inc. (*)

DoD = Department of Defense; DUP = field duplicate; EPA = Environmental Protection Agency; µg/kg = microgram per kilogram; PFAS = per- and polyfluoroalkyl substances; QSM = Quality Systems Manual

## Table 1 — June 2022 PFAS Analytical Results Summary

| Analytical Method | Analyte | Regulatory Limit | Units | *22SCC-SS-125* DUP | *22SCC-SS-26* | *22SCC-SS-27* | *22SCC-SS-28* | *22SCC-SS-29* | *22SCC-SS-30* | *22SCC-SS-31* | *22SCC-SS-32* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EPA 537M (PFAS) | Perfluorohexanesulfonic acid (PFHxS) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | Perfluorohexanoic acid (PFHxA) | NE | µg/Kg | 0.051 J | 0.040 J | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | Perfluoroheptanoic acid (PFHpA) | NE | µg/Kg | 0.050 J | 0.046 J | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | Perfluorononanoic acid (PFNA) | NE | µg/Kg | 0.23 | 0.038 J | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | Perfluorobutanesulfonic acid (PFBS) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | Perfluorodecanoic acid (PFDA) | NE | µg/Kg | 0.11 J | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | Perfluoroundecanoic acid (PFUnA) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | Perfluorododecanoic acid (PFDoA) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | Perfluorotridecanoic acid (PFTrDA) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | Perfluorotetradecanoic acid (PFTeA) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | N-Ethyl perfluorooctane sulfonamidoacetic acid (N-EtFOSAA) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | 4,8-Dioxa-3H-perfluorononanoic acid (DONA) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | Hexafluoropropylene oxide dimer acid (HFPO-DA) | NE | µg/Kg | <0.22 | <0.22 | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |
| | Perfluorooctanesulfonic acid (PFOS) | 3.0 | µg/Kg | **21** | 1.9 | 0.62 JH* | **3.7** | 0.12 JH* | 0.12 JH* | 0.44 JH* | 0.48 |
| | Perfluorooctanoic acid (PFOA) | 1.7 | µg/Kg | 0.14 J | 0.096 J | <0.21 | <0.23 | <0.22 | <0.21 | <0.23 | <0.21 |

Notes:

Results reported from Eurofins Environmental Testing America work order 320-89051-1.

Regulatory limit obtained from the most stringent Cleanup Level from 18 AAC 75 *Table B1. Method Two - Soil Cleanup Levels* .

PFAS analyzed by the Modified EPA 537 Method compliant with the DoD QSM Version 5.3 Table B-15.

Sample *22SCC-SS-110* is a field duplicate of sample *22SCC-SS-10* .

Sample *22SCC-SS-120* is a field duplicate of sample *22SCC-SS-20* .

Sample *22SCC-SS-125* is a field duplicate of sample *22SCC-SS-25* .

NE Regulatory limit not established for the given analyte.

< Analyte not detected; listed as less than the reporting limit (RL) unless otherwise flagged due to quality-control failures.

J Estimated concentration, detected greater than the method detection limit (MDL) and less than the reporting limit (RL). Flag applied by the laboratory.

J* Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson, Inc. (*)

JH* Estimated concentration, biased high due to quality control failures. Flag applied by Shannon & Wilson, Inc. (*)

DoD = Department of Defense; DUP = field duplicate; EPA = Environmental Protection Agency; µg/kg = microgram per kilogram; PFAS = per- and polyfluoroalkyl substances; QSM = Quality Systems Manual

## Table 2 — June 2022 Fuels Analytical Results Summary

| Analytical Method | Analyte | Regulatory Limit | Units | *22SCC-SS-1* | *22SCC-SS-2* | *22SCC-SS-3* | *22SCC-SS-4* | *22SCC-SS-5* | *22SCC-SS-6* | *22SCC-SS-7* | *22SCC-SS-8* | *22SCC-SS-9* | *22SCC-SS-10* | *22SCC-SS-110* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AK101 | Gasoline Range Organics † | 1,400 | mg/kg | <4.62 B* | <6.03 B* | <2.82 B* | <2.60 B* | <2.57 B* | <2.60 B* | <2.40 B* | <2.03 B* | <3.08 B* | <2.30 B* | <2.49 B* |
| AK102 | Diesel Range Organics † | 12,500 | mg/kg | <11.1 | <11.1 | 22.0 J | 37.2 | 20.3 J | 23.8 | 16.3 J | 17.3 J | 36.1 | 22.6 J | 20.0 J |
| SW8260D (BTEX) | Benzene | 0.022 | mg/kg | <0.0116 | <0.0150 | <0.00705 | <0.00650 | <0.00640 | <0.00650 | <0.00600 | <0.00510 | **0.0247** | <0.00575 | <0.00620 |
| | Toluene | 6.7 | mg/kg | <0.0231 | <0.0302 | <0.0141 | <0.0130 | <0.0129 | <0.0130 | <0.0120 | <0.0101 | <0.0154 | <0.0115 | <0.0124 |
| | Ethylbenzene | 0.13 | mg/kg | <0.0231 | <0.0302 | <0.0141 | <0.0130 | <0.0129 | <0.0130 | <0.0120 | <0.0101 | 0.0111 J | <0.0115 | <0.0124 |
| | m,p-xylenes | 1.5 | mg/kg | <0.0462 | <0.0605 | <0.0283 | <0.0260 | <0.0256 | <0.0261 | <0.0240 | <0.0203 | 0.0348 J | <0.0230 | <0.0249 |
| | o-Xylene | | mg/kg | <0.0231 | <0.0302 | <0.0141 | <0.0130 | <0.0129 | <0.0130 | <0.0120 | <0.0101 | <0.0154 | <0.0115 | <0.0124 |
| | Total Xylenes | | mg/kg | <0.0695 | <0.0905 | <0.0423 | <0.0389 | <0.0385 | <0.0391 | <0.0360 | <0.0305 | 0.0348 J | <0.0345 | <0.0373 |
| SW8270D-SIM (PAH) | 1-Methylnaphthalene | 0.41 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | 0.00862 J | <0.0143 | <0.0138 |
| | 2-Methylnaphthalene | 1.3 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | 0.0120 J | <0.0143 | <0.0138 |
| | Acenaphthene | 37 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | <0.0143 | <0.0138 |
| | Acenaphthylene | 18 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | <0.0143 | <0.0138 |
| | Anthracene | 390 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | <0.0143 | <0.0138 |
| | Benzo(a)anthracene | 0.7 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | <0.0143 | <0.0138 |
| | Benzo(a)pyrene‡ | 1.5 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | <0.0143 | <0.0138 |
| | Benzo(b)fluoranthene‡ | 15 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | 0.00809 J | <0.0138 |
| | Benzo(g,h,i)perylene‡ | 2,300 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | <0.0143 | <0.0138 |
| | Benzo(k)fluoranthene ‡ | 150 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | <0.0143 | <0.0138 |
| | Chrysene | 600 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | 0.0107 J | 0.00855 J | <0.0138 |
| | Dibenzo(a,h)anthracene ‡ | 1.5 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | <0.0143 | <0.0138 |
| | Fluoranthene | 590 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | 0.0100 J | <0.0138 |
| | Fluorene | 36 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | <0.0143 | <0.0138 |
| | Indeno(1,2,3-cd)pyrene ‡ | 15 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | <0.0144 | <0.0143 | <0.0138 |
| | Naphthalene | 0.038 | mg/kg | <0.0112 | <0.0109 | <0.0113 | **<0.0545** | <0.0111 | <0.0117 | <0.0109 | <0.0111 | 0.00872 J | <0.0115 | <0.0111 |
| | Phenanthrene | 39 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | 0.00740 J | 0.00931 J | <0.0138 |
| | Pyrene | 87 | mg/kg | <0.0140 | <0.0136 | <0.0141 | <0.0685 | <0.0138 | <0.0147 | <0.0136 | <0.0138 | 0.00798 J | 0.0120 J | <0.0138 |

Notes:

Results reported from SGS North America, Inc. work order 1223040.

Regulatory limit obtained from the most stringent Cleanup Level from 18 AAC 75 T*able B1. Method Two - Soil Cleanup Levels* and *Table B2. Method Two – Arctic Zone* Cleanup Levels. Migration to groundwater limits reported unless otherwise noted.

Sample *22SCC-SS-110* is a field duplicate of sample *22SCC-SS-10*.

Sample *22SCC-SS-120* is a field duplicate of sample *22SCC-SS-20*.

† Regulatory limits from 18 AAC 75 *Table B2 Method Two Arctic Zone (Ingestion)* Cleanup Level.

‡ Regulatory limits from 18 AAC 75 *Table B1 Method Two - Human Health* Cleanup Level.

< Analyte not detected; listed as less than the limit of detection (LOD) unless otherwise flagged due to quality-control failures.

<Bold The laboratory's limit of quantitation (LOQ) exceeds the regulatory limit.

**Bold** The detected concentration exceeds the regulatory limit for the associated analyte.

J Estimated concentration, detected greater than the detection limit (DL) and less than the limit of quantitation (LOQ). Flag applied by the laboratory.

B* Result is considered not detected due to quality control failures; see checklist for details. Flag applied by Shannon & Wilson, Inc.

BTEX = benzene, toluene, ethylbenzene, xylenes; mg/kg = milligram per kilogram; PAH = polynuclear aromatic hydrocarbon

## Table 2 — June 2022 Fuels Analytical Results Summary

| Analytical Method | Analyte | Regulatory Limit | Units | 22SCC-SS-11 | 22SCC-SS-12 | 22SCC-SS-13 | 22SCC-SS-14 | 22SCC-SS-15 | 22SCC-SS-16 | 22SCC-SS-17 | 22SCC-SS-18 | 22SCC-SS-19 | 22SCC-SS-20 | 22SCC-SS-120 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AK101 | Gasoline Range Organics † | 1,400 | mg/kg | <2.52 B* | <2.34 B* | <3.98 B* | <3.29 B* | <3.05 B* | <2.99 B* | <4.85 B* | <1.93 B* | <2.91 B* | <4.67 B* | <6.27 B* |
| AK102 | Diesel Range Organics † | 12,500 | mg/kg | <11.2 | 20.8 J | <11.5 | 13.2 J | 40.9 | 277 | 17.1 J | 11.7 J | 17.3 J | 68.6 | 80.5 |
| SW8260D (BTEX) | Benzene | 0.022 | mg/kg | <0.00630 | <0.00585 | <0.00995 | <0.00825 | <0.00760 | <0.00745 | <0.0121 | <0.00481 | <0.00730 | <0.0117 | <0.0157 |
| | Toluene | 6.7 | mg/kg | <0.0126 | <0.0117 | <0.0199 | <0.0164 | <0.0153 | <0.0150 | <0.0243 | <0.00965 | <0.0146 | <0.0233 | <0.0314 |
| | Ethylbenzene | 0.13 | mg/kg | <0.0126 | <0.0117 | <0.0199 | <0.0164 | <0.0153 | <0.0150 | <0.0243 | <0.00965 | <0.0146 | <0.0233 | <0.0314 |
| | m,p-xylenes | 1.5 | mg/kg | <0.0253 | <0.0234 | <0.0398 | <0.0330 | <0.0305 | <0.0299 | <0.0485 | <0.0193 | <0.0291 | <0.0467 | <0.0625 |
| | o-Xylene | | mg/kg | <0.0126 | <0.0117 | <0.0199 | <0.0164 | <0.0153 | <0.0150 | <0.0243 | <0.00965 | <0.0146 | <0.0233 | <0.0314 |
| | Total Xylenes | | mg/kg | <0.0379 | <0.0351 | <0.0595 | <0.0494 | <0.0457 | <0.0449 | <0.0725 | <0.0289 | <0.0437 | <0.0700 | <0.0940 |
| SW8270D-SIM (PAH) | 1-Methylnaphthalene | 0.41 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | <0.0132 | <0.0138 | <0.0735 | <0.0895 |
| | 2-Methylnaphthalene | 1.3 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | <0.0132 | <0.0138 | <0.0735 | <0.0895 |
| | Acenaphthene | 37 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | <0.0132 | <0.0138 | <0.0735 | <0.0895 |
| | Acenaphthylene | 18 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | <0.0132 | <0.0138 | <0.0735 | <0.0895 |
| | Anthracene | 390 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | <0.0132 | <0.0138 | <0.0735 | <0.0895 |
| | Benzo(a)anthracene | 0.7 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | <0.0132 | <0.0138 | <0.0735 | <0.0895 |
| | Benzo(a)pyrene‡ | 1.5 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | 0.00803 J | <0.0138 | <0.0735 | <0.0895 |
| | Benzo(b)fluoranthene‡ | 15 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | 0.0112 J | <0.0138 | <0.0735 | <0.0895 |
| | Benzo(g,h,i)perylene‡ | 2,300 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | 0.0537 J | <0.0141 | <0.0132 | <0.0138 | <0.0735 | <0.0895 |
| | Benzo(k)fluoranthene ‡ | 150 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | <0.0132 | <0.0138 | <0.0735 | <0.0895 |
| | Chrysene | 600 | mg/kg | <0.0139 | 0.00855 J | <0.0144 | <0.0135 | <0.0765 | 0.209 | <0.0141 | 0.00965 J | <0.0138 | 0.0680 J | <0.0895 |
| | Dibenzo(a,h)anthracene ‡ | 1.5 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | <0.0132 | <0.0138 | <0.0735 | <0.0895 |
| | Fluoranthene | 590 | mg/kg | <0.0139 | <0.0139 | <0.0144 | 0.0236 J | <0.0765 | <0.0685 | 0.00796 J | 0.0177 J | <0.0138 | <0.0735 | <0.0895 |
| | Fluorene | 36 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | <0.0132 | <0.0138 | <0.0735 | <0.0895 |
| | Indeno(1,2,3-cd)pyrene ‡ | 15 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | <0.0132 | <0.0138 | <0.0735 | <0.0895 |
| | Naphthalene | 0.038 | mg/kg | <0.0111 | <0.0111 | <0.0115 | <0.0108 | **<0.0610** | **<0.0545** | <0.0113 | <0.0106 | <0.0110 | **<0.0585** | **<0.0715** |
| | Phenanthrene | 39 | mg/kg | <0.0139 | <0.0139 | <0.0144 | <0.0135 | <0.0765 | <0.0685 | <0.0141 | 0.0138 J | <0.0138 | 0.0385 J | <0.0895 |
| | Pyrene | 87 | mg/kg | <0.0139 | 0.0237 J | <0.0144 | 0.0202 J | <0.0765 | 0.0456 J | <0.0141 | 0.0153 J | <0.0138 | <0.0735 | <0.0895 |

Notes:

Results reported from SGS North America, Inc. work order 1223040.

Regulatory limit obtained from the most stringent Cleanup Level from 18 AAC 75 T*able B1. Method Two - Soil Cleanup Levels* and *Table B2. Method Two – Arctic Zone* Cleanup Levels. Migration to groundwater limits reported unless otherwise noted.

Sample *22SCC-SS-110* is a field duplicate of sample *22SCC-SS-10*.

Sample *22SCC-SS-120* is a field duplicate of sample *22SCC-SS-20*.

† Regulatory limits from 18 AAC 75 *Table B2 Method Two Arctic Zone (Ingestion)* Cleanup Level.

‡ Regulatory limits from 18 AAC 75 *Table B1 Method Two - Human Health* Cleanup Level.

< Analyte not detected; listed as less than the limit of detection (LOD) unless otherwise flagged due to quality-control failures.

<Bold The laboratory's limit of quantitation (LOQ) exceeds the regulatory limit.

**Bold** The detected concentration exceeds the regulatory limit for the associated analyte.

J Estimated concentration, detected greater than the detection limit (DL) and less than the limit of quantitation (LOQ). Flag applied by the laboratory.

B* Result is considered not detected due to quality control failures; see checklist for details. Flag applied by Shannon & Wilson, Inc.

BTEX = benzene, toluene, ethylbenzene, xylenes; mg/kg = milligram per kilogram; PAH = polynuclear aromatic hydrocarbon

## Table 2 — June 2022 Fuels Analytical Results Summary

| Analytical Method | Analyte | Regulatory Limit | Units | *22SCC-SS-21* | *22SCC-SS-22* | *22SCC-SS-23* | *22SCC-SS-24* |
|---|---|---|---|---|---|---|---|
| AK101 | Gasoline Range Organics † | 1,400 | mg/kg | <2.54 B* | <2.54 B* | <2.94 B* | <2.47 B* |
| AK102 | Diesel Range Organics † | 12,500 | mg/kg | 13.7 J | 84.2 | 75.8 | 53.4 |
| SW8260D (BTEX) | Benzene | 0.022 | mg/kg | <0.00635 | <0.00635 | <0.00735 | <0.00620 |
| | Toluene | 6.7 | mg/kg | <0.0127 | <0.0127 | <0.0147 | <0.0124 |
| | Ethylbenzene | 0.13 | mg/kg | <0.0127 | <0.0127 | <0.0147 | <0.0124 |
| | m,p-xylenes | 1.5 | mg/kg | <0.0255 | <0.0254 | <0.0294 | <0.0247 |
| | o-Xylene | | mg/kg | <0.0127 | <0.0127 | <0.0147 | <0.0124 |
| | Total Xylenes | | mg/kg | <0.0382 | <0.0381 | <0.0440 | <0.0371 |
| SW8270D-SIM (PAH) | 1-Methylnaphthalene | 0.41 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | 2-Methylnaphthalene | 1.3 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Acenaphthene | 37 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Acenaphthylene | 18 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Anthracene | 390 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Benzo(a)anthracene | 0.7 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Benzo(a)pyrene‡ | 1.5 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Benzo(b)fluoranthene‡ | 15 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Benzo(g,h,i)perylene‡ | 2,300 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Benzo(k)fluoranthene ‡ | 150 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Chrysene | 600 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Dibenzo(a,h)anthracene ‡ | 1.5 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Fluoranthene | 590 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Fluorene | 36 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Indeno(1,2,3-cd)pyrene ‡ | 15 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Naphthalene | 0.038 | mg/kg | <0.0106 | **<0.0520** | **<0.0555** | **<0.0545** |
| | Phenanthrene | 39 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |
| | Pyrene | 87 | mg/kg | <0.0132 | <0.0650 | <0.0690 | <0.0680 |

Notes:

Results reported from SGS North America, Inc. work order 1223040.

Regulatory limit obtained from the most stringent Cleanup Level from 18 AAC 75 T*able B1. Method Two - Soil Cleanup Levels* and *Table B2. Method Two – Arctic Zone* Cleanup Levels. Migration to groundwater limits reported unless otherwise noted.

Sample *22SCC-SS-110* is a field duplicate of sample *22SCC-SS-10*.

Sample *22SCC-SS-120* is a field duplicate of sample *22SCC-SS-20*.

† Regulatory limits from 18 AAC 75 *Table B2 Method Two Arctic Zone (Ingestion)* Cleanup Level.

‡ Regulatory limits from 18 AAC 75 *Table B1 Method Two - Human Health* Cleanup Level.

< Analyte not detected; listed as less than the limit of detection (LOD) unless otherwise flagged due to quality-control failures.

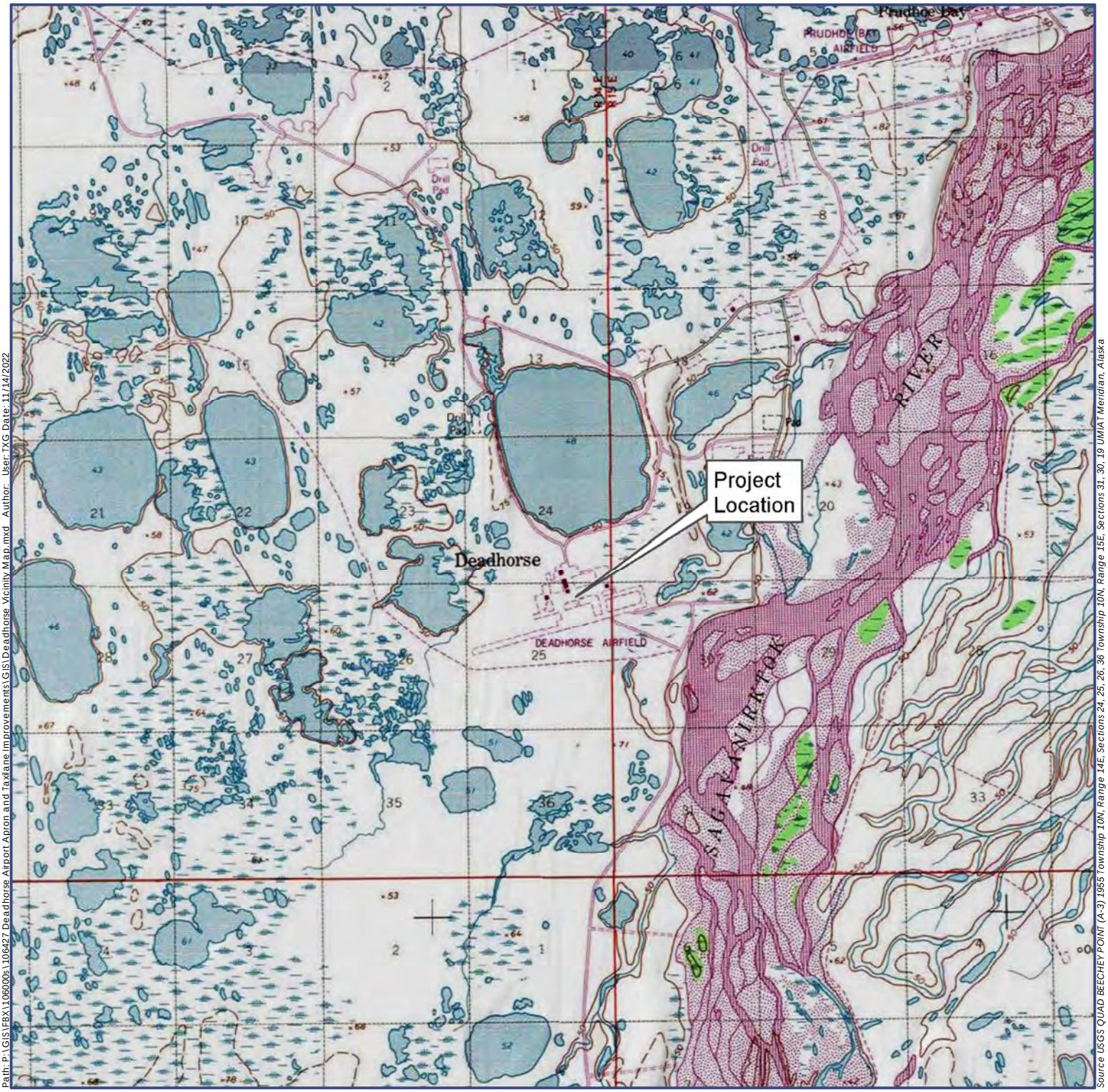
<Bold The laboratory's limit of quantitation (LOQ) exceeds the regulatory limit.

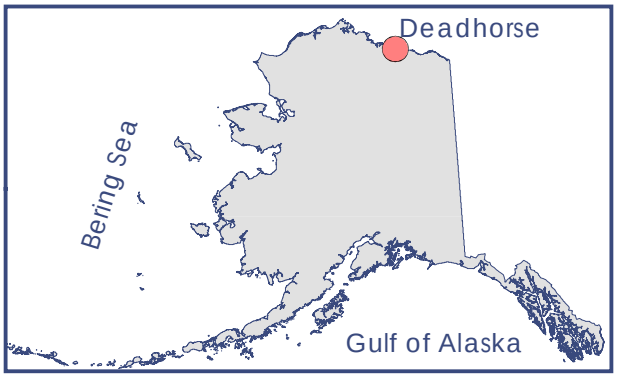
**Bold** The detected concentration exceeds the regulatory limit for the associated analyte.

J Estimated concentration, detected greater than the detection limit (DL) and less than the limit of quantitation (LOQ). Flag applied by the laboratory.

B* Result is considered not detected due to quality control failures; see checklist for details. Flag applied by Shannon & Wilson, Inc.

BTEX = benzene, toluene, ethylbenzene, xylenes; mg/kg = milligram per kilogram; PAH = polynuclear aromatic hydrocarbon




N
0 1
Miles

February 2023

VICINITY MAP

Figure 1

Path: P:\GIS\FBX\106000s\106427 Deadhorse Airport Apron and Taxilane Improvements\GIS\Deadhorse Vicinity Map.mxd Author: User: TXG Date: 11/14/2022

Source USGS QUAD BEECHEY POINT (A-3) 1955 Township 10N, Range 14E, Sections 24, 25, 26, 36 Township 10N, Range 15E, Sections 31, 30, 19 UMIAT Meridian, Alaska




N

0 2,000 Feet

Notes:
1. DEC Contaminated Sites File Numbers denoted on map.
DEC = Alaska Department of Environmental Conservation

February 2023

DEC CONTAMINATED SITES AND DRINKING WATER PROTECTION AREAS

Figure 2


Path: P:\GIS\FBX\106000s\106427 Deadhorse Airport Apron and Taxilane Improvements\GIS\106427_Deadhorse_Airport\Fig1_Deadhorse_Airport.mxd Author: User: TXG Date: 11/14/2022

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

N

0 2,000 Feet

Notes:

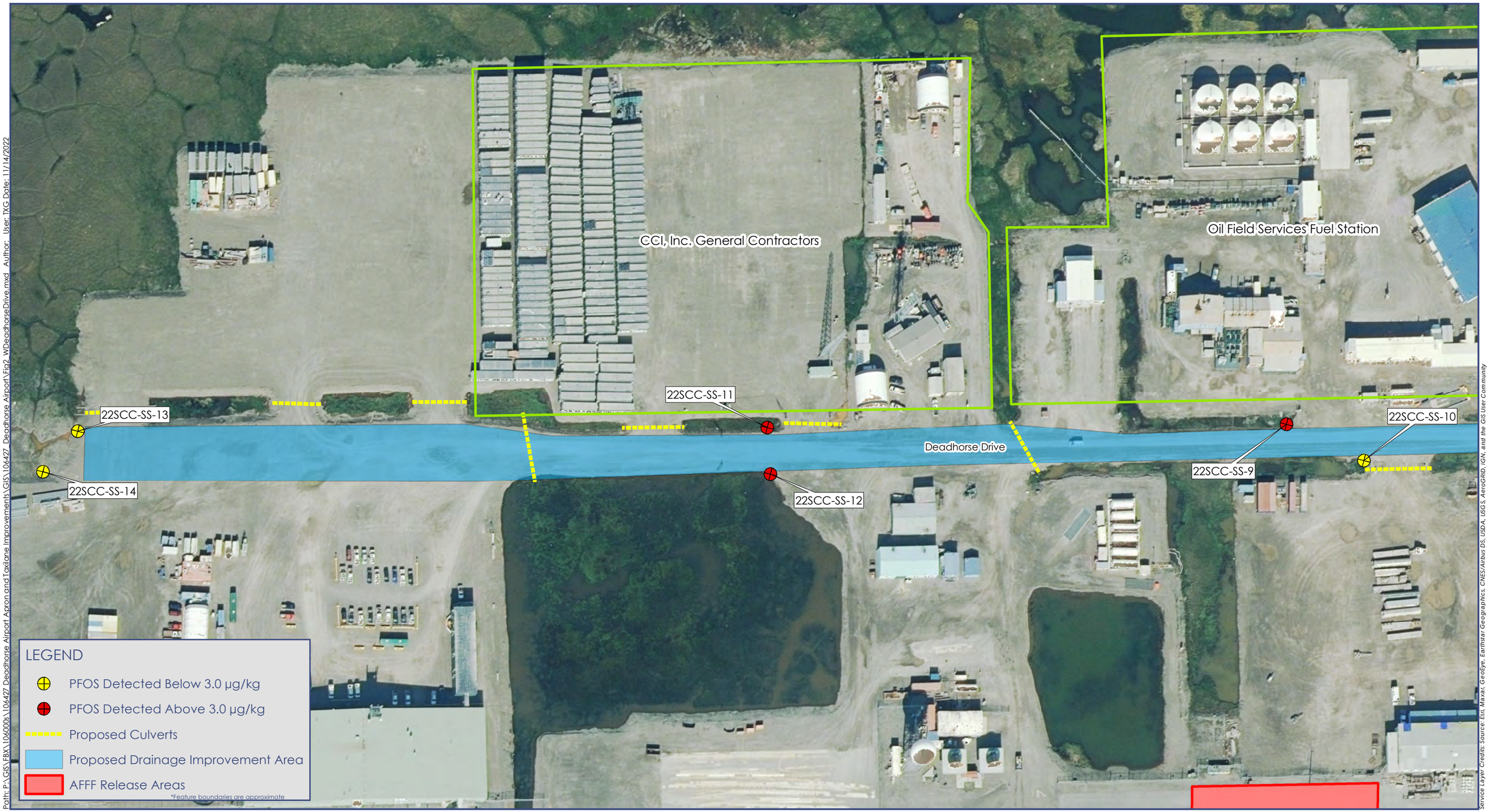
1. Results reported from Eurofins Environmental Testing America of West Sacramento work order 320-89051-1.
2. Highest of duplicate pair result displayed. See Table 1 for analytical results.
3. Only PFOS results reported, see Table 1 for analytical results for remaining PFAS.
4. Results compared to DEC Soil-Cleanup Levels from 18 AAC 75.341 Table B1. Method Two - Migration to Groundwater (PFOS ≥ 3.0 µg/kg) to avoid reusing or spreading soils of higher concentration in areas of lower concentration.

DEC = Alaska Department of Environmental Conservation; PFAS = per- and polyfluoroalkyl substances; PFOS = perfluorooctanesulfonic acid; µg/kg = microgram per kilogram

February 2023

SURFACE SOIL PFAS RESULTS

Figure 3




Path: P:\GIS\FBX\106000\106427 Deadhorse Airport Apron and Taxilane Improvements\GIS\106427_DeadhorseAirport\Fig2_WDeadhorseDrive.mxd Author: User: TXG Date: 11/14/2022

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Notes:

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DEC = Alaska Department of Environmental Conservation; PFAS = per- and polyfluoroalkyl substances; PFOS = perfluorooctanesulfonic acid; µg/kg = microgram per kilogram

February 2023

# SURFACE SOIL PFAS RESULTS
## WEST DEADHORSE DRIVE

Figure 4


Notes:

1. Results reported from Eurofins Environmental Testing America of West Sacramento work order 320-89051-1.
2. Highest of duplicate pair result displayed. See Table 1 for analytical results.
3. Only PFOS results reported, see Table 1 for analytical results for remaining PFAS.
4. Results compared to DEC Soil-Cleanup Levels from 18 AAC 75.341 Table B1. Method Two - Migration to Groundwater (PFOS ≥ 3.0 µg/kg) to avoid reusing or spreading soils of higher concentration in areas of lower concentration.

DEC = Alaska Department of Environmental Conservation; PFAS = per- and polyfluoroalkyl substances; PFOS = perfluorooctanesulfonic acid; µg/kg = microgram per kilogram

February 2023

## SURFACE SOIL PFAS RESULTS
EAST DEADHORSE DRIVE

Figure 5


Notes:

1. Results reported from Eurofins Environmental Testing America of West Sacramento work order 320-89051-1.
2. Highest of duplicate pair result displayed. See Table 1 for analytical results.
3. Only PFOS results reported, see Table 1 for analytical results for remaining PFAS.
4. Results compared to DEC Soil-Cleanup Levels from 18 AAC 75.341 Table B1. Method Two - Migration to Groundwater (PFOS ≥ 3.0 µg/kg) to avoid reusing or spreading soils of higher concentration in areas of lower concentration.

DEC = Alaska Department of Environmental Conservation; PFAS = per- and polyfluoroalkyl substances; PFOS = perfluorooctanesulfonic acid; µg/kg = microgram per kilogram

February 2023

# SURFACE SOIL PFAS RESULTS

T/W A East

Figure 6


Notes:

1. Results reported from Eurofins Environmental Testing America of West Sacramento work order 320-89051-1.
2. Highest of duplicate pair result displayed. See Table 1 for analytical results.
3. Only PFOS results reported, see Table 1 for analytical results for remaining PFAS.
4. Results compared to DEC Soil-Cleanup Levels from 18 AAC 75.341 Table B1. Method Two - Migration to Groundwater (PFOS ≥ 3.0 µg/kg) to avoid reusing or spreading soils of higher concentration in areas of lower concentration.

DEC = Alaska Department of Environmental Conservation; PFAS = per- and polyfluoroalkyl substances; PFOS = perfluorooctanesulfonic acid; µg/kg = microgram per kilogram

February 2023

# SURFACE SOIL PFAS RESULTS

T/W A West

Figure 7

APPENDIX A: FIELD LOGS

Appendix A

# Field Logs

APPENDIX B: EUROFINS LABORATORY REPORT AND LDRC

Appendix B

# Eurofins Laboratory Report and LDRC

## CONTENTS

eurofins | Environment Testing America

# ANALYTICAL REPORT

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

Laboratory Job ID: 320-89051-1
Client Project/Site: Deadhorse Airport

For:
Shannon & Wilson, Inc
2355 Hill Rd.
Fairbanks, Alaska 99709-5244

Attn: Michael X Jaramillo

*Authorized for release by:*
*7/7/2022 2:16:11 PM*

David Alltucker, Project Manager I
(916)374-4383
David.Alltucker@et.eurofinsus.com

# Table of Contents

# Definitions/Glossary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Qualifiers

### LCMS

| Qualifier | Qualifier Description |
|---|---|
| F1 | MS and/or MSD recovery exceeds control limits. |
| I | Value is EMPC (estimated maximum possible concentration). |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### General Chemistry

| Qualifier | Qualifier Description |
|---|---|
| F3 | Duplicate RPD exceeds the control limit |

## Glossary

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

# Case Narrative

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Job ID: 320-89051-1

### Laboratory: Eurofins Sacramento

**Narrative**

**Job Narrative**
**320-89051-1**

**Receipt**
The samples were received on 6/14/2022 11:25 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 6.0º C.

**LCMS**
Method EPA 537(Mod): The matrix spike (MS) recovery for Perfluorobutanesulfonic acid (PFBS) of preparation batch 320-597225 and analytical batch 320-600108 was outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method EPA 537(Mod): The "I" qualifier means the transition mass ratio for the indicated analyte was below the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. 22SCC-SS-5 (320-89051-4), 22SCC-SS-15 (320-89051-5), 22SCC-SS-17 (320-89051-8), 22SCC-SS-19 (320-89051-9), 22SCC-SS-18 (320-89051-10), 22SCC-SS-8 (320-89051-11), 22SCC-SS-3 (320-89051-12), 22SCC-SS-4 (320-89051-14), 22SCC-SS-120 (320-89051-15), 22SCC-SS-6 (320-89051-16), 22SCC-SS-23 (320-89051-17), 22SCC-SS-29 (320-89051-19), 22SCC-SS-20 (320-89051-20), and 22SCC-SS-27 (320-89051-21), 22SCC-SS-14 (320-89051-26), 22SCC-SS-16 (320-89051-32), 22SCC-SS-30 (320-89051-33) and 22SCC-SS-31 (320-89051-35)

Method EPA 537(Mod): Results for samples 22SCC-SS-125 (320-89051-25) and 22SCC-SS-12 (320-89051-28) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

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

**General Chemistry**
Method Moisture: The sample duplicate (DUP) precision for analytical batch 320-596061 was outside control limits. Sample non-homogeneity and matrix are suspected. Sample was wet muddy sand and medium sized rocks. The relative percent difference (RPD) for solids is within acceptable limits. Data is being reported with this narration. 22SCC-SS-8 (320-89051-11) and (320-89051-A-11 DU)

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

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

# Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-22 — Lab Sample ID: 320-89051-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 1.4 | | 0.21 | 0.044 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-2 — Lab Sample ID: 320-89051-2

No Detections.

## Client Sample ID: 22SCC-SS-1 — Lab Sample ID: 320-89051-3

No Detections.

## Client Sample ID: 22SCC-SS-5 — Lab Sample ID: 320-89051-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.047 | J | 0.21 | 0.032 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorononanoic acid (PFNA) | 0.14 | J | 0.21 | 0.023 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluoroundecanoic acid (PFUnA) | 0.29 | | 0.21 | 0.043 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorotridecanoic acid (PFTriA) | 0.17 | J | 0.21 | 0.022 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 0.40 | I | 0.21 | 0.044 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-15 — Lab Sample ID: 320-89051-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.058 | J | 0.24 | 0.038 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 2.5 | I | 0.24 | 0.052 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-28 — Lab Sample ID: 320-89051-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 3.7 | | 0.23 | 0.049 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-26 — Lab Sample ID: 320-89051-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.040 | J | 0.22 | 0.035 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 0.046 | J | 0.22 | 0.043 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 0.096 | J | 0.22 | 0.059 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorononanoic acid (PFNA) | 0.038 | J | 0.22 | 0.025 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 1.9 | | 0.22 | 0.048 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-17 — Lab Sample ID: 320-89051-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.037 | J | 0.23 | 0.036 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 0.50 | I | 0.23 | 0.050 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-19 — Lab Sample ID: 320-89051-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 0.34 | I | 0.22 | 0.047 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-18 — Lab Sample ID: 320-89051-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.038 | J | 0.21 | 0.033 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorononanoic acid (PFNA) | 0.025 | J | 0.21 | 0.023 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 0.26 | I | 0.21 | 0.045 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

# Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-8 — Lab Sample ID: 320-89051-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.073 | J | 0.20 | 0.031 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 0.57 | I | 0.20 | 0.043 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-3 — Lab Sample ID: 320-89051-12

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorononanoic acid (PFNA) | 0.038 | J | 0.23 | 0.025 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 0.62 | I | 0.23 | 0.050 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-10 — Lab Sample ID: 320-89051-13

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.096 | J | 0.22 | 0.034 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 0.063 | J | 0.22 | 0.057 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 0.69 | | 0.22 | 0.031 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 2.7 | | 0.22 | 0.047 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-4 — Lab Sample ID: 320-89051-14

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.034 | J | 0.21 | 0.033 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 0.52 | I | 0.21 | 0.046 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-120 — Lab Sample ID: 320-89051-15

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorononanoic acid (PFNA) | 0.044 | J | 0.25 | 0.027 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorodecanoic acid (PFDA) | 0.069 | J | 0.25 | 0.059 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorododecanoic acid (PFDoA) | 0.052 | J | 0.25 | 0.037 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 0.88 | I | 0.25 | 0.053 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | 0.080 | J | 0.25 | 0.059 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-6 — Lab Sample ID: 320-89051-16

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorononanoic acid (PFNA) | 0.078 | J | 0.22 | 0.024 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluoroundecanoic acid (PFUnA) | 0.17 | J | 0.22 | 0.046 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorotridecanoic acid (PFTriA) | 0.098 | J | 0.22 | 0.023 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 1.5 | I | 0.22 | 0.047 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-23 — Lab Sample ID: 320-89051-17

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 0.61 | I | 0.22 | 0.048 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-21 — Lab Sample ID: 320-89051-18

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 1.2 | | 0.21 | 0.045 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-29 — Lab Sample ID: 320-89051-19

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 0.12 | J I | 0.22 | 0.047 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

# Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-20 — Lab Sample ID: 320-89051-20

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorononanoic acid (PFNA) | 0.051 | J | 0.24 | 0.026 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorodecanoic acid (PFDA) | 0.072 | J | 0.24 | 0.057 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorododecanoic acid (PFDoA) | 0.036 | J | 0.24 | 0.036 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 1.1 | I | 0.24 | 0.051 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-27 — Lab Sample ID: 320-89051-21

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 0.62 | I | 0.21 | 0.045 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-25 — Lab Sample ID: 320-89051-22

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.037 | J | 0.22 | 0.034 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 0.12 | J | 0.22 | 0.058 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorononanoic acid (PFNA) | 0.17 | J | 0.22 | 0.024 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorodecanoic acid (PFDA) | 0.090 | J | 0.22 | 0.053 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 18 | | 0.22 | 0.047 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-24 — Lab Sample ID: 320-89051-23

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.041 | J | 0.21 | 0.033 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 1.8 | | 0.21 | 0.046 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-32 — Lab Sample ID: 320-89051-24

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 0.48 | | 0.21 | 0.046 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-125 — Lab Sample ID: 320-89051-25

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.051 | J | 0.22 | 0.034 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 0.050 | J | 0.22 | 0.042 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 0.14 | J | 0.22 | 0.058 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorononanoic acid (PFNA) | 0.23 | | 0.22 | 0.024 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorodecanoic acid (PFDA) | 0.11 | J | 0.22 | 0.053 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) - DL | 21 | | 1.1 | 0.24 | ug/Kg | 5 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-14 — Lab Sample ID: 320-89051-26

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 0.18 | J I | 0.21 | 0.045 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-13 — Lab Sample ID: 320-89051-27

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 0.80 | | 0.23 | 0.049 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-12 — Lab Sample ID: 320-89051-28

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.37 | | 0.21 | 0.033 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

# Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-12 (Continued) — Lab Sample ID: 320-89051-28

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoroheptanoic acid (PFHpA) | 0.058 | J | 0.21 | 0.040 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 0.21 | | 0.21 | 0.056 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorononanoic acid (PFNA) | 0.060 | J | 0.21 | 0.023 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 0.044 | J | 0.21 | 0.040 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 1.4 | | 0.21 | 0.031 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) - DL | 31 | | 1.1 | 0.23 | ug/Kg | 5 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-11 — Lab Sample ID: 320-89051-29

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanesulfonic acid (PFHxS) | 0.14 | J | 0.22 | 0.031 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 4.8 | | 0.22 | 0.047 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-110 — Lab Sample ID: 320-89051-30

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanesulfonic acid (PFHxS) | 0.28 | | 0.21 | 0.030 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 1.2 | | 0.21 | 0.045 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-9 — Lab Sample ID: 320-89051-31

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.52 | | 0.23 | 0.036 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 0.14 | J | 0.23 | 0.044 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 0.45 | | 0.23 | 0.061 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorononanoic acid (PFNA) | 0.12 | J | 0.23 | 0.025 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorodecanoic acid (PFDA) | 0.071 | J | 0.23 | 0.055 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluoroundecanoic acid (PFUnA) | 0.22 | J | 0.23 | 0.048 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorotridecanoic acid (PFTriA) | 0.031 | J | 0.23 | 0.024 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 0.13 | J | 0.23 | 0.044 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 3.2 | | 0.23 | 0.033 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 16 | | 0.23 | 0.050 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-16 — Lab Sample ID: 320-89051-32

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 1.1 | I | 0.23 | 0.050 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-30 — Lab Sample ID: 320-89051-33

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 0.12 | J I | 0.21 | 0.045 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

## Client Sample ID: 22SCC-SS-7 — Lab Sample ID: 320-89051-34

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 0.090 | J | 0.20 | 0.032 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 0.097 | J | 0.20 | 0.054 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorononanoic acid (PFNA) | 0.071 | J | 0.20 | 0.022 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 0.43 | | 0.20 | 0.030 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 1.2 | | 0.20 | 0.044 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

# Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-31

## Lab Sample ID: 320-89051-35

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanesulfonic acid (PFOS) | 0.44 | I | 0.23 | 0.048 | ug/Kg | 1 | ☼ | EPA 537(Mod) | Total/NA |

This Detection Summary does not include radiochemical test results.

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-22

**Date Collected: 06/09/22 08:15**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-1

**Matrix: Solid**
**Percent Solids: 94.0**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.054 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.21 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.049 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.031 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.022 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | F1 | 0.21 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.030 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **1.4** | | 0.21 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.049 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.036 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:26 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *101* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *13C4 PFHpA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *13C4 PFOA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *13C5 PFNA* | *101* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *13C2 PFDA* | *101* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *13C2 PFUnA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *13C2 PFTeDA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *13C3 PFBS* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *18O2 PFHxS* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *13C4 PFOS* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *d3-NMeFOSAA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *d5-NEtFOSAA* | *103* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |
| *13C3 HFPO-DA* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:26* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **6.0** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **94.0** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-2

**Date Collected: 06/08/22 13:50**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-2

**Matrix: Solid**
**Percent Solids: 87.4**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.057 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.051 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.031 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 0.21 | 0.046 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.025 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.051 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 10:57 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *13C4 PFHpA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *13C4 PFOA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *13C5 PFNA* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *13C2 PFDA* | *88* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *13C2 PFUnA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *13C2 PFDoA* | *88* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *13C2 PFTeDA* | *82* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *13C3 PFBS* | *89* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *18O2 PFHxS* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *13C4 PFOS* | *89* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *d3-NMeFOSAA* | *89* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *d5-NEtFOSAA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |
| *13C3 HFPO-DA* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:57* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **12.6** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |
| **Percent Solids** | **87.4** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-1

**Date Collected: 06/08/22 13:40**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-3

**Matrix: Solid**
**Percent Solids: 88.8**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.056 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.21 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.051 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.022 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.031 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 0.21 | 0.046 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.051 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.037 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:07 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *13C4 PFHpA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *13C4 PFOA* | *104* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *13C5 PFNA* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *13C2 PFDA* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *13C2 PFUnA* | *101* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *13C2 PFDoA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *13C2 PFTeDA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *13C3 PFBS* | *103* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *18O2 PFHxS* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *13C4 PFOS* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *d3-NMeFOSAA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *d5-NEtFOSAA* | *104* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |
| *13C3 HFPO-DA* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:07* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **11.2** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |
| **Percent Solids** | **88.8** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-5

**Date Collected: 06/08/22 14:50**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-4

**Matrix: Solid**
**Percent Solids: 90.1**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.047** | **J** | 0.21 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.055 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.14** | **J** | 0.21 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| **Perfluoroundecanoic acid (PFUnA)** | **0.29** | | 0.21 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.031 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| **Perfluorotridecanoic acid (PFTriA)** | **0.17** | **J** | 0.21 | 0.022 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.030 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.40** | **I** | 0.21 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.036 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:17 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *13C4 PFHpA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *13C4 PFOA* | *101* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *13C5 PFNA* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *13C2 PFDA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *13C2 PFUnA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *13C2 PFDoA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *13C2 PFTeDA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *13C3 PFBS* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *18O2 PFHxS* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *13C4 PFOS* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *d3-NMeFOSAA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *d5-NEtFOSAA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |
| *13C3 HFPO-DA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:17* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **9.9** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |
| **Percent Solids** | **90.1** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-15

**Date Collected: 06/09/22 06:45**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-5

**Matrix: Solid**
**Percent Solids: 81.4**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.058** | **J** | 0.24 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.24 | 0.046 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.24 | 0.064 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.24 | 0.027 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.24 | 0.058 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.24 | 0.051 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.24 | 0.036 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.24 | 0.025 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.24 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.24 | 0.046 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.24 | 0.035 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **2.5** | **I** | 0.24 | 0.052 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.24 | 0.028 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.24 | 0.058 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.24 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.24 | 0.050 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.24 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.24 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:27 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *13C4 PFHpA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *13C4 PFOA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *13C5 PFNA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *13C2 PFDA* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *13C2 PFUnA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *13C2 PFTeDA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *13C3 PFBS* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *18O2 PFHxS* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *13C4 PFOS* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *d3-NMeFOSAA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *d5-NEtFOSAA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |
| *13C3 HFPO-DA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:27* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **18.6** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **81.4** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-28**
**Date Collected: 06/09/22 10:40**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-6**
**Matrix: Solid**
**Percent Solids: 85.2**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.23 | 0.035 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.23 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.23 | 0.060 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.23 | 0.025 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.23 | 0.055 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.23 | 0.048 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.23 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.23 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.23 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.23 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.23 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **3.7** | | 0.23 | 0.049 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.23 | 0.026 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.23 | 0.055 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.23 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.23 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.23 | 0.035 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.23 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 11:37 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *13C4 PFHpA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *13C4 PFOA* | *101* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *13C5 PFNA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *13C2 PFDA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *13C2 PFUnA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *13C2 PFDoA* | *88* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *13C2 PFTeDA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *13C3 PFBS* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *18O2 PFHxS* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *13C4 PFOS* | *89* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *d3-NMeFOSAA* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *d5-NEtFOSAA* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |
| *13C3 HFPO-DA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 11:37* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **14.8** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **85.2** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-26**
**Date Collected: 06/09/22 10:25**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-7**
**Matrix: Solid**
**Percent Solids: 84.5**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.040** | **J** | 0.22 | 0.035 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| **Perfluoroheptanoic acid (PFHpA)** | **0.046** | **J** | 0.22 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **0.096** | **J** | 0.22 | 0.059 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.038** | **J** | 0.22 | 0.025 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.22 | 0.054 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.22 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.22 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.22 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.22 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **1.9** | | 0.22 | 0.048 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.22 | 0.026 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.22 | 0.054 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.22 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.22 | 0.046 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.22 | 0.035 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.22 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:08 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *13C4 PFHpA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *13C4 PFOA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *13C5 PFNA* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *13C2 PFDA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *13C2 PFUnA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *13C2 PFDoA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *13C2 PFTeDA* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *13C3 PFBS* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *18O2 PFHxS* | *103* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *13C4 PFOS* | *87* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *d3-NMeFOSAA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *d5-NEtFOSAA* | *103* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |
| *13C3 HFPO-DA* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:08* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **15.5** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **84.5** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-17**
**Date Collected: 06/09/22 07:30**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-8**
**Matrix: Solid**
**Percent Solids: 85.2**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.037** | **J** | 0.23 | 0.036 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.23 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.23 | 0.062 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.23 | 0.026 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.23 | 0.056 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.23 | 0.049 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.23 | 0.035 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.23 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.23 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.23 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.23 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.50** | **I** | 0.23 | 0.050 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.23 | 0.027 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.23 | 0.056 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.23 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.23 | 0.048 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.23 | 0.036 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.23 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:18 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *13C4 PFHpA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *13C4 PFOA* | *101* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *13C5 PFNA* | *104* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *13C2 PFDA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *13C2 PFUnA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *13C2 PFDoA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *13C2 PFTeDA* | *87* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *13C3 PFBS* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *18O2 PFHxS* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *13C4 PFOS* | *88* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *d3-NMeFOSAA* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *d5-NEtFOSAA* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |
| *13C3 HFPO-DA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:18* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **14.8** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **85.2** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-19

**Date Collected: 06/09/22 08:35**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-9

**Matrix: Solid**
**Percent Solids: 89.6**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.22 | 0.058 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.22 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.22 | 0.052 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.22 | 0.046 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.22 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.22 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.22 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.22 | 0.031 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.34** | **I** | 0.22 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.22 | 0.025 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.22 | 0.052 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.22 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.22 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.22 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:28 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *104* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *13C4 PFHpA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *13C4 PFOA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *13C5 PFNA* | *107* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *13C2 PFDA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *13C2 PFUnA* | *103* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *13C2 PFDoA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *13C2 PFTeDA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *13C3 PFBS* | *101* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *18O2 PFHxS* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *13C4 PFOS* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *d3-NMeFOSAA* | *108* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *d5-NEtFOSAA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |
| *13C3 HFPO-DA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:28* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **10.4** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **89.6** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-18

**Date Collected: 06/09/22 07:40**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-10

**Matrix: Solid**
**Percent Solids: 90.2**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.038** | **J** | 0.21 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.056 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.025** | **J** | 0.21 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.022 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.030 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.26** | **I** | 0.21 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.037 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:38 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *13C4 PFHpA* | *103* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *13C4 PFOA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *13C5 PFNA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *13C2 PFDA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *13C2 PFUnA* | *103* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *13C2 PFTeDA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *13C3 PFBS* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *18O2 PFHxS* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *13C4 PFOS* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *d3-NMeFOSAA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *d5-NEtFOSAA* | *101* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |
| *13C3 HFPO-DA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:38* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **9.8** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **90.2** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-8**
**Date Collected: 06/09/22 14:10**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-11**
**Matrix: Solid**
**Percent Solids: 90.6**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.073** | **J** | 0.20 | 0.031 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.20 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.20 | 0.053 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.20 | 0.022 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.20 | 0.048 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.20 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.20 | 0.030 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.20 | 0.021 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.20 | 0.037 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.20 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.20 | 0.029 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.57** | **I** | 0.20 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.20 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.20 | 0.048 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.20 | 0.035 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.20 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.20 | 0.031 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.20 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:48 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *13C4 PFHpA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *13C4 PFOA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *13C5 PFNA* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *13C2 PFDA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *13C2 PFUnA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *13C2 PFDoA* | *85* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *13C2 PFTeDA* | *86* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *13C3 PFBS* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *18O2 PFHxS* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *13C4 PFOS* | *87* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *d3-NMeFOSAA* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *d5-NEtFOSAA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |
| *13C3 HFPO-DA* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:48* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **9.4** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **90.6** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-3**
**Date Collected: 06/08/22 14:15**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-12**
**Matrix: Solid**
**Percent Solids: 83.7**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.23 | 0.036 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.23 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.23 | 0.061 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.038** | **J** | 0.23 | 0.025 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.23 | 0.056 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.23 | 0.049 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.23 | 0.035 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.23 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.23 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.23 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.23 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.62** | **I** | 0.23 | 0.050 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.23 | 0.027 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.23 | 0.056 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.23 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.23 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.23 | 0.036 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.23 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 12:58 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *86* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *13C4 PFHpA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *13C4 PFOA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *13C5 PFNA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *13C2 PFDA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *13C2 PFUnA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *13C2 PFDoA* | *85* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *13C2 PFTeDA* | *84* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *13C3 PFBS* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *18O2 PFHxS* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *13C4 PFOS* | *89* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *d3-NMeFOSAA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *d5-NEtFOSAA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |
| *13C3 HFPO-DA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 12:58* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **16.3** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |
| **Percent Solids** | **83.7** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-10**
**Date Collected: 06/09/22 14:50**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-13**
**Matrix: Solid**
**Percent Solids: 86.4**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.096** | **J** | 0.22 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **0.063** | **J** | 0.22 | 0.057 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.22 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.22 | 0.052 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.22 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.22 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.22 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.22 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **0.69** | | 0.22 | 0.031 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **2.7** | | 0.22 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.22 | 0.025 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.22 | 0.052 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.22 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.22 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.22 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:08 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *13C4 PFHpA* | *106* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *13C4 PFOA* | *104* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *13C5 PFNA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *13C2 PFDA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *13C2 PFUnA* | *111* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *13C2 PFDoA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *13C2 PFTeDA* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *13C3 PFBS* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *18O2 PFHxS* | *103* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *13C4 PFOS* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *d3-NMeFOSAA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *d5-NEtFOSAA* | *114* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |
| *13C3 HFPO-DA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:08* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **13.6** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **86.4** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-4**
**Date Collected: 06/08/22 14:25**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-14**
**Matrix: Solid**
**Percent Solids: 89.2**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.034** | **J** | 0.21 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.056 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.21 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.051 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.022 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.031 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.52** | **I** | 0.21 | 0.046 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.051 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.037 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:18 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *13C4 PFHpA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *13C4 PFOA* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *13C5 PFNA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *13C2 PFDA* | *103* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *13C2 PFUnA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *13C2 PFDoA* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *13C2 PFTeDA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *13C3 PFBS* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *18O2 PFHxS* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *13C4 PFOS* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *d3-NMeFOSAA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *d5-NEtFOSAA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |
| *13C3 HFPO-DA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:18* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **10.8** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |
| **Percent Solids** | **89.2** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-120**
**Date Collected: 06/09/22 08:55**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-15**
**Matrix: Solid**
**Percent Solids: 79.5**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.25 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.25 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.25 | 0.066 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.044** | **J** | 0.25 | 0.027 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| **Perfluorodecanoic acid (PFDA)** | **0.069** | **J** | 0.25 | 0.059 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.25 | 0.052 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| **Perfluorododecanoic acid (PFDoA)** | **0.052** | **J** | 0.25 | 0.037 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.25 | 0.026 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.25 | 0.046 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.25 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.25 | 0.036 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.88** | **I** | 0.25 | 0.053 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.25 | 0.028 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| **N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)** | **0.080** | **J** | 0.25 | 0.059 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.25 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.25 | 0.051 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.25 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.25 | 0.048 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:29 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *13C4 PFHpA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *13C4 PFOA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *13C5 PFNA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *13C2 PFDA* | *90* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *13C2 PFUnA* | *106* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *13C2 PFDoA* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *13C2 PFTeDA* | *89* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *13C3 PFBS* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *18O2 PFHxS* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *13C4 PFOS* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *d3-NMeFOSAA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *d5-NEtFOSAA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |
| *13C3 HFPO-DA* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:29* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **20.5** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **79.5** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-6**
**Date Collected: 06/08/22 15:00**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-16**
**Matrix: Solid**
**Percent Solids: 82.3**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.22 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.22 | 0.059 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.078** | **J** | 0.22 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.22 | 0.053 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| **Perfluoroundecanoic acid (PFUnA)** | **0.17** | **J** | 0.22 | 0.046 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.22 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| **Perfluorotridecanoic acid (PFTriA)** | **0.098** | **J** | 0.22 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.22 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.22 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **1.5** | **I** | 0.22 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.22 | 0.025 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.22 | 0.053 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.22 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.22 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.22 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 13:39 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *13C4 PFHpA* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *13C4 PFOA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *13C5 PFNA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *13C2 PFDA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *13C2 PFUnA* | *105* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *13C2 PFDoA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *13C2 PFTeDA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *13C3 PFBS* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *18O2 PFHxS* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *13C4 PFOS* | *88* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *d3-NMeFOSAA* | *104* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *d5-NEtFOSAA* | *103* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |
| *13C3 HFPO-DA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 13:39* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **17.7** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |
| **Percent Solids** | **82.3** | | 0.1 | 0.1 | % | | | 06/16/22 14:26 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-23**
**Date Collected: 06/09/22 09:45**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-17**
**Matrix: Solid**
**Percent Solids: 89.3**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.22 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.22 | 0.059 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.22 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.22 | 0.053 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.22 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.22 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.22 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.22 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.22 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.61** | **I** | 0.22 | 0.048 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.22 | 0.026 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.22 | 0.053 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.22 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.22 | 0.046 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.22 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:09 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *13C4 PFHpA* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *13C4 PFOA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *13C5 PFNA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *13C2 PFDA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *13C2 PFUnA* | *108* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *13C2 PFDoA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *13C2 PFTeDA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *13C3 PFBS* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *18O2 PFHxS* | *98* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *13C4 PFOS* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *d3-NMeFOSAA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *d5-NEtFOSAA* | *104* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |
| *13C3 HFPO-DA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:09* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **10.7** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **89.3** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-21**
**Date Collected: 06/09/22 08:05**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-18**
**Matrix: Solid**
**Percent Solids: 94.7**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.055 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.21 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.031 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.022 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.030 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **1.2** | | 0.21 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.037 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.043 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:19 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *13C4 PFHpA* | *106* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *13C4 PFOA* | *106* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *13C5 PFNA* | *106* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *13C2 PFDA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *13C2 PFUnA* | *113* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *13C2 PFDoA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *13C2 PFTeDA* | *103* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *13C3 PFBS* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *18O2 PFHxS* | *104* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *13C4 PFOS* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *d3-NMeFOSAA* | *105* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *d5-NEtFOSAA* | *113* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |
| *13C3 HFPO-DA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:19* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **5.3** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **94.7** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-29**
**Date Collected: 06/09/22 10:45**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-19**
**Matrix: Solid**
**Percent Solids: 88.6**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.22 | 0.058 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.22 | 0.024 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.22 | 0.052 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.22 | 0.046 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.22 | 0.033 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.22 | 0.023 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.22 | 0.040 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.22 | 0.032 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.12** | **J I** | 0.22 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.22 | 0.025 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.22 | 0.052 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.22 | 0.038 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.22 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.22 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:29 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *13C4 PFHpA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *13C4 PFOA* | *101* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *13C5 PFNA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *13C2 PFDA* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *13C2 PFUnA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *13C2 PFDoA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *13C2 PFTeDA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *13C3 PFBS* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *18O2 PFHxS* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *13C4 PFOS* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *d3-NMeFOSAA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *d5-NEtFOSAA* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |
| *13C3 HFPO-DA* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:29* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **11.4** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **88.6** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-20

**Date Collected: 06/09/22 08:45**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-20

**Matrix: Solid**
**Percent Solids: 80.4**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.24 | 0.037 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.24 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.24 | 0.063 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.051** | **J** | 0.24 | 0.026 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| **Perfluorodecanoic acid (PFDA)** | **0.072** | **J** | 0.24 | 0.057 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.24 | 0.050 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| **Perfluorododecanoic acid (PFDoA)** | **0.036** | **J** | 0.24 | 0.036 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.24 | 0.025 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.24 | 0.044 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.24 | 0.045 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.24 | 0.035 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **1.1** | **I** | 0.24 | 0.051 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.24 | 0.028 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.24 | 0.057 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.24 | 0.042 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.24 | 0.049 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.24 | 0.037 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.24 | 0.047 | ug/Kg | ☼ | 06/21/22 04:29 | 07/01/22 14:39 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *94* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *13C4 PFHpA* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *13C4 PFOA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *13C5 PFNA* | *89* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *13C2 PFDA* | *89* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *13C2 PFUnA* | *97* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *13C2 PFDoA* | *87* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *13C2 PFTeDA* | *81* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *13C3 PFBS* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *18O2 PFHxS* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *13C4 PFOS* | *82* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *d3-NMeFOSAA* | *84* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *d5-NEtFOSAA* | *87* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |
| *13C3 HFPO-DA* | *89* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 14:39* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **19.6** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **80.4** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-27**
**Date Collected: 06/09/22 10:30**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-21**
**Matrix: Solid**
**Percent Solids: 92.7**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.055 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.21 | 0.023 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.031 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.022 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.030 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.62** | **I** | 0.21 | 0.045 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.037 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 10:34 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *13C4 PFHpA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *13C4 PFOA* | *100* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *13C5 PFNA* | *100* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *13C2 PFDA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *13C2 PFUnA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *13C2 PFTeDA* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *13C3 PFBS* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *18O2 PFHxS* | *102* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *13C4 PFOS* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *d3-NMeFOSAA* | *104* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *d5-NEtFOSAA* | *102* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |
| *13C3 HFPO-DA* | *87* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:34* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **7.3** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **92.7** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-25

**Date Collected: 06/09/22 10:15**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-22

**Matrix: Solid**
**Percent Solids: 89.9**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.037** | **J** | 0.22 | 0.034 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.22 | 0.042 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **0.12** | **J** | 0.22 | 0.058 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.17** | **J** | 0.22 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| **Perfluorodecanoic acid (PFDA)** | **0.090** | **J** | 0.22 | 0.053 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.22 | 0.046 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.22 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.22 | 0.023 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.22 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.22 | 0.042 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.22 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **18** | | 0.22 | 0.047 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.22 | 0.025 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.22 | 0.053 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.22 | 0.038 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.22 | 0.045 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.22 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:04 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *13C4 PFHpA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *13C4 PFOA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *13C5 PFNA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *13C2 PFDA* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *13C2 PFUnA* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *13C2 PFDoA* | *86* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *13C2 PFTeDA* | *86* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *13C3 PFBS* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *18O2 PFHxS* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *13C4 PFOS* | *90* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *d3-NMeFOSAA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *d5-NEtFOSAA* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |
| *13C3 HFPO-DA* | *86* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:04* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **10.1** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **89.9** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-24**
**Date Collected: 06/09/22 09:55**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-23**
**Matrix: Solid**
**Percent Solids: 89.1**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.041** | **J** | 0.21 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.057 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.052 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.045 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.023 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.031 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **1.8** | | 0.21 | 0.046 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.025 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.052 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.038 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.042 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:14 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *13C4 PFHpA* | *100* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *13C4 PFOA* | *100* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *13C5 PFNA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *13C2 PFDA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *13C2 PFUnA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *13C2 PFDoA* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *13C2 PFTeDA* | *87* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *13C3 PFBS* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *18O2 PFHxS* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *13C4 PFOS* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *d3-NMeFOSAA* | *101* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *d5-NEtFOSAA* | *102* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |
| *13C3 HFPO-DA* | *86* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:14* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **10.9** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **89.1** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-32**
**Date Collected: 06/09/22 11:00**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-24**
**Matrix: Solid**
**Percent Solids: 89.9**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.057 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.052 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.045 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.023 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.031 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.48** | | 0.21 | 0.046 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.025 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.052 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.038 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.042 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:24 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *13C4 PFHpA* | *101* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *13C4 PFOA* | *101* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *13C5 PFNA* | *101* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *13C2 PFDA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *13C2 PFUnA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *13C2 PFTeDA* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *13C3 PFBS* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *18O2 PFHxS* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *13C4 PFOS* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *d3-NMeFOSAA* | *104* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *d5-NEtFOSAA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |
| *13C3 HFPO-DA* | *88* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:24* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **10.1** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **89.9** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

## Client Sample ID: 22SCC-SS-125

**Date Collected: 06/09/22 10:05**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-25

**Matrix: Solid**
**Percent Solids: 88.9**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.051** | **J** | 0.22 | 0.034 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| **Perfluoroheptanoic acid (PFHpA)** | **0.050** | **J** | 0.22 | 0.042 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **0.14** | **J** | 0.22 | 0.058 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.23** | | 0.22 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| **Perfluorodecanoic acid (PFDA)** | **0.11** | **J** | 0.22 | 0.053 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.22 | 0.046 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.22 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.22 | 0.023 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.22 | 0.042 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.22 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.22 | 0.025 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.22 | 0.053 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.22 | 0.038 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.22 | 0.045 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.22 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:34 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *13C4 PFHpA* | *101* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *13C4 PFOA* | *100* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *13C5 PFNA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *13C2 PFDA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *13C2 PFUnA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *13C2 PFDoA* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *13C2 PFTeDA* | *86* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *13C3 PFBS* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *18O2 PFHxS* | *100* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *13C4 PFOS* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *d3-NMeFOSAA* | *101* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *d5-NEtFOSAA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |
| *13C3 HFPO-DA* | *86* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:34* | *1* |

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorooctanesulfonic acid (PFOS)** | **21** | | 1.1 | 0.24 | ug/Kg | ☼ | 06/22/22 04:57 | 07/05/22 17:48 | 5 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C4 PFOS* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/05/22 17:48* | *5* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **11.1** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **88.9** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-14**
**Date Collected: 06/09/22 16:00**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-26**
**Matrix: Solid**
**Percent Solids: 91.7**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.056 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.21 | 0.023 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.051 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.022 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.031 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.18** | **J I** | 0.21 | 0.045 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.051 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.037 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 11:45 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *13C4 PFHpA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *13C4 PFOA* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *13C5 PFNA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *13C2 PFDA* | *100* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *13C2 PFUnA* | *90* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *13C2 PFDoA* | *87* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *13C2 PFTeDA* | *82* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *13C3 PFBS* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *18O2 PFHxS* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *13C4 PFOS* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *d3-NMeFOSAA* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *d5-NEtFOSAA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |
| *13C3 HFPO-DA* | *88* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 11:45* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **8.3** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **91.7** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-13**
**Date Collected: 06/09/22 15:55**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-27**
**Matrix: Solid**
**Percent Solids: 87.8**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.23 | 0.035 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.23 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.23 | 0.060 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.23 | 0.025 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.23 | 0.054 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.23 | 0.047 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.23 | 0.034 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.23 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.23 | 0.042 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.23 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.23 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.80** | | 0.23 | 0.049 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.23 | 0.026 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.23 | 0.054 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.23 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.23 | 0.046 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.23 | 0.035 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.23 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:15 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *90* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *13C4 PFHpA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *13C4 PFOA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *13C5 PFNA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *13C2 PFDA* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *13C2 PFUnA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *13C2 PFTeDA* | *87* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *13C3 PFBS* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *18O2 PFHxS* | *100* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *13C4 PFOS* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *d3-NMeFOSAA* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *d5-NEtFOSAA* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |
| *13C3 HFPO-DA* | *86* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:15* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **12.2** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |
| **Percent Solids** | **87.8** | | 0.1 | 0.1 | % | | | 06/16/22 16:52 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-12**
**Date Collected: 06/09/22 15:40**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-28**
**Matrix: Solid**
**Percent Solids: 88.8**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.37** | | 0.21 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| **Perfluoroheptanoic acid (PFHpA)** | **0.058** | **J** | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **0.21** | | 0.21 | 0.056 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.060** | **J** | 0.21 | 0.023 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.051 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.022 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| **Perfluorobutanesulfonic acid (PFBS)** | **0.044** | **J** | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **1.4** | | 0.21 | 0.031 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.051 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.037 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:25 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *13C4 PFHpA* | *100* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *13C4 PFOA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *13C5 PFNA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *13C2 PFDA* | *90* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *13C2 PFUnA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *13C2 PFDoA* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *13C2 PFTeDA* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *13C3 PFBS* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *18O2 PFHxS* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *13C4 PFOS* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *d3-NMeFOSAA* | *101* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *d5-NEtFOSAA* | *103* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |
| *13C3 HFPO-DA* | *86* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:25* | *1* |

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 - DL

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorooctanesulfonic acid (PFOS)** | **31** | | 1.1 | 0.23 | ug/Kg | ☼ | 06/22/22 04:57 | 07/05/22 17:58 | 5 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C4 PFOS* | *90* | | *50 - 150* | *06/22/22 04:57* | *07/05/22 17:58* | *5* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **11.2** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |
| **Percent Solids** | **88.8** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-11

**Date Collected: 06/09/22 15:30**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-29

**Matrix: Solid**
**Percent Solids: 89.4**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.22 | 0.057 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.22 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.22 | 0.052 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.22 | 0.045 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.22 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.22 | 0.023 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.22 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.22 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **0.14** | **J** | 0.22 | 0.031 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **4.8** | | 0.22 | 0.047 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.22 | 0.025 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.22 | 0.052 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.22 | 0.038 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.22 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.22 | 0.034 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.22 | 0.042 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:35 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *13C4 PFHpA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *13C4 PFOA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *13C5 PFNA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *13C2 PFDA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *13C2 PFUnA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *13C2 PFDoA* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *13C2 PFTeDA* | *87* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *13C3 PFBS* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *18O2 PFHxS* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *13C4 PFOS* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *d3-NMeFOSAA* | *100* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *d5-NEtFOSAA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |
| *13C3 HFPO-DA* | *83* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:35* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **10.6** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |
| **Percent Solids** | **89.4** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-110**
**Date Collected: 06/09/22 14:40**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-30**
**Matrix: Solid**
**Percent Solids: 87.5**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.056 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.21 | 0.023 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.022 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **0.28** | | 0.21 | 0.030 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **1.2** | | 0.21 | 0.045 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.037 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:45 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *13C4 PFHpA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *13C4 PFOA* | *104* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *13C5 PFNA* | *101* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *13C2 PFDA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *13C2 PFUnA* | *102* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *13C2 PFDoA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *13C2 PFTeDA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *13C3 PFBS* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *18O2 PFHxS* | *102* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *13C4 PFOS* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *d3-NMeFOSAA* | *107* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *d5-NEtFOSAA* | *105* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |
| *13C3 HFPO-DA* | *88* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:45* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **12.5** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |
| **Percent Solids** | **87.5** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-9

**Date Collected: 06/09/22 14:35**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-31

**Matrix: Solid**
**Percent Solids: 80.1**

### Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.52** | | 0.23 | 0.036 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| **Perfluoroheptanoic acid (PFHpA)** | **0.14** | **J** | 0.23 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **0.45** | | 0.23 | 0.061 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.12** | **J** | 0.23 | 0.025 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| **Perfluorodecanoic acid (PFDA)** | **0.071** | **J** | 0.23 | 0.055 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| **Perfluoroundecanoic acid (PFUnA)** | **0.22** | **J** | 0.23 | 0.048 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.23 | 0.035 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| **Perfluorotridecanoic acid (PFTriA)** | **0.031** | **J** | 0.23 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.23 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| **Perfluorobutanesulfonic acid (PFBS)** | **0.13** | **J** | 0.23 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **3.2** | | 0.23 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **16** | | 0.23 | 0.050 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.23 | 0.027 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.23 | 0.055 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.23 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.23 | 0.047 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.23 | 0.036 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.23 | 0.045 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 12:55 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *13C4 PFHpA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *13C4 PFOA* | *100* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *13C5 PFNA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *13C2 PFDA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *13C2 PFUnA* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *13C2 PFDoA* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *13C2 PFTeDA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *13C3 PFBS* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *18O2 PFHxS* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *13C4 PFOS* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *d3-NMeFOSAA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *d5-NEtFOSAA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |
| *13C3 HFPO-DA* | *86* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 12:55* | *1* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **19.9** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |
| **Percent Solids** | **80.1** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-16**
**Date Collected: 06/09/22 06:55**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-32**
**Matrix: Solid**
**Percent Solids: 82.9**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.23 | 0.036 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.23 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.23 | 0.061 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.23 | 0.026 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.23 | 0.056 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.23 | 0.049 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.23 | 0.035 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.23 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.23 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.23 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.23 | 0.034 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **1.1** | **I** | 0.23 | 0.050 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.23 | 0.027 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.23 | 0.056 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.23 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.23 | 0.048 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.23 | 0.036 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.23 | 0.045 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:05 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *13C4 PFHpA* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *13C4 PFOA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *13C5 PFNA* | *101* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *13C2 PFDA* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *13C2 PFUnA* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *13C2 PFTeDA* | *88* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *13C3 PFBS* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *18O2 PFHxS* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *13C4 PFOS* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *d3-NMeFOSAA* | *101* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *d5-NEtFOSAA* | *103* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |
| *13C3 HFPO-DA* | *83* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:05* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **17.1** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |
| **Percent Solids** | **82.9** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-30**
**Date Collected: 06/09/22 10:55**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-33**
**Matrix: Solid**
**Percent Solids: 87.4**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.21 | 0.055 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.21 | 0.023 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.21 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.21 | 0.031 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.21 | 0.022 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.21 | 0.039 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.21 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.21 | 0.030 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.12** | **J I** | 0.21 | 0.045 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.21 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.21 | 0.050 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.21 | 0.037 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.21 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.21 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.21 | 0.041 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:15 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *13C4 PFHpA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *13C4 PFOA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *13C5 PFNA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *13C2 PFDA* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *13C2 PFUnA* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *13C2 PFDoA* | *86* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *13C2 PFTeDA* | *85* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *13C3 PFBS* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *18O2 PFHxS* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *13C4 PFOS* | *88* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *d3-NMeFOSAA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *d5-NEtFOSAA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |
| *13C3 HFPO-DA* | *83* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:15* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **12.6** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |
| **Percent Solids** | **87.4** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-7**
**Date Collected: 06/09/22 14:00**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-34**
**Matrix: Solid**
**Percent Solids: 89.8**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Perfluorohexanoic acid (PFHxA)** | **0.090** | **J** | 0.20 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.20 | 0.039 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| **Perfluorooctanoic acid (PFOA)** | **0.097** | **J** | 0.20 | 0.054 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| **Perfluorononanoic acid (PFNA)** | **0.071** | **J** | 0.20 | 0.022 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.20 | 0.049 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.20 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.20 | 0.031 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.20 | 0.021 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.20 | 0.038 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.20 | 0.039 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| **Perfluorohexanesulfonic acid (PFHxS)** | **0.43** | | 0.20 | 0.030 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **1.2** | | 0.20 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.20 | 0.023 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.20 | 0.049 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.20 | 0.036 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.20 | 0.042 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.20 | 0.032 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.20 | 0.040 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:25 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *13C4 PFHpA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *13C4 PFOA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *13C5 PFNA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *13C2 PFDA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *13C2 PFUnA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *13C2 PFTeDA* | *87* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *13C3 PFBS* | *90* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *18O2 PFHxS* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *13C4 PFOS* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *d3-NMeFOSAA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *d5-NEtFOSAA* | *96* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |
| *13C3 HFPO-DA* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:25* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **10.2** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |
| **Percent Solids** | **89.8** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

**Client Sample ID: 22SCC-SS-31**
**Date Collected: 06/09/22 11:10**
**Date Received: 06/14/22 11:25**

**Lab Sample ID: 320-89051-35**
**Matrix: Solid**
**Percent Solids: 88.2**

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.23 | 0.035 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.23 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.23 | 0.060 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.23 | 0.025 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.23 | 0.054 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.23 | 0.047 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.23 | 0.034 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.23 | 0.024 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.23 | 0.042 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.23 | 0.043 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.23 | 0.033 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| **Perfluorooctanesulfonic acid (PFOS)** | **0.44** | **I** | 0.23 | 0.048 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.23 | 0.026 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.23 | 0.054 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.23 | 0.039 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.23 | 0.046 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.23 | 0.035 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.23 | 0.044 | ug/Kg | ☼ | 06/22/22 04:57 | 07/02/22 13:36 | 1 |

| *Isotope Dilution* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *13C4 PFHpA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *13C4 PFOA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *13C5 PFNA* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *13C2 PFDA* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *13C2 PFUnA* | *93* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *13C2 PFDoA* | *87* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *13C2 PFTeDA* | *87* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *13C3 PFBS* | *88* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *18O2 PFHxS* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *13C4 PFOS* | *90* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *d3-NMeFOSAA* | *95* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *d5-NEtFOSAA* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |
| *13C3 HFPO-DA* | *89* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 13:36* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Moisture** | **11.8** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |
| **Percent Solids** | **88.2** | | 0.1 | 0.1 | % | | | 06/17/22 13:57 | 1 |

# Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

**Matrix: Solid**

**Prep Type: Total/NA**

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | PFHxA | C4PFHA | PFOA | PFNA | PFDA | PFUnA | PFDoA | PFTDA |
| Lab Sample ID | Client Sample ID | (50-150) | (50-150) | (50-150) | (50-150) | (50-150) | (50-150) | (50-150) | (50-150) |
| 320-89051-1 | 22SCC-SS-22 | 101 | 102 | 102 | 101 | 101 | 102 | 92 | 97 |
| 320-89051-1 MS | 22SCC-SS-22 | 90 | 97 | 98 | 101 | 95 | 98 | 93 | 93 |
| 320-89051-1 MSD | 22SCC-SS-22 | 101 | 105 | 97 | 97 | 97 | 102 | 97 | 98 |
| 320-89051-2 | 22SCC-SS-2 | 92 | 96 | 102 | 90 | 88 | 95 | 88 | 82 |
| 320-89051-3 | 22SCC-SS-1 | 90 | 96 | 104 | 91 | 92 | 101 | 94 | 94 |
| 320-89051-4 | 22SCC-SS-5 | 94 | 95 | 101 | 93 | 94 | 100 | 96 | 100 |
| 320-89051-5 | 22SCC-SS-15 | 93 | 98 | 100 | 98 | 93 | 97 | 92 | 96 |
| 320-89051-6 | 22SCC-SS-28 | 93 | 100 | 101 | 94 | 100 | 94 | 88 | 96 |
| 320-89051-7 | 22SCC-SS-26 | 94 | 100 | 98 | 91 | 97 | 102 | 95 | 91 |
| 320-89051-8 | 22SCC-SS-17 | 98 | 99 | 101 | 104 | 97 | 97 | 97 | 87 |
| 320-89051-9 | 22SCC-SS-19 | 104 | 99 | 100 | 107 | 100 | 103 | 94 | 98 |
| 320-89051-10 | 22SCC-SS-18 | 97 | 103 | 99 | 100 | 98 | 103 | 92 | 94 |
| 320-89051-11 | 22SCC-SS-8 | 95 | 96 | 94 | 92 | 95 | 94 | 85 | 86 |
| 320-89051-12 | 22SCC-SS-3 | 86 | 100 | 98 | 99 | 96 | 100 | 85 | 84 |
| 320-89051-13 | 22SCC-SS-10 | 97 | 106 | 104 | 96 | 96 | 111 | 97 | 93 |
| 320-89051-14 | 22SCC-SS-4 | 93 | 100 | 93 | 100 | 103 | 97 | 90 | 95 |
| 320-89051-15 | 22SCC-SS-120 | 96 | 94 | 99 | 94 | 90 | 106 | 91 | 89 |
| 320-89051-16 | 22SCC-SS-6 | 94 | 100 | 98 | 95 | 95 | 105 | 99 | 95 |
| 320-89051-17 | 22SCC-SS-23 | 102 | 98 | 99 | 99 | 95 | 108 | 99 | 102 |
| 320-89051-18 | 22SCC-SS-21 | 102 | 106 | 106 | 106 | 97 | 113 | 99 | 103 |
| 320-89051-19 | 22SCC-SS-29 | 91 | 95 | 101 | 97 | 92 | 102 | 95 | 97 |
| 320-89051-20 | 22SCC-SS-20 | 94 | 91 | 99 | 89 | 89 | 97 | 87 | 81 |
| 320-89051-21 | 22SCC-SS-27 | 93 | 98 | 100 | 100 | 95 | 93 | 92 | 91 |
| 320-89051-21 MS | 22SCC-SS-27 | 92 | 97 | 99 | 102 | 96 | 100 | 98 | 99 |
| 320-89051-21 MSD | 22SCC-SS-27 | 90 | 98 | 94 | 99 | 97 | 98 | 100 | 97 |
| 320-89051-22 | 22SCC-SS-25 | 94 | 96 | 99 | 96 | 91 | 91 | 86 | 86 |
| 320-89051-23 | 22SCC-SS-24 | 92 | 100 | 100 | 99 | 92 | 93 | 89 | 87 |
| 320-89051-24 | 22SCC-SS-32 | 95 | 101 | 101 | 101 | 98 | 95 | 92 | 89 |
| 320-89051-25 | 22SCC-SS-125 | 95 | 101 | 100 | 98 | 93 | 92 | 89 | 86 |
| 320-89051-25 - DL | 22SCC-SS-125 | | | | | | | | |
| 320-89051-26 | 22SCC-SS-14 | 92 | 93 | 97 | 95 | 100 | 90 | 87 | 82 |
| 320-89051-27 | 22SCC-SS-13 | 90 | 98 | 95 | 98 | 94 | 96 | 92 | 87 |
| 320-89051-28 | 22SCC-SS-12 | 92 | 100 | 99 | 93 | 90 | 92 | 89 | 94 |
| 320-89051-28 - DL | 22SCC-SS-12 | | | | | | | | |
| 320-89051-29 | 22SCC-SS-11 | 93 | 96 | 98 | 99 | 92 | 96 | 94 | 87 |
| 320-89051-30 | 22SCC-SS-110 | 98 | 99 | 104 | 101 | 98 | 102 | 93 | 93 |
| 320-89051-31 | 22SCC-SS-9 | 89 | 95 | 100 | 99 | 96 | 91 | 91 | 92 |
| 320-89051-32 | 22SCC-SS-16 | 91 | 97 | 99 | 101 | 94 | 97 | 92 | 88 |
| 320-89051-33 | 22SCC-SS-30 | 94 | 95 | 95 | 96 | 89 | 89 | 86 | 85 |
| 320-89051-34 | 22SCC-SS-7 | 93 | 99 | 98 | 99 | 93 | 95 | 92 | 87 |
| 320-89051-35 | 22SCC-SS-31 | 91 | 98 | 95 | 97 | 89 | 93 | 87 | 87 |
| LCS 320-597225/2-A | Lab Control Sample | 94 | 102 | 97 | 94 | 95 | 98 | 92 | 95 |
| LCS 320-597530/2-A | Lab Control Sample | 94 | 101 | 103 | 99 | 95 | 95 | 97 | 94 |
| MB 320-597225/1-A | Method Blank | 91 | 95 | 96 | 91 | 92 | 102 | 92 | 99 |
| MB 320-597530/1-A | Method Blank | 99 | 103 | 98 | 102 | 91 | 101 | 97 | 102 |

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | C3PFBS | PFHxS | PFOS | d3NMFOS | d5NEFOS | HFPODA | | |
| Lab Sample ID | Client Sample ID | (50-150) | (50-150) | (50-150) | (50-150) | (50-150) | (50-150) | | |
| 320-89051-1 | 22SCC-SS-22 | 90 | 99 | 97 | 97 | 103 | 93 | | |

# Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

**Matrix: Solid**

**Prep Type: Total/NA**

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Lab Sample ID | Client Sample ID | C3PFBS (50-150) | PFHxS (50-150) | PFOS (50-150) | d3NMFOS (50-150) | d5NEFOS (50-150) | HFPODA (50-150) | | |
| 320-89051-1 MS | 22SCC-SS-22 | 87 | 103 | 92 | 95 | 102 | 92 | | |
| 320-89051-1 MSD | 22SCC-SS-22 | 100 | 103 | 94 | 99 | 101 | 100 | | |
| 320-89051-2 | 22SCC-SS-2 | 89 | 100 | 89 | 89 | 99 | 90 | | |
| 320-89051-3 | 22SCC-SS-1 | 103 | 98 | 90 | 95 | 104 | 90 | | |
| 320-89051-4 | 22SCC-SS-5 | 96 | 98 | 93 | 95 | 97 | 96 | | |
| 320-89051-5 | 22SCC-SS-15 | 97 | 96 | 94 | 94 | 96 | 99 | | |
| 320-89051-6 | 22SCC-SS-28 | 91 | 96 | 89 | 91 | 90 | 96 | | |
| 320-89051-7 | 22SCC-SS-26 | 97 | 103 | 87 | 102 | 103 | 92 | | |
| 320-89051-8 | 22SCC-SS-17 | 91 | 95 | 88 | 92 | 90 | 100 | | |
| 320-89051-9 | 22SCC-SS-19 | 101 | 95 | 96 | 108 | 102 | 98 | | |
| 320-89051-10 | 22SCC-SS-18 | 95 | 97 | 95 | 98 | 101 | 95 | | |
| 320-89051-11 | 22SCC-SS-8 | 91 | 96 | 87 | 90 | 98 | 90 | | |
| 320-89051-12 | 22SCC-SS-3 | 97 | 91 | 89 | 96 | 96 | 97 | | |
| 320-89051-13 | 22SCC-SS-10 | 97 | 103 | 91 | 95 | 114 | 94 | | |
| 320-89051-14 | 22SCC-SS-4 | 90 | 99 | 93 | 94 | 98 | 96 | | |
| 320-89051-15 | 22SCC-SS-120 | 97 | 95 | 91 | 97 | 95 | 91 | | |
| 320-89051-16 | 22SCC-SS-6 | 92 | 95 | 88 | 104 | 103 | 99 | | |
| 320-89051-17 | 22SCC-SS-23 | 96 | 98 | 93 | 95 | 104 | 97 | | |
| 320-89051-18 | 22SCC-SS-21 | 102 | 104 | 99 | 105 | 113 | 97 | | |
| 320-89051-19 | 22SCC-SS-29 | 97 | 102 | 96 | 95 | 93 | 91 | | |
| 320-89051-20 | 22SCC-SS-20 | 93 | 91 | 82 | 84 | 87 | 89 | | |
| 320-89051-21 | 22SCC-SS-27 | 95 | 102 | 95 | 104 | 102 | 87 | | |
| 320-89051-21 MS | 22SCC-SS-27 | 93 | 99 | 94 | 104 | 110 | 83 | | |
| 320-89051-21 MSD | 22SCC-SS-27 | 91 | 95 | 95 | 109 | 115 | 86 | | |
| 320-89051-22 | 22SCC-SS-25 | 89 | 95 | 90 | 98 | 97 | 86 | | |
| 320-89051-23 | 22SCC-SS-24 | 94 | 98 | 94 | 101 | 102 | 86 | | |
| 320-89051-24 | 22SCC-SS-32 | 95 | 97 | 96 | 104 | 99 | 88 | | |
| 320-89051-25 | 22SCC-SS-125 | 96 | 100 | 94 | 101 | 99 | 86 | | |
| 320-89051-25 - DL | 22SCC-SS-125 | | | 89 | | | | | |
| 320-89051-26 | 22SCC-SS-14 | 93 | 97 | 89 | 94 | 96 | 88 | | |
| 320-89051-27 | 22SCC-SS-13 | 89 | 100 | 91 | 97 | 97 | 86 | | |
| 320-89051-28 | 22SCC-SS-12 | 91 | 98 | 91 | 101 | 103 | 86 | | |
| 320-89051-28 - DL | 22SCC-SS-12 | | | 90 | | | | | |
| 320-89051-29 | 22SCC-SS-11 | 92 | 95 | 93 | 100 | 96 | 83 | | |
| 320-89051-30 | 22SCC-SS-110 | 92 | 102 | 93 | 107 | 105 | 88 | | |
| 320-89051-31 | 22SCC-SS-9 | 91 | 97 | 93 | 98 | 98 | 86 | | |
| 320-89051-32 | 22SCC-SS-16 | 92 | 98 | 95 | 101 | 103 | 83 | | |
| 320-89051-33 | 22SCC-SS-30 | 94 | 96 | 88 | 96 | 93 | 83 | | |
| 320-89051-34 | 22SCC-SS-7 | 90 | 97 | 94 | 96 | 96 | 91 | | |
| 320-89051-35 | 22SCC-SS-31 | 88 | 95 | 90 | 95 | 97 | 89 | | |
| LCS 320-597225/2-A | Lab Control Sample | 97 | 97 | 96 | 95 | 100 | 97 | | |
| LCS 320-597530/2-A | Lab Control Sample | 94 | 101 | 92 | 104 | 103 | 91 | | |
| MB 320-597225/1-A | Method Blank | 92 | 100 | 91 | 93 | 104 | 93 | | |
| MB 320-597530/1-A | Method Blank | 94 | 103 | 94 | 106 | 108 | 92 | | |

**Surrogate Legend**

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA

# Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
HFPODA = 13C3 HFPO-DA

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

**Lab Sample ID: MB 320-597225/1-A**
**Matrix: Solid**
**Analysis Batch: 600108**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 597225**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.20 | 0.031 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.20 | 0.038 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.20 | 0.053 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.20 | 0.022 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.20 | 0.048 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.20 | 0.042 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.20 | 0.030 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.20 | 0.021 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.20 | 0.037 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.20 | 0.038 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.20 | 0.029 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 0.20 | 0.043 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.20 | 0.023 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.20 | 0.048 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.20 | 0.035 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.20 | 0.041 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.20 | 0.031 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.20 | 0.039 | ug/Kg | | 06/21/22 04:29 | 07/01/22 10:06 | 1 |

| *Isotope Dilution* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *13C4 PFHpA* | *95* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *13C4 PFOA* | *96* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *13C5 PFNA* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *13C2 PFDA* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *13C2 PFUnA* | *102* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *13C2 PFDoA* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *13C2 PFTeDA* | *99* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *13C3 PFBS* | *92* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *18O2 PFHxS* | *100* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *13C4 PFOS* | *91* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *d3-NMeFOSAA* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *d5-NEtFOSAA* | *104* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |
| *13C3 HFPO-DA* | *93* | | *50 - 150* | *06/21/22 04:29* | *07/01/22 10:06* | *1* |

**Lab Sample ID: LCS 320-597225/2-A**
**Matrix: Solid**
**Analysis Batch: 600108**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 597225**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 2.00 | 2.13 | | ug/Kg | | 106 | 70 - 132 |
| Perfluoroheptanoic acid (PFHpA) | 2.00 | 1.93 | | ug/Kg | | 97 | 71 - 131 |
| Perfluorooctanoic acid (PFOA) | 2.00 | 2.10 | | ug/Kg | | 105 | 69 - 133 |
| Perfluorononanoic acid (PFNA) | 2.00 | 2.10 | | ug/Kg | | 105 | 72 - 129 |

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

**Lab Sample ID: LCS 320-597225/2-A**
**Matrix: Solid**
**Analysis Batch: 600108**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 597225**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Perfluorodecanoic acid (PFDA) | 2.00 | 2.07 | | ug/Kg | | 104 | 69 - 133 |
| Perfluoroundecanoic acid (PFUnA) | 2.00 | 1.97 | | ug/Kg | | 98 | 64 - 136 |
| Perfluorododecanoic acid (PFDoA) | 2.00 | 2.15 | | ug/Kg | | 108 | 69 - 135 |
| Perfluorotridecanoic acid (PFTriA) | 2.00 | 2.00 | | ug/Kg | | 100 | 66 - 139 |
| Perfluorotetradecanoic acid (PFTeA) | 2.00 | 2.25 | | ug/Kg | | 112 | 69 - 133 |
| Perfluorobutanesulfonic acid (PFBS) | 1.78 | 1.89 | | ug/Kg | | 106 | 72 - 128 |
| Perfluorohexanesulfonic acid (PFHxS) | 1.82 | 1.87 | | ug/Kg | | 103 | 67 - 130 |
| Perfluorooctanesulfonic acid (PFOS) | 1.86 | 1.98 | | ug/Kg | | 106 | 68 - 136 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | 2.00 | 2.21 | | ug/Kg | | 111 | 63 - 144 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | 2.00 | 2.16 | | ug/Kg | | 108 | 61 - 139 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | 1.87 | 1.98 | | ug/Kg | | 106 | 75 - 135 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | 2.00 | 1.96 | | ug/Kg | | 98 | 77 - 137 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | 1.89 | 2.04 | | ug/Kg | | 108 | 76 - 136 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | 1.89 | 2.08 | | ug/Kg | | 110 | 79 - 139 |

| *Isotope Dilution* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *13C2 PFHxA* | *94* | | *50 - 150* |
| *13C4 PFHpA* | *102* | | *50 - 150* |
| *13C4 PFOA* | *97* | | *50 - 150* |
| *13C5 PFNA* | *94* | | *50 - 150* |
| *13C2 PFDA* | *95* | | *50 - 150* |
| *13C2 PFUnA* | *98* | | *50 - 150* |
| *13C2 PFDoA* | *92* | | *50 - 150* |
| *13C2 PFTeDA* | *95* | | *50 - 150* |
| *13C3 PFBS* | *97* | | *50 - 150* |
| *18O2 PFHxS* | *97* | | *50 - 150* |
| *13C4 PFOS* | *96* | | *50 - 150* |
| *d3-NMeFOSAA* | *95* | | *50 - 150* |
| *d5-NEtFOSAA* | *100* | | *50 - 150* |
| *13C3 HFPO-DA* | *97* | | *50 - 150* |

**Lab Sample ID: 320-89051-1 MS**
**Matrix: Solid**
**Analysis Batch: 600108**

**Client Sample ID: 22SCC-SS-22**
**Prep Type: Total/NA**
**Prep Batch: 597225**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 2.00 | 2.10 | | ug/Kg | ☼ | 105 | 70 - 132 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.00 | 2.03 | | ug/Kg | ☼ | 102 | 71 - 131 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.00 | 2.13 | | ug/Kg | ☼ | 106 | 69 - 133 |

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

**Lab Sample ID: 320-89051-1 MS**
**Matrix: Solid**
**Analysis Batch: 600108**

**Client Sample ID: 22SCC-SS-22**
**Prep Type: Total/NA**
**Prep Batch: 597225**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorononanoic acid (PFNA) | ND | | 2.00 | 1.92 | | ug/Kg | ☼ | 96 | 72 - 129 |
| Perfluorodecanoic acid (PFDA) | ND | | 2.00 | 2.32 | | ug/Kg | ☼ | 116 | 69 - 133 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 2.00 | 2.05 | | ug/Kg | ☼ | 102 | 64 - 136 |
| Perfluorododecanoic acid (PFDoA) | ND | | 2.00 | 1.99 | | ug/Kg | ☼ | 100 | 69 - 135 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 2.00 | 2.16 | | ug/Kg | ☼ | 108 | 66 - 139 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 2.00 | 2.26 | | ug/Kg | ☼ | 113 | 69 - 133 |
| Perfluorobutanesulfonic acid (PFBS) | ND | F1 | 1.78 | 2.41 | F1 | ug/Kg | ☼ | 136 | 72 - 128 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.82 | 1.62 | | ug/Kg | ☼ | 89 | 67 - 130 |
| Perfluorooctanesulfonic acid (PFOS) | 1.4 | | 1.86 | 3.27 | | ug/Kg | ☼ | 103 | 68 - 136 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 2.00 | 2.36 | | ug/Kg | ☼ | 118 | 63 - 144 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 2.00 | 2.11 | | ug/Kg | ☼ | 105 | 61 - 139 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 1.87 | 1.94 | | ug/Kg | ☼ | 104 | 75 - 135 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 2.00 | 2.06 | | ug/Kg | ☼ | 103 | 77 - 137 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 1.89 | 1.76 | | ug/Kg | ☼ | 93 | 76 - 136 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 1.89 | 2.28 | | ug/Kg | ☼ | 120 | 79 - 139 |

| *Isotope Dilution* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *13C2 PFHxA* | *90* | | *50 - 150* |
| *13C4 PFHpA* | *97* | | *50 - 150* |
| *13C4 PFOA* | *98* | | *50 - 150* |
| *13C5 PFNA* | *101* | | *50 - 150* |
| *13C2 PFDA* | *95* | | *50 - 150* |
| *13C2 PFUnA* | *98* | | *50 - 150* |
| *13C2 PFDoA* | *93* | | *50 - 150* |
| *13C2 PFTeDA* | *93* | | *50 - 150* |
| *13C3 PFBS* | *87* | | *50 - 150* |
| *18O2 PFHxS* | *103* | | *50 - 150* |
| *13C4 PFOS* | *92* | | *50 - 150* |
| *d3-NMeFOSAA* | *95* | | *50 - 150* |
| *d5-NEtFOSAA* | *102* | | *50 - 150* |
| *13C3 HFPO-DA* | *92* | | *50 - 150* |

**Lab Sample ID: 320-89051-1 MSD**
**Matrix: Solid**
**Analysis Batch: 600108**

**Client Sample ID: 22SCC-SS-22**
**Prep Type: Total/NA**
**Prep Batch: 597225**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 2.03 | 2.13 | | ug/Kg | ☼ | 105 | 70 - 132 | 1 | 30 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.03 | 2.16 | | ug/Kg | ☼ | 106 | 71 - 131 | 6 | 30 |

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

**Lab Sample ID: 320-89051-1 MSD**
**Matrix: Solid**
**Analysis Batch: 600108**

**Client Sample ID: 22SCC-SS-22**
**Prep Type: Total/NA**
**Prep Batch: 597225**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorooctanoic acid (PFOA) | ND | | 2.03 | 2.21 | | ug/Kg | ☼ | 109 | 69 - 133 | 4 | 30 |
| Perfluorononanoic acid (PFNA) | ND | | 2.03 | 2.07 | | ug/Kg | ☼ | 102 | 72 - 129 | 8 | 30 |
| Perfluorodecanoic acid (PFDA) | ND | | 2.03 | 2.36 | | ug/Kg | ☼ | 116 | 69 - 133 | 2 | 30 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 2.03 | 2.04 | | ug/Kg | ☼ | 101 | 64 - 136 | 0 | 30 |
| Perfluorododecanoic acid (PFDoA) | ND | | 2.03 | 2.10 | | ug/Kg | ☼ | 104 | 69 - 135 | 5 | 30 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 2.03 | 2.15 | | ug/Kg | ☼ | 106 | 66 - 139 | 1 | 30 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 2.03 | 2.28 | | ug/Kg | ☼ | 112 | 69 - 133 | 1 | 30 |
| Perfluorobutanesulfonic acid (PFBS) | ND | F1 | 1.80 | 2.11 | | ug/Kg | ☼ | 117 | 72 - 128 | 13 | 30 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.85 | 1.87 | | ug/Kg | ☼ | 101 | 67 - 130 | 14 | 30 |
| Perfluorooctanesulfonic acid (PFOS) | 1.4 | | 1.89 | 3.57 | | ug/Kg | ☼ | 118 | 68 - 136 | 9 | 30 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 2.03 | 2.58 | | ug/Kg | ☼ | 127 | 63 - 144 | 9 | 30 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 2.03 | 2.31 | | ug/Kg | ☼ | 114 | 61 - 139 | 9 | 30 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 1.90 | 2.18 | | ug/Kg | ☼ | 115 | 75 - 135 | 12 | 30 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 2.03 | 2.13 | | ug/Kg | ☼ | 105 | 77 - 137 | 3 | 30 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 1.92 | 2.05 | | ug/Kg | ☼ | 107 | 76 - 136 | 15 | 30 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 1.92 | 2.26 | | ug/Kg | ☼ | 118 | 79 - 139 | 1 | 30 |

| *Isotope Dilution* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *13C2 PFHxA* | *101* | | *50 - 150* |
| *13C4 PFHpA* | *105* | | *50 - 150* |
| *13C4 PFOA* | *97* | | *50 - 150* |
| *13C5 PFNA* | *97* | | *50 - 150* |
| *13C2 PFDA* | *97* | | *50 - 150* |
| *13C2 PFUnA* | *102* | | *50 - 150* |
| *13C2 PFDoA* | *97* | | *50 - 150* |
| *13C2 PFTeDA* | *98* | | *50 - 150* |
| *13C3 PFBS* | *100* | | *50 - 150* |
| *18O2 PFHxS* | *103* | | *50 - 150* |
| *13C4 PFOS* | *94* | | *50 - 150* |
| *d3-NMeFOSAA* | *99* | | *50 - 150* |
| *d5-NEtFOSAA* | *101* | | *50 - 150* |
| *13C3 HFPO-DA* | *100* | | *50 - 150* |

**Lab Sample ID: MB 320-597530/1-A**
**Matrix: Solid**
**Analysis Batch: 600382**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 597530**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 0.20 | 0.031 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

**Lab Sample ID: MB 320-597530/1-A**
**Matrix: Solid**
**Analysis Batch: 600382**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 597530**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Perfluoroheptanoic acid (PFHpA) | ND | | 0.20 | 0.038 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 0.20 | 0.053 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 0.20 | 0.022 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 0.20 | 0.048 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 0.20 | 0.042 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 0.20 | 0.030 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 0.20 | 0.021 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 0.20 | 0.037 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 0.20 | 0.038 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 0.20 | 0.029 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 0.20 | 0.043 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.20 | 0.023 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.20 | 0.048 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 0.20 | 0.035 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 0.20 | 0.041 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 0.20 | 0.031 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.20 | 0.039 | ug/Kg | | 06/22/22 04:57 | 07/02/22 10:14 | 1 |

| *Isotope Dilution* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *13C2 PFHxA* | *99* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *13C4 PFHpA* | *103* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *13C4 PFOA* | *98* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *13C5 PFNA* | *102* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *13C2 PFDA* | *91* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *13C2 PFUnA* | *101* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *13C2 PFDoA* | *97* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *13C2 PFTeDA* | *102* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *13C3 PFBS* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *18O2 PFHxS* | *103* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *13C4 PFOS* | *94* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *d3-NMeFOSAA* | *106* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *d5-NEtFOSAA* | *108* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |
| *13C3 HFPO-DA* | *92* | | *50 - 150* | *06/22/22 04:57* | *07/02/22 10:14* | *1* |

**Lab Sample ID: LCS 320-597530/2-A**
**Matrix: Solid**
**Analysis Batch: 600382**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 597530**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | 2.00 | 1.95 | | ug/Kg | | 98 | 70 - 132 |
| Perfluoroheptanoic acid (PFHpA) | 2.00 | 1.94 | | ug/Kg | | 97 | 71 - 131 |
| Perfluorooctanoic acid (PFOA) | 2.00 | 1.92 | | ug/Kg | | 96 | 69 - 133 |
| Perfluorononanoic acid (PFNA) | 2.00 | 1.98 | | ug/Kg | | 99 | 72 - 129 |
| Perfluorodecanoic acid (PFDA) | 2.00 | 1.95 | | ug/Kg | | 97 | 69 - 133 |

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

**Lab Sample ID: LCS 320-597530/2-A**
**Matrix: Solid**
**Analysis Batch: 600382**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 597530**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|
| Perfluoroundecanoic acid (PFUnA) | 2.00 | 1.83 | | ug/Kg | | 92 | 64 - 136 |
| Perfluorododecanoic acid (PFDoA) | 2.00 | 1.90 | | ug/Kg | | 95 | 69 - 135 |
| Perfluorotridecanoic acid (PFTriA) | 2.00 | 1.91 | | ug/Kg | | 95 | 66 - 139 |
| Perfluorotetradecanoic acid (PFTeA) | 2.00 | 1.93 | | ug/Kg | | 96 | 69 - 133 |
| Perfluorobutanesulfonic acid (PFBS) | 1.78 | 1.83 | | ug/Kg | | 103 | 72 - 128 |
| Perfluorohexanesulfonic acid (PFHxS) | 1.82 | 1.67 | | ug/Kg | | 91 | 67 - 130 |
| Perfluorooctanesulfonic acid (PFOS) | 1.86 | 1.93 | | ug/Kg | | 104 | 68 - 136 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | 2.00 | 1.67 | | ug/Kg | | 84 | 63 - 144 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | 2.00 | 2.08 | | ug/Kg | | 104 | 61 - 139 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | 1.87 | 1.89 | | ug/Kg | | 101 | 75 - 135 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | 2.00 | 1.98 | | ug/Kg | | 99 | 77 - 137 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | 1.89 | 1.94 | | ug/Kg | | 103 | 76 - 136 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | 1.89 | 2.18 | | ug/Kg | | 115 | 79 - 139 |

| *Isotope Dilution* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *13C2 PFHxA* | *94* | | *50 - 150* |
| *13C4 PFHpA* | *101* | | *50 - 150* |
| *13C4 PFOA* | *103* | | *50 - 150* |
| *13C5 PFNA* | *99* | | *50 - 150* |
| *13C2 PFDA* | *95* | | *50 - 150* |
| *13C2 PFUnA* | *95* | | *50 - 150* |
| *13C2 PFDoA* | *97* | | *50 - 150* |
| *13C2 PFTeDA* | *94* | | *50 - 150* |
| *13C3 PFBS* | *94* | | *50 - 150* |
| *18O2 PFHxS* | *101* | | *50 - 150* |
| *13C4 PFOS* | *92* | | *50 - 150* |
| *d3-NMeFOSAA* | *104* | | *50 - 150* |
| *d5-NEtFOSAA* | *103* | | *50 - 150* |
| *13C3 HFPO-DA* | *91* | | *50 - 150* |

**Lab Sample ID: 320-89051-21 MS**
**Matrix: Solid**
**Analysis Batch: 600382**

**Client Sample ID: 22SCC-SS-27**
**Prep Type: Total/NA**
**Prep Batch: 597530**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 2.01 | 2.02 | | ug/Kg | ☼ | 100 | 70 - 132 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.01 | 2.07 | | ug/Kg | ☼ | 103 | 71 - 131 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.01 | 1.95 | | ug/Kg | ☼ | 97 | 69 - 133 |
| Perfluorononanoic acid (PFNA) | ND | | 2.01 | 1.99 | | ug/Kg | ☼ | 99 | 72 - 129 |

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

**Lab Sample ID: 320-89051-21 MS**
**Matrix: Solid**
**Analysis Batch: 600382**

**Client Sample ID: 22SCC-SS-27**
**Prep Type: Total/NA**
**Prep Batch: 597530**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---|---|---|---|---|---|---|---|---|---|
| Perfluorodecanoic acid (PFDA) | ND | | 2.01 | 2.18 | | ug/Kg | ☼ | 109 | 69 - 133 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 2.01 | 1.81 | | ug/Kg | ☼ | 90 | 64 - 136 |
| Perfluorododecanoic acid (PFDoA) | ND | | 2.01 | 2.02 | | ug/Kg | ☼ | 100 | 69 - 135 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 2.01 | 2.03 | | ug/Kg | ☼ | 101 | 66 - 139 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 2.01 | 1.96 | | ug/Kg | ☼ | 97 | 69 - 133 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.79 | 1.91 | | ug/Kg | ☼ | 107 | 72 - 128 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.84 | 1.74 | | ug/Kg | ☼ | 95 | 67 - 130 |
| Perfluorooctanesulfonic acid (PFOS) | 0.62 | I | 1.87 | 2.76 | | ug/Kg | ☼ | 114 | 68 - 136 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 2.01 | 1.90 | | ug/Kg | ☼ | 94 | 63 - 144 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 2.01 | 2.11 | | ug/Kg | ☼ | 105 | 61 - 139 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 1.88 | 1.81 | | ug/Kg | ☼ | 96 | 75 - 135 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 2.01 | 2.26 | | ug/Kg | ☼ | 112 | 77 - 137 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 1.90 | 1.73 | | ug/Kg | ☼ | 91 | 76 - 136 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 1.90 | 2.14 | | ug/Kg | ☼ | 113 | 79 - 139 |

| *Isotope Dilution* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *13C2 PFHxA* | *92* | | *50 - 150* |
| *13C4 PFHpA* | *97* | | *50 - 150* |
| *13C4 PFOA* | *99* | | *50 - 150* |
| *13C5 PFNA* | *102* | | *50 - 150* |
| *13C2 PFDA* | *96* | | *50 - 150* |
| *13C2 PFUnA* | *100* | | *50 - 150* |
| *13C2 PFDoA* | *98* | | *50 - 150* |
| *13C2 PFTeDA* | *99* | | *50 - 150* |
| *13C3 PFBS* | *93* | | *50 - 150* |
| *18O2 PFHxS* | *99* | | *50 - 150* |
| *13C4 PFOS* | *94* | | *50 - 150* |
| *d3-NMeFOSAA* | *104* | | *50 - 150* |
| *d5-NEtFOSAA* | *110* | | *50 - 150* |
| *13C3 HFPO-DA* | *83* | | *50 - 150* |

**Lab Sample ID: 320-89051-21 MSD**
**Matrix: Solid**
**Analysis Batch: 600382**

**Client Sample ID: 22SCC-SS-27**
**Prep Type: Total/NA**
**Prep Batch: 597530**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorohexanoic acid (PFHxA) | ND | | 1.96 | 1.91 | | ug/Kg | ☼ | 97 | 70 - 132 | 6 | 30 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.96 | 2.01 | | ug/Kg | ☼ | 102 | 71 - 131 | 3 | 30 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.96 | 2.04 | | ug/Kg | ☼ | 104 | 69 - 133 | 5 | 30 |

## Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

**Lab Sample ID: 320-89051-21 MSD**
**Matrix: Solid**
**Analysis Batch: 600382**

**Client Sample ID: 22SCC-SS-27**
**Prep Type: Total/NA**
**Prep Batch: 597530**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Perfluorononanoic acid (PFNA) | ND | | 1.96 | 1.98 | | ug/Kg | ☼ | 101 | 72 - 129 | 1 | 30 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.96 | 2.18 | | ug/Kg | ☼ | 111 | 69 - 133 | 0 | 30 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.96 | 1.85 | | ug/Kg | ☼ | 94 | 64 - 136 | 2 | 30 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.96 | 1.96 | | ug/Kg | ☼ | 100 | 69 - 135 | 3 | 30 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.96 | 2.01 | | ug/Kg | ☼ | 102 | 66 - 139 | 1 | 30 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.96 | 1.94 | | ug/Kg | ☼ | 99 | 69 - 133 | 1 | 30 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.74 | 1.70 | | ug/Kg | ☼ | 97 | 72 - 128 | 12 | 30 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.79 | 1.79 | | ug/Kg | ☼ | 100 | 67 - 130 | 3 | 30 |
| Perfluorooctanesulfonic acid (PFOS) | 0.62 | I | 1.83 | 2.56 | | ug/Kg | ☼ | 106 | 68 - 136 | 8 | 30 |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 1.96 | 1.77 | | ug/Kg | ☼ | 90 | 63 - 144 | 7 | 30 |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 1.96 | 2.03 | | ug/Kg | ☼ | 103 | 61 - 139 | 4 | 30 |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid | ND | | 1.83 | 1.78 | | ug/Kg | ☼ | 97 | 75 - 135 | 2 | 30 |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) | ND | | 1.96 | 2.02 | | ug/Kg | ☼ | 103 | 77 - 137 | 11 | 30 |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid | ND | | 1.85 | 1.69 | | ug/Kg | ☼ | 91 | 76 - 136 | 2 | 30 |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 1.85 | 1.99 | | ug/Kg | ☼ | 107 | 79 - 139 | 7 | 30 |

| *Isotope Dilution* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *13C2 PFHxA* | *90* | | *50 - 150* |
| *13C4 PFHpA* | *98* | | *50 - 150* |
| *13C4 PFOA* | *94* | | *50 - 150* |
| *13C5 PFNA* | *99* | | *50 - 150* |
| *13C2 PFDA* | *97* | | *50 - 150* |
| *13C2 PFUnA* | *98* | | *50 - 150* |
| *13C2 PFDoA* | *100* | | *50 - 150* |
| *13C2 PFTeDA* | *97* | | *50 - 150* |
| *13C3 PFBS* | *91* | | *50 - 150* |
| *18O2 PFHxS* | *95* | | *50 - 150* |
| *13C4 PFOS* | *95* | | *50 - 150* |
| *d3-NMeFOSAA* | *109* | | *50 - 150* |
| *d5-NEtFOSAA* | *115* | | *50 - 150* |
| *13C3 HFPO-DA* | *86* | | *50 - 150* |

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Method: D 2216 - Percent Moisture

**Lab Sample ID: 320-89051-11 DU**
**Matrix: Solid**
**Analysis Batch: 596061**

**Client Sample ID: 22SCC-SS-8**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | | DU Result | DU Qualifier | Unit | D | | | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Moisture | 9.4 | | | 12.6 | F3 | % | | | | 28 | 20 |
| Percent Solids | 90.6 | | | 87.4 | | % | | | | 4 | 20 |

## LCMS

### Prep Batch: 597225

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 320-89051-1 | 22SCC-SS-22 | Total/NA | Solid | SHAKE | |
| 320-89051-2 | 22SCC-SS-2 | Total/NA | Solid | SHAKE | |
| 320-89051-3 | 22SCC-SS-1 | Total/NA | Solid | SHAKE | |
| 320-89051-4 | 22SCC-SS-5 | Total/NA | Solid | SHAKE | |
| 320-89051-5 | 22SCC-SS-15 | Total/NA | Solid | SHAKE | |
| 320-89051-6 | 22SCC-SS-28 | Total/NA | Solid | SHAKE | |
| 320-89051-7 | 22SCC-SS-26 | Total/NA | Solid | SHAKE | |
| 320-89051-8 | 22SCC-SS-17 | Total/NA | Solid | SHAKE | |
| 320-89051-9 | 22SCC-SS-19 | Total/NA | Solid | SHAKE | |
| 320-89051-10 | 22SCC-SS-18 | Total/NA | Solid | SHAKE | |
| 320-89051-11 | 22SCC-SS-8 | Total/NA | Solid | SHAKE | |
| 320-89051-12 | 22SCC-SS-3 | Total/NA | Solid | SHAKE | |
| 320-89051-13 | 22SCC-SS-10 | Total/NA | Solid | SHAKE | |
| 320-89051-14 | 22SCC-SS-4 | Total/NA | Solid | SHAKE | |
| 320-89051-15 | 22SCC-SS-120 | Total/NA | Solid | SHAKE | |
| 320-89051-16 | 22SCC-SS-6 | Total/NA | Solid | SHAKE | |
| 320-89051-17 | 22SCC-SS-23 | Total/NA | Solid | SHAKE | |
| 320-89051-18 | 22SCC-SS-21 | Total/NA | Solid | SHAKE | |
| 320-89051-19 | 22SCC-SS-29 | Total/NA | Solid | SHAKE | |
| 320-89051-20 | 22SCC-SS-20 | Total/NA | Solid | SHAKE | |
| MB 320-597225/1-A | Method Blank | Total/NA | Solid | SHAKE | |
| LCS 320-597225/2-A | Lab Control Sample | Total/NA | Solid | SHAKE | |
| 320-89051-1 MS | 22SCC-SS-22 | Total/NA | Solid | SHAKE | |
| 320-89051-1 MSD | 22SCC-SS-22 | Total/NA | Solid | SHAKE | |

### Prep Batch: 597530

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 320-89051-21 | 22SCC-SS-27 | Total/NA | Solid | SHAKE | |
| 320-89051-22 | 22SCC-SS-25 | Total/NA | Solid | SHAKE | |
| 320-89051-23 | 22SCC-SS-24 | Total/NA | Solid | SHAKE | |
| 320-89051-24 | 22SCC-SS-32 | Total/NA | Solid | SHAKE | |
| 320-89051-25 - DL | 22SCC-SS-125 | Total/NA | Solid | SHAKE | |
| 320-89051-25 | 22SCC-SS-125 | Total/NA | Solid | SHAKE | |
| 320-89051-26 | 22SCC-SS-14 | Total/NA | Solid | SHAKE | |
| 320-89051-27 | 22SCC-SS-13 | Total/NA | Solid | SHAKE | |
| 320-89051-28 | 22SCC-SS-12 | Total/NA | Solid | SHAKE | |
| 320-89051-28 - DL | 22SCC-SS-12 | Total/NA | Solid | SHAKE | |
| 320-89051-29 | 22SCC-SS-11 | Total/NA | Solid | SHAKE | |
| 320-89051-30 | 22SCC-SS-110 | Total/NA | Solid | SHAKE | |
| 320-89051-31 | 22SCC-SS-9 | Total/NA | Solid | SHAKE | |
| 320-89051-32 | 22SCC-SS-16 | Total/NA | Solid | SHAKE | |
| 320-89051-33 | 22SCC-SS-30 | Total/NA | Solid | SHAKE | |
| 320-89051-34 | 22SCC-SS-7 | Total/NA | Solid | SHAKE | |
| 320-89051-35 | 22SCC-SS-31 | Total/NA | Solid | SHAKE | |
| MB 320-597530/1-A | Method Blank | Total/NA | Solid | SHAKE | |
| LCS 320-597530/2-A | Lab Control Sample | Total/NA | Solid | SHAKE | |
| 320-89051-21 MS | 22SCC-SS-27 | Total/NA | Solid | SHAKE | |
| 320-89051-21 MSD | 22SCC-SS-27 | Total/NA | Solid | SHAKE | |

## LCMS

### Analysis Batch: 600108

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 320-89051-1 | 22SCC-SS-22 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-2 | 22SCC-SS-2 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-3 | 22SCC-SS-1 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-4 | 22SCC-SS-5 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-5 | 22SCC-SS-15 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-6 | 22SCC-SS-28 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-7 | 22SCC-SS-26 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-8 | 22SCC-SS-17 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-9 | 22SCC-SS-19 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-10 | 22SCC-SS-18 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-11 | 22SCC-SS-8 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-12 | 22SCC-SS-3 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-13 | 22SCC-SS-10 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-14 | 22SCC-SS-4 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-15 | 22SCC-SS-120 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-16 | 22SCC-SS-6 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-17 | 22SCC-SS-23 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-18 | 22SCC-SS-21 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-19 | 22SCC-SS-29 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-20 | 22SCC-SS-20 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| MB 320-597225/1-A | Method Blank | Total/NA | Solid | EPA 537(Mod) | 597225 |
| LCS 320-597225/2-A | Lab Control Sample | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-1 MS | 22SCC-SS-22 | Total/NA | Solid | EPA 537(Mod) | 597225 |
| 320-89051-1 MSD | 22SCC-SS-22 | Total/NA | Solid | EPA 537(Mod) | 597225 |

### Analysis Batch: 600382

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 320-89051-21 | 22SCC-SS-27 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-22 | 22SCC-SS-25 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-23 | 22SCC-SS-24 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-24 | 22SCC-SS-32 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-25 | 22SCC-SS-125 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-26 | 22SCC-SS-14 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-27 | 22SCC-SS-13 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-28 | 22SCC-SS-12 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-29 | 22SCC-SS-11 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-30 | 22SCC-SS-110 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-31 | 22SCC-SS-9 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-32 | 22SCC-SS-16 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-33 | 22SCC-SS-30 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-34 | 22SCC-SS-7 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-35 | 22SCC-SS-31 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| MB 320-597530/1-A | Method Blank | Total/NA | Solid | EPA 537(Mod) | 597530 |
| LCS 320-597530/2-A | Lab Control Sample | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-21 MS | 22SCC-SS-27 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-21 MSD | 22SCC-SS-27 | Total/NA | Solid | EPA 537(Mod) | 597530 |

### Analysis Batch: 600871

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 320-89051-25 - DL | 22SCC-SS-125 | Total/NA | Solid | EPA 537(Mod) | 597530 |
| 320-89051-28 - DL | 22SCC-SS-12 | Total/NA | Solid | EPA 537(Mod) | 597530 |

## General Chemistry

### Analysis Batch: 595968

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 320-89051-2 | 22SCC-SS-2 | Total/NA | Solid | D 2216 | |
| 320-89051-3 | 22SCC-SS-1 | Total/NA | Solid | D 2216 | |
| 320-89051-4 | 22SCC-SS-5 | Total/NA | Solid | D 2216 | |
| 320-89051-12 | 22SCC-SS-3 | Total/NA | Solid | D 2216 | |
| 320-89051-14 | 22SCC-SS-4 | Total/NA | Solid | D 2216 | |
| 320-89051-16 | 22SCC-SS-6 | Total/NA | Solid | D 2216 | |

### Analysis Batch: 596060

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 320-89051-27 | 22SCC-SS-13 | Total/NA | Solid | D 2216 | |

### Analysis Batch: 596061

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 320-89051-1 | 22SCC-SS-22 | Total/NA | Solid | D 2216 | |
| 320-89051-5 | 22SCC-SS-15 | Total/NA | Solid | D 2216 | |
| 320-89051-6 | 22SCC-SS-28 | Total/NA | Solid | D 2216 | |
| 320-89051-7 | 22SCC-SS-26 | Total/NA | Solid | D 2216 | |
| 320-89051-8 | 22SCC-SS-17 | Total/NA | Solid | D 2216 | |
| 320-89051-9 | 22SCC-SS-19 | Total/NA | Solid | D 2216 | |
| 320-89051-10 | 22SCC-SS-18 | Total/NA | Solid | D 2216 | |
| 320-89051-11 | 22SCC-SS-8 | Total/NA | Solid | D 2216 | |
| 320-89051-13 | 22SCC-SS-10 | Total/NA | Solid | D 2216 | |
| 320-89051-15 | 22SCC-SS-120 | Total/NA | Solid | D 2216 | |
| 320-89051-17 | 22SCC-SS-23 | Total/NA | Solid | D 2216 | |
| 320-89051-18 | 22SCC-SS-21 | Total/NA | Solid | D 2216 | |
| 320-89051-19 | 22SCC-SS-29 | Total/NA | Solid | D 2216 | |
| 320-89051-20 | 22SCC-SS-20 | Total/NA | Solid | D 2216 | |
| 320-89051-21 | 22SCC-SS-27 | Total/NA | Solid | D 2216 | |
| 320-89051-22 | 22SCC-SS-25 | Total/NA | Solid | D 2216 | |
| 320-89051-23 | 22SCC-SS-24 | Total/NA | Solid | D 2216 | |
| 320-89051-24 | 22SCC-SS-32 | Total/NA | Solid | D 2216 | |
| 320-89051-25 | 22SCC-SS-125 | Total/NA | Solid | D 2216 | |
| 320-89051-26 | 22SCC-SS-14 | Total/NA | Solid | D 2216 | |
| 320-89051-11 DU | 22SCC-SS-8 | Total/NA | Solid | D 2216 | |

### Analysis Batch: 596285

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 320-89051-28 | 22SCC-SS-12 | Total/NA | Solid | D 2216 | |
| 320-89051-29 | 22SCC-SS-11 | Total/NA | Solid | D 2216 | |
| 320-89051-30 | 22SCC-SS-110 | Total/NA | Solid | D 2216 | |
| 320-89051-31 | 22SCC-SS-9 | Total/NA | Solid | D 2216 | |
| 320-89051-32 | 22SCC-SS-16 | Total/NA | Solid | D 2216 | |
| 320-89051-33 | 22SCC-SS-30 | Total/NA | Solid | D 2216 | |
| 320-89051-34 | 22SCC-SS-7 | Total/NA | Solid | D 2216 | |
| 320-89051-35 | 22SCC-SS-31 | Total/NA | Solid | D 2216 | |

# Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-22
**Date Collected: 06/09/22 08:15**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-1
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-22
**Date Collected: 06/09/22 08:15**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-1
**Matrix: Solid**
**Percent Solids: 94.0**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.18 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 10:26 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-2
**Date Collected: 06/08/22 13:50**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-2
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 595968 | 06/16/22 14:26 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-2
**Date Collected: 06/08/22 13:50**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-2
**Matrix: Solid**
**Percent Solids: 87.4**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.34 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 10:57 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-1
**Date Collected: 06/08/22 13:40**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-3
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 595968 | 06/16/22 14:26 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-1
**Date Collected: 06/08/22 13:40**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-3
**Matrix: Solid**
**Percent Solids: 88.8**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.30 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 11:07 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-5
**Date Collected: 06/08/22 14:50**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-4
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 595968 | 06/16/22 14:26 | KMW | TAL SAC |

# Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-5
**Date Collected: 06/08/22 14:50**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-4
**Matrix: Solid**
**Percent Solids: 90.1**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.37 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 11:17 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-15
**Date Collected: 06/09/22 06:45**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-5
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-15
**Date Collected: 06/09/22 06:45**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-5
**Matrix: Solid**
**Percent Solids: 81.4**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.06 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 11:27 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-28
**Date Collected: 06/09/22 10:40**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-6
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-28
**Date Collected: 06/09/22 10:40**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-6
**Matrix: Solid**
**Percent Solids: 85.2**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.15 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 11:37 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-26
**Date Collected: 06/09/22 10:25**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-7
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

# Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-26
**Lab Sample ID: 320-89051-7**
**Date Collected: 06/09/22 10:25**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 84.5**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.29 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 12:08 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-17
**Lab Sample ID: 320-89051-8**
**Date Collected: 06/09/22 07:30**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-17
**Lab Sample ID: 320-89051-8**
**Date Collected: 06/09/22 07:30**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 85.2**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.04 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 12:18 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-19
**Lab Sample ID: 320-89051-9**
**Date Collected: 06/09/22 08:35**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-19
**Lab Sample ID: 320-89051-9**
**Date Collected: 06/09/22 08:35**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 89.6**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.14 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 12:28 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-18
**Lab Sample ID: 320-89051-10**
**Date Collected: 06/09/22 07:40**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

# Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-18
**Date Collected: 06/09/22 07:40**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-10
**Matrix: Solid**
**Percent Solids: 90.2**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.27 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 12:38 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-8
**Date Collected: 06/09/22 14:10**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-11
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-8
**Date Collected: 06/09/22 14:10**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-11
**Matrix: Solid**
**Percent Solids: 90.6**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.50 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 12:48 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-3
**Date Collected: 06/08/22 14:15**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-12
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 595968 | 06/16/22 14:26 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-3
**Date Collected: 06/08/22 14:15**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-12
**Matrix: Solid**
**Percent Solids: 83.7**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.16 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 12:58 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-10
**Date Collected: 06/09/22 14:50**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-13
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

# Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-10
**Date Collected: 06/09/22 14:50**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-13
**Matrix: Solid**
**Percent Solids: 86.4**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.34 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 13:08 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-4
**Date Collected: 06/08/22 14:25**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-14
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 595968 | 06/16/22 14:26 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-4
**Date Collected: 06/08/22 14:25**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-14
**Matrix: Solid**
**Percent Solids: 89.2**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.28 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 13:18 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-120
**Date Collected: 06/09/22 08:55**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-15
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-120
**Date Collected: 06/09/22 08:55**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-15
**Matrix: Solid**
**Percent Solids: 79.5**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.08 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 13:29 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-6
**Date Collected: 06/08/22 15:00**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-16
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 595968 | 06/16/22 14:26 | KMW | TAL SAC |

# Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-6
**Date Collected: 06/08/22 15:00**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-16
**Matrix: Solid**
**Percent Solids: 82.3**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.50 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 13:39 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-23
**Date Collected: 06/09/22 09:45**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-17
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-23
**Date Collected: 06/09/22 09:45**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-17
**Matrix: Solid**
**Percent Solids: 89.3**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.03 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 14:09 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-21
**Date Collected: 06/09/22 08:05**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-18
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-21
**Date Collected: 06/09/22 08:05**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-18
**Matrix: Solid**
**Percent Solids: 94.7**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.05 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 14:19 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-29
**Date Collected: 06/09/22 10:45**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-19
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

# Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-29
**Lab Sample ID: 320-89051-19**
**Date Collected: 06/09/22 10:45**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 88.6**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.19 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 14:29 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-20
**Lab Sample ID: 320-89051-20**
**Date Collected: 06/09/22 08:45**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-20
**Lab Sample ID: 320-89051-20**
**Date Collected: 06/09/22 08:45**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 80.4**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.20 g | 10.0 mL | 597225 | 06/21/22 04:29 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600108 | 07/01/22 14:39 | K1S | TAL SAC |

## Client Sample ID: 22SCC-SS-27
**Lab Sample ID: 320-89051-21**
**Date Collected: 06/09/22 10:30**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-27
**Lab Sample ID: 320-89051-21**
**Date Collected: 06/09/22 10:30**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 92.7**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.16 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 10:34 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-25
**Lab Sample ID: 320-89051-22**
**Date Collected: 06/09/22 10:15**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

# Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-25
**Lab Sample ID: 320-89051-22**
**Date Collected: 06/09/22 10:15**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 89.9**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.08 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 11:04 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-24
**Lab Sample ID: 320-89051-23**
**Date Collected: 06/09/22 09:55**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-24
**Lab Sample ID: 320-89051-23**
**Date Collected: 06/09/22 09:55**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 89.1**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.22 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 11:14 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-32
**Lab Sample ID: 320-89051-24**
**Date Collected: 06/09/22 11:00**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-32
**Lab Sample ID: 320-89051-24**
**Date Collected: 06/09/22 11:00**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 89.9**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.18 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 11:24 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-125
**Lab Sample ID: 320-89051-25**
**Date Collected: 06/09/22 10:05**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-125
**Date Collected: 06/09/22 10:05**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-25
**Matrix: Solid**
**Percent Solids: 88.9**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.12 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 11:34 | D1R | TAL SAC |
| Total/NA | Prep | SHAKE | DL | | 5.12 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | DL | 5 | | | 600871 | 07/05/22 17:48 | RS1 | TAL SAC |

## Client Sample ID: 22SCC-SS-14
**Date Collected: 06/09/22 16:00**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-26
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596061 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-14
**Date Collected: 06/09/22 16:00**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-26
**Matrix: Solid**
**Percent Solids: 91.7**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.17 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 11:45 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-13
**Date Collected: 06/09/22 15:55**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-27
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596060 | 06/16/22 16:52 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-13
**Date Collected: 06/09/22 15:55**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-27
**Matrix: Solid**
**Percent Solids: 87.8**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.04 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 12:15 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-12
**Date Collected: 06/09/22 15:40**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-28
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596285 | 06/17/22 13:57 | KMW | TAL SAC |

# Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-12
**Date Collected: 06/09/22 15:40**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-28
**Matrix: Solid**
**Percent Solids: 88.8**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.34 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 12:25 | D1R | TAL SAC |
| Total/NA | Prep | SHAKE | DL | | 5.34 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | DL | 5 | | | 600871 | 07/05/22 17:58 | RS1 | TAL SAC |

## Client Sample ID: 22SCC-SS-11
**Date Collected: 06/09/22 15:30**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-29
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596285 | 06/17/22 13:57 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-11
**Date Collected: 06/09/22 15:30**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-29
**Matrix: Solid**
**Percent Solids: 89.4**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.16 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 12:35 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-110
**Date Collected: 06/09/22 14:40**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-30
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596285 | 06/17/22 13:57 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-110
**Date Collected: 06/09/22 14:40**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-30
**Matrix: Solid**
**Percent Solids: 87.5**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.44 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 12:45 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-9
**Date Collected: 06/09/22 14:35**
**Date Received: 06/14/22 11:25**

## Lab Sample ID: 320-89051-31
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596285 | 06/17/22 13:57 | KMW | TAL SAC |

# Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-9
**Lab Sample ID: 320-89051-31**
**Date Collected: 06/09/22 14:35**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 80.1**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.42 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 12:55 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-16
**Lab Sample ID: 320-89051-32**
**Date Collected: 06/09/22 06:55**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596285 | 06/17/22 13:57 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-16
**Lab Sample ID: 320-89051-32**
**Date Collected: 06/09/22 06:55**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 82.9**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.20 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 13:05 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-30
**Lab Sample ID: 320-89051-33**
**Date Collected: 06/09/22 10:55**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596285 | 06/17/22 13:57 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-30
**Lab Sample ID: 320-89051-33**
**Date Collected: 06/09/22 10:55**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 87.4**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.47 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 13:15 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-7
**Lab Sample ID: 320-89051-34**
**Date Collected: 06/09/22 14:00**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596285 | 06/17/22 13:57 | KMW | TAL SAC |

# Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Client Sample ID: 22SCC-SS-7

**Lab Sample ID: 320-89051-34**
**Date Collected: 06/09/22 14:00**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 89.8**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.47 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 13:25 | D1R | TAL SAC |

## Client Sample ID: 22SCC-SS-31

**Lab Sample ID: 320-89051-35**
**Date Collected: 06/09/22 11:10**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | D 2216 | | 1 | | | 596285 | 06/17/22 13:57 | KMW | TAL SAC |

## Client Sample ID: 22SCC-SS-31

**Lab Sample ID: 320-89051-35**
**Date Collected: 06/09/22 11:10**
**Matrix: Solid**
**Date Received: 06/14/22 11:25**
**Percent Solids: 88.2**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Prep | SHAKE | | | 5.04 g | 10.0 mL | 597530 | 06/22/22 04:57 | HK | TAL SAC |
| Total/NA | Analysis | EPA 537(Mod) | | 1 | | | 600382 | 07/02/22 13:36 | D1R | TAL SAC |

**Laboratory References:**

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

# Accreditation/Certification Summary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

## Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| Alaska (UST) | State | 17-020 | 02-20-24 |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte |
|---|---|---|---|
| D 2216 | | Solid | Percent Moisture |
| D 2216 | | Solid | Percent Solids |

# Method Summary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| EPA 537(Mod) | PFAS for QSM 5.3, Table B-15 | EPA | TAL SAC |
| D 2216 | Percent Moisture | ASTM | TAL SAC |
| SHAKE | Shake Extraction with Ultrasonic Bath Extraction | SW846 | TAL SAC |

**Protocol References:**

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

# Sample Summary

Client: Shannon & Wilson, Inc
Project/Site: Deadhorse Airport

Job ID: 320-89051-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 320-89051-1 | 22SCC-SS-22 | Solid | 06/09/22 08:15 | 06/14/22 11:25 |
| 320-89051-2 | 22SCC-SS-2 | Solid | 06/08/22 13:50 | 06/14/22 11:25 |
| 320-89051-3 | 22SCC-SS-1 | Solid | 06/08/22 13:40 | 06/14/22 11:25 |
| 320-89051-4 | 22SCC-SS-5 | Solid | 06/08/22 14:50 | 06/14/22 11:25 |
| 320-89051-5 | 22SCC-SS-15 | Solid | 06/09/22 06:45 | 06/14/22 11:25 |
| 320-89051-6 | 22SCC-SS-28 | Solid | 06/09/22 10:40 | 06/14/22 11:25 |
| 320-89051-7 | 22SCC-SS-26 | Solid | 06/09/22 10:25 | 06/14/22 11:25 |
| 320-89051-8 | 22SCC-SS-17 | Solid | 06/09/22 07:30 | 06/14/22 11:25 |
| 320-89051-9 | 22SCC-SS-19 | Solid | 06/09/22 08:35 | 06/14/22 11:25 |
| 320-89051-10 | 22SCC-SS-18 | Solid | 06/09/22 07:40 | 06/14/22 11:25 |
| 320-89051-11 | 22SCC-SS-8 | Solid | 06/09/22 14:10 | 06/14/22 11:25 |
| 320-89051-12 | 22SCC-SS-3 | Solid | 06/08/22 14:15 | 06/14/22 11:25 |
| 320-89051-13 | 22SCC-SS-10 | Solid | 06/09/22 14:50 | 06/14/22 11:25 |
| 320-89051-14 | 22SCC-SS-4 | Solid | 06/08/22 14:25 | 06/14/22 11:25 |
| 320-89051-15 | 22SCC-SS-120 | Solid | 06/09/22 08:55 | 06/14/22 11:25 |
| 320-89051-16 | 22SCC-SS-6 | Solid | 06/08/22 15:00 | 06/14/22 11:25 |
| 320-89051-17 | 22SCC-SS-23 | Solid | 06/09/22 09:45 | 06/14/22 11:25 |
| 320-89051-18 | 22SCC-SS-21 | Solid | 06/09/22 08:05 | 06/14/22 11:25 |
| 320-89051-19 | 22SCC-SS-29 | Solid | 06/09/22 10:45 | 06/14/22 11:25 |
| 320-89051-20 | 22SCC-SS-20 | Solid | 06/09/22 08:45 | 06/14/22 11:25 |
| 320-89051-21 | 22SCC-SS-27 | Solid | 06/09/22 10:30 | 06/14/22 11:25 |
| 320-89051-22 | 22SCC-SS-25 | Solid | 06/09/22 10:15 | 06/14/22 11:25 |
| 320-89051-23 | 22SCC-SS-24 | Solid | 06/09/22 09:55 | 06/14/22 11:25 |
| 320-89051-24 | 22SCC-SS-32 | Solid | 06/09/22 11:00 | 06/14/22 11:25 |
| 320-89051-25 | 22SCC-SS-125 | Solid | 06/09/22 10:05 | 06/14/22 11:25 |
| 320-89051-26 | 22SCC-SS-14 | Solid | 06/09/22 16:00 | 06/14/22 11:25 |
| 320-89051-27 | 22SCC-SS-13 | Solid | 06/09/22 15:55 | 06/14/22 11:25 |
| 320-89051-28 | 22SCC-SS-12 | Solid | 06/09/22 15:40 | 06/14/22 11:25 |
| 320-89051-29 | 22SCC-SS-11 | Solid | 06/09/22 15:30 | 06/14/22 11:25 |
| 320-89051-30 | 22SCC-SS-110 | Solid | 06/09/22 14:40 | 06/14/22 11:25 |
| 320-89051-31 | 22SCC-SS-9 | Solid | 06/09/22 14:35 | 06/14/22 11:25 |
| 320-89051-32 | 22SCC-SS-16 | Solid | 06/09/22 06:55 | 06/14/22 11:25 |
| 320-89051-33 | 22SCC-SS-30 | Solid | 06/09/22 10:55 | 06/14/22 11:25 |
| 320-89051-34 | 22SCC-SS-7 | Solid | 06/09/22 14:00 | 06/14/22 11:25 |
| 320-89051-35 | 22SCC-SS-31 | Solid | 06/09/22 11:10 | 06/14/22 11:25 |

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600
www.shannonwilson.com

# CHAIN-OF-CUSTODY RECORD



Laboratory Eurofins Test America
Attn: David Allaker

**Turn Around Time:** ☒ Normal ☐ Rush — Please Specify

**Quote No:**

**J-Flags:** ☒ Yes ☐ No

**Analytical Methods** (include preservative if used)

| Sample Identity | Lab No. | Time | Date Sampled | PFAS (QSM 5.3 Table B-15) | Total Number of Containers | Remarks/Matrix Composition/Grab? Sample Containers |
|---|---|---|---|---|---|---|
| 22SCC-SS-22 | | 0815 | 6-9-22 | X | 1 | Soil Grab |
| 22SCC-SS-2 | | 1350 | 6-8-22 | | | |
| 22SCC-SS-1 | | 1340 | 6-8-22 | | | |
| 22SCC-SS-5 | | 1450 | 6-8-22 | | | |
| 22SCC-SS-15 | | 0645 | 6-9-22 | | | |
| 22SCC-SS-28 | | 1040 | 6-9-22 | | | |
| 22SCC-SS-26 | | 1025 | 6-9-22 | | | |
| 22SCC-SS-17 | | 0730 | 6-9-22 | | | |
| 22SCC-SS-19 | | 0835 | 6-9-22 | | | |
| 22SCC-SS-18 | | 0740 | 6-9-22 | | | |

320-89051 Chain of Custody

| Project Information | |
|---|---|
| Number: | 106427-001 |
| Name: | Deadhorse Airport |
| Contact: | Michael Jaramillo |
| Ongoing Project? | Yes ☒ No ☐ |
| Sampler: | MSC |

| Sample Receipt | |
|---|---|
| Total No. of Containers: | |
| COC Seals/Intact? Y/N/NA | |
| Received Good Cond./Cold | |
| Temp: | |
| Delivery Method: | |

**Notes:**

| Relinquished By: 1. | Relinquished By: 2. | Relinquished By: 3. |
|---|---|---|
| Signature: Time: 1400 | Signature: Time: | Signature: Time: |
| Printed Name: Mason Craker Date: 6-10-22 | Printed Name: Date: | Printed Name: Date: |
| Company: Shannon & Wilson | Company: | Company: |

| Received By: 1. | Received By: 2. | Received By: 3. |
|---|---|---|
| Signature: Time: 1125 | Signature: Time: | Signature: Time: |
| Printed Name: Salvador Lopez Date: 6-14-22 | Printed Name: Date: | Printed Name: Date: |
| Company: EETSoe | Company: | Company: |

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

60

No. _____

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www.shannonwilson.com

# CHAIN-OF-CUSTODY RECORD



Laboratory Eurofins Test America
Attn: David Allbrecht

**Turn Around Time:** [X] Normal [ ] Rush — Please Specify

**Quote No:**

**J-Flags:** [X] Yes [ ] No

**Analytical Methods** (include preservative if used)

| Sample Identity | Lab No. | Time | Date Sampled | PFAS (DOM SOP Table B-15) | Total Number of Containers | Remarks/Matrix Composition/Grab? Sample Containers |
|---|---|---|---|---|---|---|
| 22SCC-SS-8 | | 1410 | 6-9-22 | X | 1 | Soil Grab |
| 22SCC-SS-3 | | 1415 | 6-8-22 | | | |
| 22SCC-SS-10 | | 1450 | 6-9-22 | | | |
| 22SCC-SS-4 | | 1425 | 6-8-22 | | | |
| 22SCC-SS-120 | | 0855 | 6-9-22 | | | |
| 22SCC-SS-6 | | 1500 | 6-8-22 | | | |
| 22SCC-SS-23 | | 0945 | 6-9-22 | | | |
| 22SCC-SS-21 | | 0805 | 6-9-22 | | | |
| 22SCC-SS-29 | | 1045 | 6-9-22 | | | |
| 22SCC-SS-20 | | 0845 | 6-9-22 | | | |

| Project Information | |
|---|---|
| Number: | 106427-001 |
| Name: | Deadhorse Airport |
| Contact: | Michael Jorgensen |
| Ongoing Project? | Yes [X] No [ ] |
| Sampler: | MSC |

| Sample Receipt | |
|---|---|
| Total No. of Containers: | |
| COC Seals/Intact? Y/N/NA | |
| Received Good Cond./Cold | |
| Temp: | |
| Delivery Method: | |

| Reliquished By: 1. | Reliquished By: 2. | Reliquished By: 3. |
|---|---|---|
| Signature: Time: 1400 | Signature: Time: | Signature: Time: |
| Printed Name: Mason Crater Date: 6-10-22 | Printed Name: Date: | Printed Name: Date: |
| Company: Shannon & Wilson | Company: | Company: |

| Received By: 1. | Received By: 2. | Received By: 3. |
|---|---|---|
| Signature: Time: 1125 | Signature: Time: | Signature: Time: |
| Printed Name: Salvador Orozco Date: 6-14-22 | Printed Name: Date: | Printed Name: Date: |
| Company: EETSW | Company: | Company: |

**Notes:**

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

60

No.

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# CHAIN-OF-CUSTODY RECORD



Laboratory Eurofins Test America
Attn: David Alfucker

**Turn Around Time:** ☒ Normal ☐ Rush — Please Specify

**Quote No:**

**J-Flags:** ☒ Yes ☐ No

**Analytical Methods** (include preservative if used)

| Sample Identity | Lab No. | Time | Date Sampled | PFAS (DOM 5.3 Table B-15) | Total Number of Containers | Remarks/Matrix Composition/Grab? Sample Containers |
|---|---|---|---|---|---|---|
| 22SCC-SS-27 | | 1030 | 6-9-22 | X | 1 | Soil Grab |
| 22SCC-SS-25 | | 1015 | 6-9-22 | | | |
| 22SCC-SS-24 | | 0955 | 6-9-22 | | | |
| 22SCC-SS-32 | | 1100 | 6-9-22 | | | |
| 22SCC-SS-125 | | 1005 | 6-9-22 | | | |
| 22SCC-SS-14 | | 1600 | 6-9-22 | | | |
| 22SCC-SS-13 | | 1555 | 6-9-22 | | | |
| 22SCC-SS-12 | | 1540 | 6-9-22 | | | |
| 22SCC-SS-11 | | 1530 | 6-9-22 | | | |
| 22SCC-SS-110 | | 1440 | 6-9-22 | | | |

| Project Information | |
|---|---|
| Number: | 106427-001 |
| Name: | Deadhorse Airport |
| Contact: | Michael Jaigwillo |
| Ongoing Project? | Yes ☒ No ☐ |
| Sampler: | MSC |

| Sample Receipt | |
|---|---|
| Total No. of Containers: | |
| COC Seals/Intact? Y/N/NA | |
| Received Good Cond./Cold | |
| Temp: | |
| Delivery Method: | |

**Notes:**

| Reliquished By: 1. | Reliquished By: 2. | Reliquished By: 3. |
|---|---|---|
| Signature: Time: 1400 | Signature: Time: | Signature: Time: |
| Printed Name: Mason Croker Date: 6-10-22 | Printed Name: Date: | Printed Name: Date: |
| Company: Shannon & Wilson | Company: | Company: |

| Received By: 1. | Received By: 2. | Received By: 3. |
|---|---|---|
| Signature: Time: 1125 | Signature: Time: | Signature: Time: |
| Printed Name: Salvador Campos Date: 6/14/22 | Printed Name: Date: | Printed Name: Date: |
| Company: EETSac | Company: | Company: |

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

G.J

No. _____

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# CHAIN-OF-CUSTODY RECORD



Laboratory _____
Attn: _____

**Turn Around Time:** ☒ Normal ☐ Rush — Please Specify

**Quote No:**

**J-Flags:** ☒ Yes ☐ No

**Analytical Methods** (include preservative if used)

| Sample Identity | Lab No. | Time | Date Sampled | PFAS (DSM 5.3 Table B-19) | Total Number of Containers | Remarks/Matrix Composition/Grab? Sample Containers |
|---|---|---|---|---|---|---|
| 22SCC-SS-9 | | 1435 | 6-9-22 | X | 1 | Soil Grab |
| 22SCC-SS-16 | | 0655 | 6-9-22 | | | |
| 22SCC-SS-30 | | 1055 | 6-9-22 | | | |
| 22SCC-SS-7 | | 1400 | 6-9-22 | | | |
| 22SCC-SS-31 | | 1110 | 6-9-22 | | | |

| Project Information | |
|---|---|
| Number: | 176427-001 |
| Name: | Deadhorse Airport |
| Contact: | Michael Jaremillo |
| Ongoing Project? | Yes ☒ No ☐ |
| Sampler: | MSC |

| Sample Receipt | |
|---|---|
| Total No. of Containers: | |
| COC Seals/Intact? Y/N/NA | |
| Received Good Cond./Cold | |
| Temp: | |
| Delivery Method: | |

**Notes:**

| Relinquished By: 1. | Relinquished By: 2. | Relinquished By: 3. |
|---|---|---|
| Signature: Time: 1400 | Signature: Time: | Signature: Time: |
| Printed Name: Mason Crake Date: 6-10-22 | Printed Name: Date: | Printed Name: Date: |
| Company: | Company: | Company: |

| Received By: 1. | Received By: 2. | Received By: 3. |
|---|---|---|
| Signature: Time: 6-14-22 | Signature: Time: | Signature: Time: |
| Printed Name: Salvador Ordaz Date: 1125 | Printed Name: Date: | Printed Name: Date: |
| Company: EETSe | Company: | Company: |

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

6.0

No. _____

# Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-89051-1

**Login Number: 89051**
**List Number: 1**
**Creator: Her, David A**

**List Source: Eurofins Sacramento**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True | |
| The cooler's custody seal, if present, is intact. | True | seals |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | gel packs |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

# Laboratory Data Review Checklist

Completed By:

Michael Jaramillo

Title:

Senior Chemist

Date:

July 11, 2022

Consultant Firm:

Shannon & Wilson, Inc.

Laboratory Name:

Eurofins Environmental Testing America (Eurofins)

Laboratory Report Number:

320-89051-1

Laboratory Report Date:

July 7, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

ADEC File Number:

N/A; not directly associated with a contaminated site

Hazard Identification Number:

N/A; not directly associated with a contaminated site

320-89051-1

Laboratory Report Date:

July 7, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

1. Laboratory

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

   Yes☒ No☐ N/A☐ Comments:

   The DEC certified Eurofins of West Sacramento, CA for the analysis of per- and polyfluorinated alkyl substances (PFAS) on February 11, 2021 by LCMSMS compliant with QSM Version 5.3 Table B-15. The reported analytes are included in the DEC's Contaminated Sites Laboratory Approval 17-020.

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

   Yes☐ No☐ N/A☒ Comments:

   The requested analyses were conducted by Eurofins of West Sacramento, CA.

2. Chain of Custody (CoC)

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

   Yes☒ No☐ N/A☐ Comments:

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

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

   Yes☒ No☐ N/A☐ Comments:

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

   Yes☒ No☐ N/A☐ Comments:

   Sample preservation aside from temperature control is not required.

320-89051-1

Laboratory Report Date:

July 7, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

Yes☒ No☐ N/A☐ Comments:

The sample receipt form notes that the samples were received in good condition.

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

Yes☐ No☐ N/A☒ Comments:

There were no additional discrepancies noted by the laboratory.

e. Data quality or usability affected?

Comments:

The data quality and/or usability was not affected; see above.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

320-89051-1

Laboratory Report Date:

July 7, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

Yes☒ No☐ N/A☐ Comments:

The matrix spike (MS) sample associated with preparation batch 320-597225 had a recovery failure for perfluorobutanesulfonic acid (PFBS). Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Refer to Section 6.c for further assessment.

The "I" qualifier means the transition mass ratio for the indicated analyte was above/below the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. The following sample/analyte pairs were qualified "I" due to the transition mass ratio QC failures.

- Samples *22SCC-SS-3*, *22SCC-SS-4*, *22SCC-SS-5*, *22SCC-SS-6*, *22SCC-SS-8*, *22SCC-SS-14*, *22SCC-SS-15*, *22SCC-SS-16*, *22SCC-SS-17*, *22SCC-SS-18*, *22SCC-SS-19*, *22SCC-SS-20*, *22SCC-SS-120*, *22SCC-SS-23*, *22SCC-SS-27*, *22SCC-SS-29*, *22SCC-SS-30*, and *22SCC-SS-31* had a transition mass ratio QC failure for perfluorooctanesulfonic acid (PFOS).

These sample/analyte pairs are considered estimated, biased high, and are flagged "JH*" in the analytical summary tables, unless qualified due to other quality control failures.

Results for samples *22SCC-SS-125* and *22SCC-SS-12* were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits. Sample results are not considered affected.

The sample duplicate (DUP) precision for sample *22SCC-SS-8* was outside control limits. Sample non-homogeneity and matrix are suspected. Sample was wet muddy sand and medium sized rocks. The relative percent difference (RPD) for solids is within acceptable limits.

c. Were all corrective actions documented?

Yes☒ No☐ N/A☐ Comments:

See above.

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

Comments:

Yes; see above.

320-89051-1

Laboratory Report Date:

July 7, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

5. Samples Results

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

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. All soils reported on a dry weight basis?

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

e. Data quality or usability affected?

The data quality and/or usability was not affected; see above.

6. QC Samples

a. Method Blank

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

320-89051-1

Laboratory Report Date:

July 7, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

Comments:

Target analytes were not detected in the method blank samples.

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

Yes☐ No☐ N/A☒ Comments:

See above.

v. Data quality or usability affected?

Comments:

The data quality and/or usability was not affected; see above.

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

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

Yes☒ No☐ N/A☐ Comments:

LCS samples were reported for PFAS analysis.

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

Yes☐ No☐ N/A☒ Comments:

Metals/inorganics were not reported for this work order.

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

320-89051-1

Laboratory Report Date:

July 7, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

Comments:

N/A; percent recoveries and RPDs were within laboratory acceptance criteria.

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

Yes☐ No☐ N/A☒ Comments:

See above.

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

Comments:

The data quality and/or usability was not affected; see above.

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

**Note: Leave blank if not required for project**

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

Yes☒ No☐ N/A☐ Comments:

MS/MSD samples were reported for PFAS analysis.

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

Yes☐ No☐ N/A☒ Comments:

Metals/inorganics were not reported for this work order.

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

Yes☐ No☒ N/A☐ Comments:

The MS associated with preparation batch 320-597225 had a high recovery failure for PFBS. The parent sample *22SCC-SS-22* did not have a detection for this analyte. The sample result is not affected by the high MS recovery failure.

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

Yes☒ No☐ N/A☐ Comments:

320-89051-1

Laboratory Report Date:

July 7, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

Comments:

N/A; see above.

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

Yes☐ No☐ N/A☒ Comments:

See above.

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

Comments:

The data quality and/or usability was not affected; see above.

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

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☐ N/A☒ Comments:

IDA recoveries were within laboratory acceptance criteria.

iv. Data quality or usability affected?

Comments:

The data quality and/or usability was not affected; see above.

320-89051-1

Laboratory Report Date:

July 7, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

e. Trip Blanks

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

Yes☐ No☐ N/A☒ Comments:

PFAS are not volatile compounds. A trip blank is not required for the requested analysis.

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

Yes☐ No☐ N/A☒ Comments:

A trip blank is not required for the requested analysis.

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

Yes☐ No☐ N/A☒ Comments:

A trip blank is not required for the requested analysis.

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

Comments:

N/A; a trip blank is not required for the requested analysis.

v. Data quality or usability affected?

Comments:

The data quality and/or usability was not affected; see above.

f. Field Duplicate

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

Yes☒ No☐ N/A☐ Comments:

ii. Submitted blind to lab?

Yes☒ No☐ N/A☐ Comments:

Sample *22SCC-SS-110* is a field duplicate of sample *22SCC-SS-10*.
Sample *22SCC-SS-120* is a field duplicate of sample *22SCC-SS-20*.
Sample *22SCC-SS-125* is a field duplicate of sample *22SCC-SS-25*.

320-89051-1

Laboratory Report Date:

July 7, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

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

Where $R_1$ = Sample Concentration
$R_2$ = Field Duplicate Concentration

Yes☐ No☒ N/A☐ Comments:

The field duplicate RPDs were within the project-specified data quality objective of 50%, where calculable, with the following exceptions.

The field duplicate pair *22SCC-SS-10* / *22SCC-SS-110* had RPD failures for PFHxS and PFOS. The sample results are considered estimated, no direction of bias, and are flagged 'J*' in the analytical summary tables to identify the laboratory imprecision, unless previously qualified.

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

Comments:

Yes; see above.

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

Yes☐ No☐ N/A☒ Comments:

Samples were not collected with reusable sampling equipment. A decontamination blank/ equipment blank sample are not required for this project.

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

Yes☐ No☐ N/A☒ Comments:

A decontamination blank/ equipment blank sample are not required for this project.

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

Comments:

N/A; a decontamination blank/ equipment blank sample are not required for this project.

iii. Data quality or usability affected?

Comments:

The data quality and/or usability was not affected; see above.

320-89051-1

Laboratory Report Date:

July 7, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

a. Defined and appropriate?

Yes☒ No☐ N/A☐ Comments:

Refer to Section 4.b for additional qualifiers due to transition mass ratio failures.

APPENDIX C: SGS LABORATORY REPORT AND LDRC

Appendix C

# SGS Laboratory Report and LDRC

## CONTENTS

## Laboratory Report of Analysis

To: Shannon & Wilson-Fairbanks
2355 Hill Road
Fairbanks, AK 99709
(907)458-3156

Report Number: **1223040**

Client Project: **106427-001 Deadhorse Airport**

Dear Michael Jaramillo,

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

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

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

Sincerely,
SGS North America Inc.

Stephen C. Ede 2022.07.12 16:55:03 -08'00'

Jennifer Dawkins Date
Project Manager
Jennifer.Dawkins@sgs.com



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

## Case Narrative

SGS Client: **Shannon & Wilson-Fairbanks**
SGS Project: **1223040**
Project Name/Site: **106427-001 Deadhorse Airport**
Project Contact: **Michael Jaramillo**

Refer to sample receipt form for information on sample condition.

**22SCC-SS-22 (1223040004) PS**

8270D SIM - The PAH LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

**22SCC-SS-4 (1223040011) PS**

8270D SIM - The PAH LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

**22SCC-SS-23 (1223040020) PS**

8270D SIM - The PAH LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

**22SCC-SS-24 (1223040024) PS**

8270D SIM - The PAH LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

**22SCC-SS-20 (1223040026) PS**

8270D SIM - The PAH LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

**22SCC-SS-120 (1223040027) PS**

8270D SIM - The PAH LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

**22SCC-SS-15 (1223040028) PS**

8270D SIM - The PAH LOQs are elevated due to sample dilution. The sample was diluted due to the dark color of the extract.

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

## Report of Manual Integrations

| Laboratory ID | Client Sample ID | Analytical Batch | Analyte | Reason |
|---|---|---|---|---|
| **8270D SIM (PAH)** | | | | |
| 1223040006 | 22SCC-SS-18 | XMS13217 | Phenanthrene | BLC |
| 1223040014 | 22SCC-SS-14 | XMS13216 | Benzo[b]Fluoranthene | BLC |
| 1671520 | CVC for HBN 1839189 [XMS/13211 | XMS13211 | Benzo[k]fluoranthene | RP |

Manual Integration Reason Code Descriptions

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

All DRO/RRO analysis are integrated per SOP.

Print Date: 07/12/2022 4:04:44PM

## Laboratory Qualifiers

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

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

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 DW Chemistry (Provisionally Certified as of 05/31/2022 for Nitrate as N by SM 4500NO3-F) & Microbiology & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

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

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

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



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## Sample Summary

| Client Sample ID | Lab Sample ID | Collected | Received | Matrix |
|---|---|---|---|---|
| 22SCC-SS-16 | 1223040001 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-6 | 1223040002 | 06/08/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-1 | 1223040003 | 06/08/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-22 | 1223040004 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-21 | 1223040005 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-18 | 1223040006 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-17 | 1223040007 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-5 | 1223040008 | 06/08/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-2 | 1223040009 | 06/08/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-3 | 1223040010 | 06/08/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-4 | 1223040011 | 06/08/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| Trip Blank 1 | 1223040012 | 06/08/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| Trip Blank 2 | 1223040013 | 06/08/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-14 | 1223040014 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-110 | 1223040015 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-13 | 1223040016 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-12 | 1223040017 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-9 | 1223040018 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-11 | 1223040019 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-23 | 1223040020 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-7 | 1223040021 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-8 | 1223040022 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-10 | 1223040023 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-24 | 1223040024 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-19 | 1223040025 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-20 | 1223040026 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-120 | 1223040027 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |
| 22SCC-SS-15 | 1223040028 | 06/09/2022 | 06/14/2022 | Soil/Solid (dry weight) |

| Method | Method Description |
|---|---|
| AK102 | Diesel Range Organics (S) |
| 8270D SIM (PAH) | 8270 PAH SIM Semi-Volatiles GC/MS |
| SW8260D | Volatile Organic Compounds (S) FIELD EXT |
| SM21 2540G | Percent Solids SM2540G |
| AK101 | Gasoline Range Organics (S) |



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## Detectable Results Summary

Client Sample ID: **22SCC-SS-16**
Lab Sample ID: 1223040001

| | Parameter | Result | Units |
|---|---|---|---|
| **Polynuclear Aromatics GC/MS** | Benzo[g,h,i]perylene | 0.0537J | mg/kg |
| | Chrysene | 0.209 | mg/kg |
| | Pyrene | 0.0456J | mg/kg |
| **Semivolatile Organic Fuels** | Diesel Range Organics | 277 | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.14J | mg/kg |

Client Sample ID: **22SCC-SS-6**
Lab Sample ID: 1223040002

| | Parameter | Result | Units |
|---|---|---|---|
| **Semivolatile Organic Fuels** | Diesel Range Organics | 23.8 | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.05J | mg/kg |

Client Sample ID: **22SCC-SS-1**
Lab Sample ID: 1223040003

| | Parameter | Result | Units |
|---|---|---|---|
| **Volatile Fuels** | Gasoline Range Organics | 1.90J | mg/kg |

Client Sample ID: **22SCC-SS-22**
Lab Sample ID: 1223040004

| | Parameter | Result | Units |
|---|---|---|---|
| **Semivolatile Organic Fuels** | Diesel Range Organics | 84.2 | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.08J | mg/kg |

Client Sample ID: **22SCC-SS-21**
Lab Sample ID: 1223040005

| | Parameter | Result | Units |
|---|---|---|---|
| **Semivolatile Organic Fuels** | Diesel Range Organics | 13.7J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.07J | mg/kg |

Client Sample ID: **22SCC-SS-18**
Lab Sample ID: 1223040006

| | Parameter | Result | Units |
|---|---|---|---|
| **Polynuclear Aromatics GC/MS** | Benzo[a]pyrene | 0.00803J | mg/kg |
| | Benzo[b]Fluoranthene | 0.0112J | mg/kg |
| | Chrysene | 0.00965J | mg/kg |
| | Fluoranthene | 0.0177J | mg/kg |
| | Phenanthrene | 0.0138J | mg/kg |
| | Pyrene | 0.0153J | mg/kg |
| **Semivolatile Organic Fuels** | Diesel Range Organics | 11.7J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 0.766J | mg/kg |

Client Sample ID: **22SCC-SS-17**
Lab Sample ID: 1223040007

| | Parameter | Result | Units |
|---|---|---|---|
| **Polynuclear Aromatics GC/MS** | Fluoranthene | 0.00796J | mg/kg |
| **Semivolatile Organic Fuels** | Diesel Range Organics | 17.1J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.97J | mg/kg |

Client Sample ID: **22SCC-SS-5**
Lab Sample ID: 1223040008

| | Parameter | Result | Units |
|---|---|---|---|
| **Semivolatile Organic Fuels** | Diesel Range Organics | 20.3J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.02J | mg/kg |



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## Detectable Results Summary

| | | | |
|---|---|---|---|
| Client Sample ID: **22SCC-SS-2** | | | |
| Lab Sample ID: 1223040009 | Parameter | Result | Units |
| **Volatile Fuels** | Gasoline Range Organics | 1.94J | mg/kg |
| Client Sample ID: **22SCC-SS-3** | | | |
| Lab Sample ID: 1223040010 | Parameter | Result | Units |
| **Semivolatile Organic Fuels** | Diesel Range Organics | 22.0J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 0.876J | mg/kg |
| Client Sample ID: **22SCC-SS-4** | | | |
| Lab Sample ID: 1223040011 | Parameter | Result | Units |
| **Semivolatile Organic Fuels** | Diesel Range Organics | 37.2 | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.02J | mg/kg |
| Client Sample ID: **Trip Blank 1** | | | |
| Lab Sample ID: 1223040012 | Parameter | Result | Units |
| **Volatile Fuels** | Gasoline Range Organics | 1.02J | mg/kg |
| Client Sample ID: **Trip Blank 2** | | | |
| Lab Sample ID: 1223040013 | Parameter | Result | Units |
| **Volatile Fuels** | Gasoline Range Organics | 1.32J | mg/kg |
| Client Sample ID: **22SCC-SS-14** | | | |
| Lab Sample ID: 1223040014 | Parameter | Result | Units |
| **Polynuclear Aromatics GC/MS** | Fluoranthene | 0.0236J | mg/kg |
| | Pyrene | 0.0202J | mg/kg |
| **Semivolatile Organic Fuels** | Diesel Range Organics | 13.2J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.17J | mg/kg |
| Client Sample ID: **22SCC-SS-110** | | | |
| Lab Sample ID: 1223040015 | Parameter | Result | Units |
| **Semivolatile Organic Fuels** | Diesel Range Organics | 20.0J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 0.866J | mg/kg |
| Client Sample ID: **22SCC-SS-13** | | | |
| Lab Sample ID: 1223040016 | Parameter | Result | Units |
| **Volatile Fuels** | Gasoline Range Organics | 1.65J | mg/kg |
| Client Sample ID: **22SCC-SS-12** | | | |
| Lab Sample ID: 1223040017 | Parameter | Result | Units |
| **Polynuclear Aromatics GC/MS** | Chrysene | 0.00855J | mg/kg |
| | Pyrene | 0.0237J | mg/kg |
| **Semivolatile Organic Fuels** | Diesel Range Organics | 20.8J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 0.919J | mg/kg |

## Detectable Results Summary

Client Sample ID: **22SCC-SS-9**
Lab Sample ID: 1223040018

| | Parameter | Result | Units |
|---|---|---|---|
| **Polynuclear Aromatics GC/MS** | 1-Methylnaphthalene | 0.00862J | mg/kg |
| | 2-Methylnaphthalene | 0.0120J | mg/kg |
| | Chrysene | 0.0107J | mg/kg |
| | Naphthalene | 0.00872J | mg/kg |
| | Phenanthrene | 0.00740J | mg/kg |
| | Pyrene | 0.00798J | mg/kg |
| **Semivolatile Organic Fuels** | Diesel Range Organics | 36.1 | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.80J | mg/kg |
| **Volatile GC/MS** | Benzene | 0.0247 | mg/kg |
| | Ethylbenzene | 0.0111J | mg/kg |
| | P & M -Xylene | 0.0348J | mg/kg |
| | Xylenes (total) | 0.0348J | mg/kg |

Client Sample ID: **22SCC-SS-11**
Lab Sample ID: 1223040019

| | Parameter | Result | Units |
|---|---|---|---|
| **Volatile Fuels** | Gasoline Range Organics | 0.977J | mg/kg |

Client Sample ID: **22SCC-SS-23**
Lab Sample ID: 1223040020

| | Parameter | Result | Units |
|---|---|---|---|
| **Semivolatile Organic Fuels** | Diesel Range Organics | 75.8 | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.17J | mg/kg |

Client Sample ID: **22SCC-SS-7**
Lab Sample ID: 1223040021

| | Parameter | Result | Units |
|---|---|---|---|
| **Semivolatile Organic Fuels** | Diesel Range Organics | 16.3J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 0.865J | mg/kg |

Client Sample ID: **22SCC-SS-8**
Lab Sample ID: 1223040022

| | Parameter | Result | Units |
|---|---|---|---|
| **Semivolatile Organic Fuels** | Diesel Range Organics | 17.3J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 0.756J | mg/kg |

Client Sample ID: **22SCC-SS-10**
Lab Sample ID: 1223040023

| | Parameter | Result | Units |
|---|---|---|---|
| **Polynuclear Aromatics GC/MS** | Benzo[b]Fluoranthene | 0.00809J | mg/kg |
| | Chrysene | 0.00855J | mg/kg |
| | Fluoranthene | 0.0100J | mg/kg |
| | Phenanthrene | 0.00931J | mg/kg |
| | Pyrene | 0.0120J | mg/kg |
| **Semivolatile Organic Fuels** | Diesel Range Organics | 22.6J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 0.905J | mg/kg |

Client Sample ID: **22SCC-SS-24**
Lab Sample ID: 1223040024

| | Parameter | Result | Units |
|---|---|---|---|
| **Semivolatile Organic Fuels** | Diesel Range Organics | 53.4 | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.09J | mg/kg |



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## Detectable Results Summary

Client Sample ID: **22SCC-SS-19**
Lab Sample ID: 1223040025

| | Parameter | Result | Units |
|---|---|---|---|
| **Semivolatile Organic Fuels** | Diesel Range Organics | 17.3J | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.23J | mg/kg |

Client Sample ID: **22SCC-SS-20**
Lab Sample ID: 1223040026

| | Parameter | Result | Units |
|---|---|---|---|
| **Polynuclear Aromatics GC/MS** | Chrysene | 0.0680J | mg/kg |
| | Phenanthrene | 0.0385J | mg/kg |
| **Semivolatile Organic Fuels** | Diesel Range Organics | 68.6 | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.92J | mg/kg |

Client Sample ID: **22SCC-SS-120**
Lab Sample ID: 1223040027

| | Parameter | Result | Units |
|---|---|---|---|
| **Semivolatile Organic Fuels** | Diesel Range Organics | 80.5 | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 3.00J | mg/kg |

Client Sample ID: **22SCC-SS-15**
Lab Sample ID: 1223040028

| | Parameter | Result | Units |
|---|---|---|---|
| **Semivolatile Organic Fuels** | Diesel Range Organics | 40.9 | mg/kg |
| **Volatile Fuels** | Gasoline Range Organics | 1.29J | mg/kg |



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Results of **22SCC-SS-16**

Client Sample ID: **22SCC-SS-16**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040001
Lab Project ID: 1223040

Collection Date: 06/09/22 06:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.1
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| 2-Methylnaphthalene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Acenaphthene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Acenaphthylene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Anthracene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Benzo(a)Anthracene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Benzo[a]pyrene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Benzo[b]Fluoranthene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Benzo[g,h,i]perylene | 0.0537 | J | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Benzo[k]fluoranthene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Chrysene | 0.209 | | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Dibenzo[a,h]anthracene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Fluoranthene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Fluorene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Indeno[1,2,3-c,d] pyrene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Naphthalene | 0.0545 | U | 0.109 | 0.0274 | mg/kg | 5 | | 07/06/22 17:34 |
| Phenanthrene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| Pyrene | 0.0456 | J | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 17:34 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 79.7 | | 58-103 | | % | 5 | | 07/06/22 17:34 |
| Fluoranthene-d10 (surr) | 93.1 | | 54-113 | | % | 5 | | 07/06/22 17:34 |

**Batch Information**

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 17:34
Container ID: 1223040001-A

Prep Batch: XXX46460
Prep Method: SW3550C
Prep Date/Time: 06/22/22 09:33
Prep Initial Wt./Vol.: 22.812 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-16**

Client Sample ID: **22SCC-SS-16**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040001
Lab Project ID: 1223040

Collection Date: 06/09/22 06:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.1
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 277 | | 22.1 | 9.96 | mg/kg | 1 | | 06/25/22 03:27 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 99.1 | | 50-150 | | % | 1 | | 06/25/22 03:27 |

## Batch Information

Analytical Batch: XFC16268
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/25/22 03:27
Container ID: 1223040001-A

Prep Batch: XXX46464
Prep Method: SW3550C
Prep Date/Time: 06/22/22 15:31
Prep Initial Wt./Vol.: 30.083 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-16**

Client Sample ID: **22SCC-SS-16**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040001
Lab Project ID: 1223040

Collection Date: 06/09/22 06:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.1
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.14 | J | 2.99 | 0.897 | mg/kg | 1 | | 06/26/22 23:35 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 69.3 | | 50-150 | | % | 1 | | 06/26/22 23:35 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/26/22 23:35
Container ID: 1223040001-B

Prep Batch: VXX38754
Prep Method: SW5035A
Prep Date/Time: 06/09/22 06:55
Prep Initial Wt./Vol.: 56.834 g
Prep Extract Vol: 30.6133 mL



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## Results of **22SCC-SS-16**

Client Sample ID: **22SCC-SS-16**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040001
Lab Project ID: 1223040

Collection Date: 06/09/22 06:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.1
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00745 | U | 0.0149 | 0.00466 | mg/kg | 1 | | 06/17/22 05:30 |
| Ethylbenzene | 0.0150 | U | 0.0299 | 0.00932 | mg/kg | 1 | | 06/17/22 05:30 |
| o-Xylene | 0.0150 | U | 0.0299 | 0.00932 | mg/kg | 1 | | 06/17/22 05:30 |
| P & M -Xylene | 0.0299 | U | 0.0598 | 0.0179 | mg/kg | 1 | | 06/17/22 05:30 |
| Toluene | 0.0150 | U | 0.0299 | 0.00932 | mg/kg | 1 | | 06/17/22 05:30 |
| Xylenes (total) | 0.0449 | U | 0.0897 | 0.0273 | mg/kg | 1 | | 06/17/22 05:30 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 98.1 | | 71-136 | | % | 1 | | 06/17/22 05:30 |
| 4-Bromofluorobenzene (surr) | 66.1 | | 55-151 | | % | 1 | | 06/17/22 05:30 |
| Toluene-d8 (surr) | 97.6 | | 85-116 | | % | 1 | | 06/17/22 05:30 |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 05:30
Container ID: 1223040001-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/09/22 06:55
Prep Initial Wt./Vol.: 56.834 g
Prep Extract Vol: 30.6133 mL

Results of **22SCC-SS-6**

Client Sample ID: **22SCC-SS-6**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040002
Lab Project ID: 1223040

Collection Date: 06/08/22 15:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):84.5
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| 2-Methylnaphthalene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Acenaphthene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Acenaphthylene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Anthracene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Benzo(a)Anthracene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Benzo[a]pyrene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Benzo[b]Fluoranthene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Benzo[g,h,i]perylene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Benzo[k]fluoranthene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Chrysene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Dibenzo[a,h]anthracene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Fluoranthene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Fluorene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Indeno[1,2,3-c,d] pyrene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Naphthalene | 0.0117 | U | 0.0234 | 0.00585 | mg/kg | 1 | | 07/03/22 19:37 |
| Phenanthrene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| Pyrene | 0.0147 | U | 0.0293 | 0.00732 | mg/kg | 1 | | 07/03/22 19:37 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 63.3 | | 58-103 | | % | 1 | | 07/03/22 19:37 |
| Fluoranthene-d10 (surr) | 68.9 | | 54-113 | | % | 1 | | 07/03/22 19:37 |

**Batch Information**

Analytical Batch: XMS13209
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/03/22 19:37
Container ID: 1223040002-A

Prep Batch: XXX46446
Prep Method: SW3550C
Prep Date/Time: 06/21/22 08:10
Prep Initial Wt./Vol.: 22.742 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-6**

Client Sample ID: **22SCC-SS-6**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040002
Lab Project ID: 1223040

Collection Date: 06/08/22 15:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):84.5
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 23.8 | | 23.1 | 10.4 | mg/kg | 1 | | 06/22/22 20:47 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 75.5 | | 50-150 | | % | 1 | | 06/22/22 20:47 |

## Batch Information

Analytical Batch: XFC16265
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/22/22 20:47
Container ID: 1223040002-A

Prep Batch: XXX46450
Prep Method: SW3550C
Prep Date/Time: 06/21/22 13:48
Prep Initial Wt./Vol.: 30.694 g
Prep Extract Vol: 5 mL



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## Results of **22SCC-SS-6**

Client Sample ID: **22SCC-SS-6**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040002
Lab Project ID: 1223040

Collection Date: 06/08/22 15:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):84.5
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.05 | J | 2.60 | 0.781 | mg/kg | 1 | | 06/27/22 00:12 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 116 | | 50-150 | | % | 1 | | 06/27/22 00:12 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 00:12
Container ID: 1223040002-B

Prep Batch: VXX38754
Prep Method: SW5035A
Prep Date/Time: 06/08/22 15:00
Prep Initial Wt./Vol.: 87.573 g
Prep Extract Vol: 38.5473 mL

Results of **22SCC-SS-6**

Client Sample ID: **22SCC-SS-6**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040002
Lab Project ID: 1223040

Collection Date: 06/08/22 15:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):84.5
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00650 | U | 0.0130 | 0.00406 | mg/kg | 1 | | 06/17/22 05:46 |
| Ethylbenzene | 0.0130 | U | 0.0260 | 0.00812 | mg/kg | 1 | | 06/17/22 05:46 |
| o-Xylene | 0.0130 | U | 0.0260 | 0.00812 | mg/kg | 1 | | 06/17/22 05:46 |
| P & M -Xylene | 0.0261 | U | 0.0521 | 0.0156 | mg/kg | 1 | | 06/17/22 05:46 |
| Toluene | 0.0130 | U | 0.0260 | 0.00812 | mg/kg | 1 | | 06/17/22 05:46 |
| Xylenes (total) | 0.0391 | U | 0.0781 | 0.0237 | mg/kg | 1 | | 06/17/22 05:46 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 106 | | 71-136 | | % | 1 | | 06/17/22 05:46 |
| 4-Bromofluorobenzene (surr) | 108 | | 55-151 | | % | 1 | | 06/17/22 05:46 |
| Toluene-d8 (surr) | 97.6 | | 85-116 | | % | 1 | | 06/17/22 05:46 |

**Batch Information**

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 05:46
Container ID: 1223040002-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/08/22 15:00
Prep Initial Wt./Vol.: 87.573 g
Prep Extract Vol: 38.5473 mL

Results of **22SCC-SS-1**

Client Sample ID: **22SCC-SS-1**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040003
Lab Project ID: 1223040

Collection Date: 06/08/22 13:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| 2-Methylnaphthalene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Acenaphthene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Acenaphthylene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Anthracene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Benzo(a)Anthracene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Benzo[a]pyrene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Benzo[b]Fluoranthene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Benzo[g,h,i]perylene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Benzo[k]fluoranthene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Chrysene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Dibenzo[a,h]anthracene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Fluoranthene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Fluorene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Indeno[1,2,3-c,d] pyrene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Naphthalene | 0.0112 | U | 0.0223 | 0.00557 | mg/kg | 1 | | 07/06/22 11:33 |
| Phenanthrene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| Pyrene | 0.0139 | U | 0.0279 | 0.00696 | mg/kg | 1 | | 07/06/22 11:33 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 86.6 | | 58-103 | | % | 1 | | 07/06/22 11:33 |
| Fluoranthene-d10 (surr) | 91 | | 54-113 | | % | 1 | | 07/06/22 11:33 |

**Batch Information**

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 11:33
Container ID: 1223040003-A

Prep Batch: XXX46460
Prep Method: SW3550C
Prep Date/Time: 06/22/22 09:33
Prep Initial Wt./Vol.: 22.645 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-1**

Client Sample ID: **22SCC-SS-1**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040003
Lab Project ID: 1223040

Collection Date: 06/08/22 13:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 11.1 | U | 22.2 | 9.98 | mg/kg | 1 | | 06/22/22 20:57 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 83.9 | | 50-150 | | % | 1 | | 06/22/22 20:57 |

## Batch Information

Analytical Batch: XFC16265
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/22/22 20:57
Container ID: 1223040003-A

Prep Batch: XXX46450
Prep Method: SW3550C
Prep Date/Time: 06/21/22 13:48
Prep Initial Wt./Vol.: 30.35 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-1**

Client Sample ID: **22SCC-SS-1**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040003
Lab Project ID: 1223040

Collection Date: 06/08/22 13:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.90 | J | 4.62 | 1.39 | mg/kg | 1 | | 06/27/22 00:30 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 91.2 | | 50-150 | | % | 1 | | 06/27/22 00:30 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 00:30
Container ID: 1223040003-B

Prep Batch: VXX38754
Prep Method: SW5035A
Prep Date/Time: 06/08/22 13:40
Prep Initial Wt./Vol.: 34.914 g
Prep Extract Vol: 28.7821 mL

Results of **22SCC-SS-1**

Client Sample ID: **22SCC-SS-1**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040003
Lab Project ID: 1223040

Collection Date: 06/08/22 13:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0116 | U | 0.0231 | 0.00721 | mg/kg | 1 | | 06/17/22 06:02 |
| Ethylbenzene | 0.0231 | U | 0.0462 | 0.0144 | mg/kg | 1 | | 06/17/22 06:02 |
| o-Xylene | 0.0231 | U | 0.0462 | 0.0144 | mg/kg | 1 | | 06/17/22 06:02 |
| P & M -Xylene | 0.0462 | U | 0.0925 | 0.0277 | mg/kg | 1 | | 06/17/22 06:02 |
| Toluene | 0.0231 | U | 0.0462 | 0.0144 | mg/kg | 1 | | 06/17/22 06:02 |
| Xylenes (total) | 0.0695 | U | 0.139 | 0.0422 | mg/kg | 1 | | 06/17/22 06:02 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 109 | | 71-136 | | % | 1 | | 06/17/22 06:02 |
| 4-Bromofluorobenzene (surr) | 85.5 | | 55-151 | | % | 1 | | 06/17/22 06:02 |
| Toluene-d8 (surr) | 96.7 | | 85-116 | | % | 1 | | 06/17/22 06:02 |

**Batch Information**

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 06:02
Container ID: 1223040003-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/08/22 13:40
Prep Initial Wt./Vol.: 34.914 g
Prep Extract Vol: 28.7821 mL

Results of **22SCC-SS-22**

Client Sample ID: **22SCC-SS-22**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040004
Lab Project ID: 1223040

Collection Date: 06/09/22 08:15
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):94.7
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| 2-Methylnaphthalene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Acenaphthene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Acenaphthylene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Anthracene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Benzo(a)Anthracene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Benzo[a]pyrene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Benzo[b]Fluoranthene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Benzo[g,h,i]perylene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Benzo[k]fluoranthene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Chrysene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Dibenzo[a,h]anthracene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Fluoranthene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Fluorene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Indeno[1,2,3-c,d] pyrene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Naphthalene | 0.0520 | U | 0.104 | 0.0260 | mg/kg | 5 | | 07/06/22 17:54 |
| Phenanthrene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| Pyrene | 0.0650 | U | 0.130 | 0.0324 | mg/kg | 5 | | 07/06/22 17:54 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 85.2 | | 58-103 | | % | 5 | | 07/06/22 17:54 |
| Fluoranthene-d10 (surr) | 95.5 | | 54-113 | | % | 5 | | 07/06/22 17:54 |

**Batch Information**

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 17:54
Container ID: 1223040004-A

Prep Batch: XXX46460
Prep Method: SW3550C
Prep Date/Time: 06/22/22 09:33
Prep Initial Wt./Vol.: 22.883 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-22**

Client Sample ID: **22SCC-SS-22**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040004
Lab Project ID: 1223040

Collection Date: 06/09/22 08:15
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):94.7
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 84.2 | | 20.9 | 9.40 | mg/kg | 1 | | 06/25/22 01:35 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 96.2 | | 50-150 | | % | 1 | | 06/25/22 01:35 |

## Batch Information

Analytical Batch: XFC16268
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/25/22 01:35
Container ID: 1223040004-A

Prep Batch: XXX46464
Prep Method: SW3550C
Prep Date/Time: 06/22/22 15:31
Prep Initial Wt./Vol.: 30.334 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-22**

Client Sample ID: **22SCC-SS-22**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040004
Lab Project ID: 1223040

Collection Date: 06/09/22 08:15
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):94.7
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.08 | J | 2.54 | 0.761 | mg/kg | 1 | | 06/27/22 00:48 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 94.5 | | 50-150 | | % | 1 | | 06/27/22 00:48 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 00:48
Container ID: 1223040004-B

Prep Batch: VXX38754
Prep Method: SW5035A
Prep Date/Time: 06/09/22 08:15
Prep Initial Wt./Vol.: 58.47 g
Prep Extract Vol: 28.1029 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-22**

Client Sample ID: **22SCC-SS-22**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040004
Lab Project ID: 1223040

Collection Date: 06/09/22 08:15
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):94.7
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00635 | U | 0.0127 | 0.00396 | mg/kg | 1 | | 06/17/22 06:17 |
| Ethylbenzene | 0.0127 | U | 0.0254 | 0.00792 | mg/kg | 1 | | 06/17/22 06:17 |
| o-Xylene | 0.0127 | U | 0.0254 | 0.00792 | mg/kg | 1 | | 06/17/22 06:17 |
| P & M -Xylene | 0.0254 | U | 0.0508 | 0.0152 | mg/kg | 1 | | 06/17/22 06:17 |
| Toluene | 0.0127 | U | 0.0254 | 0.00792 | mg/kg | 1 | | 06/17/22 06:17 |
| Xylenes (total) | 0.0381 | U | 0.0761 | 0.0231 | mg/kg | 1 | | 06/17/22 06:17 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 101 | | 71-136 | | % | 1 | | 06/17/22 06:17 |
| 4-Bromofluorobenzene (surr) | 87.9 | | 55-151 | | % | 1 | | 06/17/22 06:17 |
| Toluene-d8 (surr) | 98.4 | | 85-116 | | % | 1 | | 06/17/22 06:17 |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 06:17
Container ID: 1223040004-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/09/22 08:15
Prep Initial Wt./Vol.: 58.47 g
Prep Extract Vol: 28.1029 mL

Results of **22SCC-SS-21**

Client Sample ID: **22SCC-SS-21**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040005
Lab Project ID: 1223040

Collection Date: 06/09/22 08:05
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):93.7
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| 2-Methylnaphthalene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Acenaphthene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Acenaphthylene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Anthracene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Benzo(a)Anthracene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Benzo[a]pyrene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Benzo[b]Fluoranthene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Benzo[g,h,i]perylene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Benzo[k]fluoranthene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Chrysene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Dibenzo[a,h]anthracene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Fluoranthene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Fluorene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Indeno[1,2,3-c,d] pyrene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Naphthalene | 0.0106 | U | 0.0211 | 0.00527 | mg/kg | 1 | | 07/06/22 11:53 |
| Phenanthrene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| Pyrene | 0.0132 | U | 0.0264 | 0.00659 | mg/kg | 1 | | 07/06/22 11:53 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 84.3 | | 58-103 | | % | 1 | | 07/06/22 11:53 |
| Fluoranthene-d10 (surr) | 89.6 | | 54-113 | | % | 1 | | 07/06/22 11:53 |

**Batch Information**

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 11:53
Container ID: 1223040005-A

Prep Batch: XXX46460
Prep Method: SW3550C
Prep Date/Time: 06/22/22 09:33
Prep Initial Wt./Vol.: 22.781 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-21**

Client Sample ID: **22SCC-SS-21**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040005
Lab Project ID: 1223040

Collection Date: 06/09/22 08:05
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):93.7
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 13.7 | J | 21.1 | 9.48 | mg/kg | 1 | | 06/25/22 01:45 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 88.6 | | 50-150 | | % | 1 | | 06/25/22 01:45 |

## Batch Information

Analytical Batch: XFC16268
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/25/22 01:45
Container ID: 1223040005-A

Prep Batch: XXX46464
Prep Method: SW3550C
Prep Date/Time: 06/22/22 15:31
Prep Initial Wt./Vol.: 30.403 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-21**

Client Sample ID: **22SCC-SS-21**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040005
Lab Project ID: 1223040

Collection Date: 06/09/22 08:05
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):93.7
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.07 | J | 2.54 | 0.763 | mg/kg | 1 | | 06/27/22 02:00 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 96.5 | | 50-150 | | % | 1 | | 06/27/22 02:00 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 02:00
Container ID: 1223040005-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 08:05
Prep Initial Wt./Vol.: 60.478 g
Prep Extract Vol: 28.8161 mL

## Results of **22SCC-SS-21**

Client Sample ID: **22SCC-SS-21**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040005
Lab Project ID: 1223040

Collection Date: 06/09/22 08:05
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):93.7
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00635 | U | 0.0127 | 0.00397 | mg/kg | 1 | | 06/17/22 06:33 |
| Ethylbenzene | 0.0127 | U | 0.0254 | 0.00793 | mg/kg | 1 | | 06/17/22 06:33 |
| o-Xylene | 0.0127 | U | 0.0254 | 0.00793 | mg/kg | 1 | | 06/17/22 06:33 |
| P & M -Xylene | 0.0255 | U | 0.0509 | 0.0153 | mg/kg | 1 | | 06/17/22 06:33 |
| Toluene | 0.0127 | U | 0.0254 | 0.00793 | mg/kg | 1 | | 06/17/22 06:33 |
| Xylenes (total) | 0.0381 | U | 0.0763 | 0.0232 | mg/kg | 1 | | 06/17/22 06:33 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 97.4 | | 71-136 | | % | 1 | | 06/17/22 06:33 |
| 4-Bromofluorobenzene (surr) | 90.2 | | 55-151 | | % | 1 | | 06/17/22 06:33 |
| Toluene-d8 (surr) | 98 | | 85-116 | | % | 1 | | 06/17/22 06:33 |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 06:33
Container ID: 1223040005-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/09/22 08:05
Prep Initial Wt./Vol.: 60.478 g
Prep Extract Vol: 28.8161 mL

Results of **22SCC-SS-18**

Client Sample ID: **22SCC-SS-18**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040006
Lab Project ID: 1223040

Collection Date: 06/09/22 07:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):93.5
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0132 | U | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| 2-Methylnaphthalene | 0.0132 | U | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Acenaphthene | 0.0132 | U | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Acenaphthylene | 0.0132 | U | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Anthracene | 0.0132 | U | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Benzo(a)Anthracene | 0.0132 | U | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Benzo[a]pyrene | 0.00803 | J | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Benzo[b]Fluoranthene | 0.0112 | J | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Benzo[g,h,i]perylene | 0.0132 | U | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Benzo[k]fluoranthene | 0.0132 | U | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Chrysene | 0.00965 | J | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Dibenzo[a,h]anthracene | 0.0132 | U | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Fluoranthene | 0.0177 | J | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Fluorene | 0.0132 | U | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Indeno[1,2,3-c,d] pyrene | 0.0132 | U | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Naphthalene | 0.0106 | U | 0.0211 | 0.00529 | mg/kg | 1 | | 07/06/22 12:14 |
| Phenanthrene | 0.0138 | J | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| Pyrene | 0.0153 | J | 0.0264 | 0.00661 | mg/kg | 1 | | 07/06/22 12:14 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 77.6 | | 58-103 | | % | 1 | | 07/06/22 12:14 |
| Fluoranthene-d10 (surr) | 81.4 | | 54-113 | | % | 1 | | 07/06/22 12:14 |

**Batch Information**

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 12:14
Container ID: 1223040006-A

Prep Batch: XXX46460
Prep Method: SW3550C
Prep Date/Time: 06/22/22 09:33
Prep Initial Wt./Vol.: 22.778 g
Prep Extract Vol: 5 mL

Results of **22SCC-SS-18**

Client Sample ID: **22SCC-SS-18**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040006
Lab Project ID: 1223040

Collection Date: 06/09/22 07:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):93.5
Location:

Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 11.7 | J | 21.1 | 9.49 | mg/kg | 1 | | 06/25/22 01:55 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 85 | | 50-150 | | % | 1 | | 06/25/22 01:55 |

**Batch Information**

Analytical Batch: XFC16268
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/25/22 01:55
Container ID: 1223040006-A

Prep Batch: XXX46464
Prep Method: SW3550C
Prep Date/Time: 06/22/22 15:31
Prep Initial Wt./Vol.: 30.459 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

Results of **22SCC-SS-18**

Client Sample ID: **22SCC-SS-18**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040006
Lab Project ID: 1223040

Collection Date: 06/09/22 07:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):93.5
Location:

Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 0.766 | J | 1.93 | 0.578 | mg/kg | 1 | | 06/27/22 02:18 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 93.8 | | 50-150 | | % | 1 | | 06/27/22 02:18 |

**Batch Information**

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 02:18
Container ID: 1223040006-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 07:40
Prep Initial Wt./Vol.: 84.905 g
Prep Extract Vol: 30.5595 mL

## Results of **22SCC-SS-18**

Client Sample ID: **22SCC-SS-18**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040006
Lab Project ID: 1223040

Collection Date: 06/09/22 07:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):93.5
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00482 | U | 0.00963 | 0.00300 | mg/kg | 1 | | 06/17/22 06:48 |
| Ethylbenzene | 0.00965 | U | 0.0193 | 0.00601 | mg/kg | 1 | | 06/17/22 06:48 |
| o-Xylene | 0.00965 | U | 0.0193 | 0.00601 | mg/kg | 1 | | 06/17/22 06:48 |
| P & M -Xylene | 0.0193 | U | 0.0385 | 0.0116 | mg/kg | 1 | | 06/17/22 06:48 |
| Toluene | 0.00965 | U | 0.0193 | 0.00601 | mg/kg | 1 | | 06/17/22 06:48 |
| Xylenes (total) | 0.0289 | U | 0.0578 | 0.0176 | mg/kg | 1 | | 06/17/22 06:48 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 100 | | 71-136 | | % | 1 | | 06/17/22 06:48 |
| 4-Bromofluorobenzene (surr) | 82.9 | | 55-151 | | % | 1 | | 06/17/22 06:48 |
| Toluene-d8 (surr) | 96.9 | | 85-116 | | % | 1 | | 06/17/22 06:48 |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 06:48
Container ID: 1223040006-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/09/22 07:40
Prep Initial Wt./Vol.: 84.905 g
Prep Extract Vol: 30.5595 mL

## Results of **22SCC-SS-17**

Client Sample ID: **22SCC-SS-17**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040007
Lab Project ID: 1223040

Collection Date: 06/09/22 07:30
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):87.1
Location:

## Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| 2-Methylnaphthalene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Acenaphthene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Acenaphthylene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Anthracene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Benzo(a)Anthracene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Benzo[a]pyrene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Benzo[b]Fluoranthene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Benzo[g,h,i]perylene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Benzo[k]fluoranthene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Chrysene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Dibenzo[a,h]anthracene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Fluoranthene | 0.00796 | J | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Fluorene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Indeno[1,2,3-c,d] pyrene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Naphthalene | 0.0113 | U | 0.0226 | 0.00564 | mg/kg | 1 | | 07/06/22 12:34 |
| Phenanthrene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| Pyrene | 0.0141 | U | 0.0282 | 0.00705 | mg/kg | 1 | | 07/06/22 12:34 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 82.3 | | 58-103 | | % | 1 | | 07/06/22 12:34 |
| Fluoranthene-d10 (surr) | 85.3 | | 54-113 | | % | 1 | | 07/06/22 12:34 |

## Batch Information

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 12:34
Container ID: 1223040007-A

Prep Batch: XXX46460
Prep Method: SW3550C
Prep Date/Time: 06/22/22 09:33
Prep Initial Wt./Vol.: 22.906 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-17**

Client Sample ID: **22SCC-SS-17**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040007
Lab Project ID: 1223040

Collection Date: 06/09/22 07:30
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):87.1
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 17.1 | J | 22.9 | 10.3 | mg/kg | 1 | | 06/25/22 02:05 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 86.1 | | 50-150 | | % | 1 | | 06/25/22 02:05 |

## Batch Information

Analytical Batch: XFC16268
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/25/22 02:05
Container ID: 1223040007-A

Prep Batch: XXX46464
Prep Method: SW3550C
Prep Date/Time: 06/22/22 15:31
Prep Initial Wt./Vol.: 30.125 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-17**

Client Sample ID: **22SCC-SS-17**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040007
Lab Project ID: 1223040

Collection Date: 06/09/22 07:30
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):87.1
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.97 | J | 4.85 | 1.45 | mg/kg | 1 | | 06/27/22 02:37 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 88.2 | | 50-150 | | % | 1 | | 06/27/22 02:37 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 02:37
Container ID: 1223040007-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 07:30
Prep Initial Wt./Vol.: 34.979 g
Prep Extract Vol: 29.521 mL

Results of **22SCC-SS-17**

Client Sample ID: **22SCC-SS-17**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040007
Lab Project ID: 1223040

Collection Date: 06/09/22 07:30
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):87.1
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0121 | U | 0.0242 | 0.00756 | mg/kg | 1 | | 06/17/22 07:04 |
| Ethylbenzene | 0.0243 | U | 0.0485 | 0.0151 | mg/kg | 1 | | 06/17/22 07:04 |
| o-Xylene | 0.0243 | U | 0.0485 | 0.0151 | mg/kg | 1 | | 06/17/22 07:04 |
| P & M -Xylene | 0.0485 | U | 0.0969 | 0.0291 | mg/kg | 1 | | 06/17/22 07:04 |
| Toluene | 0.0243 | U | 0.0485 | 0.0151 | mg/kg | 1 | | 06/17/22 07:04 |
| Xylenes (total) | 0.0725 | U | 0.145 | 0.0442 | mg/kg | 1 | | 06/17/22 07:04 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 101 | | 71-136 | | % | 1 | | 06/17/22 07:04 |
| 4-Bromofluorobenzene (surr) | 81.4 | | 55-151 | | % | 1 | | 06/17/22 07:04 |
| Toluene-d8 (surr) | 96.8 | | 85-116 | | % | 1 | | 06/17/22 07:04 |

**Batch Information**

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 07:04
Container ID: 1223040007-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/09/22 07:30
Prep Initial Wt./Vol.: 34.979 g
Prep Extract Vol: 29.521 mL

Results of **22SCC-SS-5**

Client Sample ID: **22SCC-SS-5**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040008
Lab Project ID: 1223040

Collection Date: 06/08/22 14:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.0
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| 2-Methylnaphthalene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Acenaphthene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Acenaphthylene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Anthracene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Benzo(a)Anthracene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Benzo[a]pyrene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Benzo[b]Fluoranthene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Benzo[g,h,i]perylene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Benzo[k]fluoranthene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Chrysene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Dibenzo[a,h]anthracene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Fluoranthene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Fluorene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Indeno[1,2,3-c,d] pyrene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Naphthalene | 0.0111 | U | 0.0221 | 0.00551 | mg/kg | 1 | | 07/06/22 12:55 |
| Phenanthrene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| Pyrene | 0.0138 | U | 0.0276 | 0.00689 | mg/kg | 1 | | 07/06/22 12:55 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 86.4 | | 58-103 | | % | 1 | | 07/06/22 12:55 |
| Fluoranthene-d10 (surr) | 90.5 | | 54-113 | | % | 1 | | 07/06/22 12:55 |

**Batch Information**

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 12:55
Container ID: 1223040008-A

Prep Batch: XXX46460
Prep Method: SW3550C
Prep Date/Time: 06/22/22 09:33
Prep Initial Wt./Vol.: 22.918 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-5**

Client Sample ID: **22SCC-SS-5**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040008
Lab Project ID: 1223040

Collection Date: 06/08/22 14:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.0
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 20.3 | J | 22.3 | 10.0 | mg/kg | 1 | | 06/22/22 21:07 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 96.3 | | 50-150 | | % | 1 | | 06/22/22 21:07 |

## Batch Information

Analytical Batch: XFC16265
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/22/22 21:07
Container ID: 1223040008-A

Prep Batch: XXX46450
Prep Method: SW3550C
Prep Date/Time: 06/21/22 13:48
Prep Initial Wt./Vol.: 30.274 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-5**

Client Sample ID: **22SCC-SS-5**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040008
Lab Project ID: 1223040

Collection Date: 06/08/22 14:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.0
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.02 | J | 2.57 | 0.770 | mg/kg | 1 | | 06/27/22 02:55 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 93 | | 50-150 | | % | 1 | | 06/27/22 02:55 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 02:55
Container ID: 1223040008-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/08/22 14:50
Prep Initial Wt./Vol.: 72.008 g
Prep Extract Vol: 32.8974 mL

## Results of **22SCC-SS-5**

Client Sample ID: **22SCC-SS-5**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040008
Lab Project ID: 1223040

Collection Date: 06/08/22 14:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.0
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00640 | U | 0.0128 | 0.00400 | mg/kg | 1 | | 06/17/22 07:20 |
| Ethylbenzene | 0.0129 | U | 0.0257 | 0.00800 | mg/kg | 1 | | 06/17/22 07:20 |
| o-Xylene | 0.0129 | U | 0.0257 | 0.00800 | mg/kg | 1 | | 06/17/22 07:20 |
| P & M -Xylene | 0.0256 | U | 0.0513 | 0.0154 | mg/kg | 1 | | 06/17/22 07:20 |
| Toluene | 0.0129 | U | 0.0257 | 0.00800 | mg/kg | 1 | | 06/17/22 07:20 |
| Xylenes (total) | 0.0385 | U | 0.0770 | 0.0234 | mg/kg | 1 | | 06/17/22 07:20 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 115 | | 71-136 | | % | 1 | | 06/17/22 07:20 |
| 4-Bromofluorobenzene (surr) | 94.4 | | 55-151 | | % | 1 | | 06/17/22 07:20 |
| Toluene-d8 (surr) | 95.1 | | 85-116 | | % | 1 | | 06/17/22 07:20 |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 07:20
Container ID: 1223040008-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/08/22 14:50
Prep Initial Wt./Vol.: 72.008 g
Prep Extract Vol: 32.8974 mL

Results of **22SCC-SS-2**

Client Sample ID: **22SCC-SS-2**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040009
Lab Project ID: 1223040

Collection Date: 06/08/22 13:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.2
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| 2-Methylnaphthalene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Acenaphthene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Acenaphthylene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Anthracene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Benzo(a)Anthracene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Benzo[a]pyrene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Benzo[b]Fluoranthene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Benzo[g,h,i]perylene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Benzo[k]fluoranthene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Chrysene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Dibenzo[a,h]anthracene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Fluoranthene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Fluorene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Indeno[1,2,3-c,d] pyrene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Naphthalene | 0.0109 | U | 0.0218 | 0.00544 | mg/kg | 1 | | 07/06/22 13:16 |
| Phenanthrene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| Pyrene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/06/22 13:16 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 80.9 | | 58-103 | | % | 1 | | 07/06/22 13:16 |
| Fluoranthene-d10 (surr) | 87 | | 54-113 | | % | 1 | | 07/06/22 13:16 |

**Batch Information**

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 13:16
Container ID: 1223040009-A

Prep Batch: XXX46460
Prep Method: SW3550C
Prep Date/Time: 06/22/22 09:33
Prep Initial Wt./Vol.: 22.909 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-2**

Client Sample ID: **22SCC-SS-2**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040009
Lab Project ID: 1223040

Collection Date: 06/08/22 13:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.2
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 11.1 | U | 22.2 | 9.97 | mg/kg | 1 | | 06/22/22 21:17 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 85.5 | | 50-150 | | % | 1 | | 06/22/22 21:17 |

## Batch Information

Analytical Batch: XFC16265
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/22/22 21:17
Container ID: 1223040009-A

Prep Batch: XXX46450
Prep Method: SW3550C
Prep Date/Time: 06/21/22 13:48
Prep Initial Wt./Vol.: 30.03 g
Prep Extract Vol: 5 mL



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## Results of **22SCC-SS-2**

Client Sample ID: **22SCC-SS-2**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040009
Lab Project ID: 1223040

Collection Date: 06/08/22 13:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.2
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.94 | J | 6.03 | 1.81 | mg/kg | 1 | | 06/27/22 03:13 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 78.2 | | 50-150 | | % | 1 | | 06/27/22 03:13 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 03:13
Container ID: 1223040009-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/08/22 13:50
Prep Initial Wt./Vol.: 25.263 g
Prep Extract Vol: 27.4772 mL

## Results of **22SCC-SS-2**

Client Sample ID: **22SCC-SS-2**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040009
Lab Project ID: 1223040

Collection Date: 06/08/22 13:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.2
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0151 | U | 0.0301 | 0.00941 | mg/kg | 1 | | 06/17/22 07:35 |
| Ethylbenzene | 0.0302 | U | 0.0603 | 0.0188 | mg/kg | 1 | | 06/17/22 07:35 |
| o-Xylene | 0.0302 | U | 0.0603 | 0.0188 | mg/kg | 1 | | 06/17/22 07:35 |
| P & M -Xylene | 0.0605 | U | 0.121 | 0.0362 | mg/kg | 1 | | 06/17/22 07:35 |
| Toluene | 0.0302 | U | 0.0603 | 0.0188 | mg/kg | 1 | | 06/17/22 07:35 |
| Xylenes (total) | 0.0905 | U | 0.181 | 0.0550 | mg/kg | 1 | | 06/17/22 07:35 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 114 | | 71-136 | | % | 1 | | 06/17/22 07:35 |
| 4-Bromofluorobenzene (surr) | 78.2 | | 55-151 | | % | 1 | | 06/17/22 07:35 |
| Toluene-d8 (surr) | 95.6 | | 85-116 | | % | 1 | | 06/17/22 07:35 |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 07:35
Container ID: 1223040009-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/08/22 13:50
Prep Initial Wt./Vol.: 25.263 g
Prep Extract Vol: 27.4772 mL

Results of **22SCC-SS-3**

Client Sample ID: **22SCC-SS-3**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040010
Lab Project ID: 1223040

Collection Date: 06/08/22 14:15
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.2
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| 2-Methylnaphthalene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Acenaphthene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Acenaphthylene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Anthracene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Benzo(a)Anthracene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Benzo[a]pyrene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Benzo[b]Fluoranthene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Benzo[g,h,i]perylene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Benzo[k]fluoranthene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Chrysene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Dibenzo[a,h]anthracene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Fluoranthene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Fluorene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Indeno[1,2,3-c,d] pyrene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Naphthalene | 0.0113 | U | 0.0225 | 0.00563 | mg/kg | 1 | | 07/06/22 13:36 |
| Phenanthrene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| Pyrene | 0.0141 | U | 0.0282 | 0.00704 | mg/kg | 1 | | 07/06/22 13:36 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 89.5 | | 58-103 | | % | 1 | | 07/06/22 13:36 |
| Fluoranthene-d10 (surr) | 93.7 | | 54-113 | | % | 1 | | 07/06/22 13:36 |

**Batch Information**

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 13:36
Container ID: 1223040010-A

Prep Batch: XXX46460
Prep Method: SW3550C
Prep Date/Time: 06/22/22 09:33
Prep Initial Wt./Vol.: 22.653 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-3**

Client Sample ID: **22SCC-SS-3**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040010
Lab Project ID: 1223040

Collection Date: 06/08/22 14:15
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.2
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 22.0 | J | 22.3 | 10.1 | mg/kg | 1 | | 06/22/22 21:27 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 95.6 | | 50-150 | | % | 1 | | 06/22/22 21:27 |

## Batch Information

Analytical Batch: XFC16265
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/22/22 21:27
Container ID: 1223040010-A

Prep Batch: XXX46450
Prep Method: SW3550C
Prep Date/Time: 06/21/22 13:48
Prep Initial Wt./Vol.: 30.465 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-3**

Client Sample ID: **22SCC-SS-3**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040010
Lab Project ID: 1223040

Collection Date: 06/08/22 14:15
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.2
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 0.876 | J | 2.82 | 0.847 | mg/kg | 1 | | 06/27/22 03:31 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 89.3 | | 50-150 | | % | 1 | | 06/27/22 03:31 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 03:31
Container ID: 1223040010-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/08/22 14:15
Prep Initial Wt./Vol.: 65.882 g
Prep Extract Vol: 32.7922 mL

## Results of **22SCC-SS-3**

Client Sample ID: **22SCC-SS-3**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040010
Lab Project ID: 1223040

Collection Date: 06/08/22 14:15
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.2
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00705 | U | 0.0141 | 0.00440 | mg/kg | 1 | | 06/17/22 07:51 |
| Ethylbenzene | 0.0141 | U | 0.0282 | 0.00881 | mg/kg | 1 | | 06/17/22 07:51 |
| o-Xylene | 0.0141 | U | 0.0282 | 0.00881 | mg/kg | 1 | | 06/17/22 07:51 |
| P & M -Xylene | 0.0283 | U | 0.0565 | 0.0169 | mg/kg | 1 | | 06/17/22 07:51 |
| Toluene | 0.0141 | U | 0.0282 | 0.00881 | mg/kg | 1 | | 06/17/22 07:51 |
| Xylenes (total) | 0.0424 | U | 0.0847 | 0.0257 | mg/kg | 1 | | 06/17/22 07:51 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 113 | | 71-136 | | % | 1 | | 06/17/22 07:51 |
| 4-Bromofluorobenzene (surr) | 86.3 | | 55-151 | | % | 1 | | 06/17/22 07:51 |
| Toluene-d8 (surr) | 96.5 | | 85-116 | | % | 1 | | 06/17/22 07:51 |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 07:51
Container ID: 1223040010-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/08/22 14:15
Prep Initial Wt./Vol.: 65.882 g
Prep Extract Vol: 32.7922 mL

Results of **22SCC-SS-4**

Client Sample ID: **22SCC-SS-4**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040011
Lab Project ID: 1223040

Collection Date: 06/08/22 14:25
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):91.0
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| 2-Methylnaphthalene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Acenaphthene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Acenaphthylene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Anthracene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Benzo(a)Anthracene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Benzo[a]pyrene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Benzo[b]Fluoranthene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Benzo[g,h,i]perylene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Benzo[k]fluoranthene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Chrysene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Dibenzo[a,h]anthracene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Fluoranthene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Fluorene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Indeno[1,2,3-c,d] pyrene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Naphthalene | 0.0545 | U | 0.109 | 0.0273 | mg/kg | 5 | | 07/06/22 18:15 |
| Phenanthrene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| Pyrene | 0.0685 | U | 0.137 | 0.0342 | mg/kg | 5 | | 07/06/22 18:15 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 85.5 | | 58-103 | | % | 5 | | 07/06/22 18:15 |
| Fluoranthene-d10 (surr) | 94.9 | | 54-113 | | % | 5 | | 07/06/22 18:15 |

**Batch Information**

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 18:15
Container ID: 1223040011-A

Prep Batch: XXX46460
Prep Method: SW3550C
Prep Date/Time: 06/22/22 09:33
Prep Initial Wt./Vol.: 22.626 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-4**

Client Sample ID: **22SCC-SS-4**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040011
Lab Project ID: 1223040

Collection Date: 06/08/22 14:25
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):91.0
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 37.2 | | 21.9 | 9.86 | mg/kg | 1 | | 06/22/22 21:38 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 94.6 | | 50-150 | | % | 1 | | 06/22/22 21:38 |

## Batch Information

Analytical Batch: XFC16265
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/22/22 21:38
Container ID: 1223040011-A

Prep Batch: XXX46450
Prep Method: SW3550C
Prep Date/Time: 06/21/22 13:48
Prep Initial Wt./Vol.: 30.098 g
Prep Extract Vol: 5 mL



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## Results of **22SCC-SS-4**

Client Sample ID: **22SCC-SS-4**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040011
Lab Project ID: 1223040

Collection Date: 06/08/22 14:25
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):91.0
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.02 | J | 2.60 | 0.779 | mg/kg | 1 | | 06/27/22 03:49 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 91.6 | | 50-150 | | % | 1 | | 06/27/22 03:49 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 03:49
Container ID: 1223040011-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/08/22 14:25
Prep Initial Wt./Vol.: 65.417 g
Prep Extract Vol: 30.8983 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

Results of **22SCC-SS-4**

Client Sample ID: **22SCC-SS-4**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040011
Lab Project ID: 1223040

Collection Date: 06/08/22 14:25
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):91.0
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00650 | U | 0.0130 | 0.00405 | mg/kg | 1 | | 06/17/22 08:07 |
| Ethylbenzene | 0.0130 | U | 0.0260 | 0.00810 | mg/kg | 1 | | 06/17/22 08:07 |
| o-Xylene | 0.0130 | U | 0.0260 | 0.00810 | mg/kg | 1 | | 06/17/22 08:07 |
| P & M -Xylene | 0.0260 | U | 0.0519 | 0.0156 | mg/kg | 1 | | 06/17/22 08:07 |
| Toluene | 0.0130 | U | 0.0260 | 0.00810 | mg/kg | 1 | | 06/17/22 08:07 |
| Xylenes (total) | 0.0390 | U | 0.0779 | 0.0237 | mg/kg | 1 | | 06/17/22 08:07 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 107 | | 71-136 | | % | 1 | | 06/17/22 08:07 |
| 4-Bromofluorobenzene (surr) | 88.5 | | 55-151 | | % | 1 | | 06/17/22 08:07 |
| Toluene-d8 (surr) | 97.6 | | 85-116 | | % | 1 | | 06/17/22 08:07 |

**Batch Information**

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 08:07
Container ID: 1223040011-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/08/22 14:25
Prep Initial Wt./Vol.: 65.417 g
Prep Extract Vol: 30.8983 mL

## Results of **Trip Blank 1**

Client Sample ID: **Trip Blank 1**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040012
Lab Project ID: 1223040

Collection Date: 06/08/22 12:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.02 | J | 2.56 | 0.768 | mg/kg | 1 | | 06/26/22 18:46 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 77.7 | | 50-150 | | % | 1 | | 06/26/22 18:46 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/26/22 18:46
Container ID: 1223040012-A

Prep Batch: VXX38754
Prep Method: SW5035A
Prep Date/Time: 06/08/22 12:00
Prep Initial Wt./Vol.: 48.83 g
Prep Extract Vol: 25 mL

## Results of **Trip Blank 1**

Client Sample ID: **Trip Blank 1**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040012
Lab Project ID: 1223040

Collection Date: 06/08/22 12:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00640 | U | 0.0128 | 0.00399 | mg/kg | 1 | | 06/17/22 03:25 |
| Ethylbenzene | 0.0128 | U | 0.0256 | 0.00799 | mg/kg | 1 | | 06/17/22 03:25 |
| o-Xylene | 0.0128 | U | 0.0256 | 0.00799 | mg/kg | 1 | | 06/17/22 03:25 |
| P & M -Xylene | 0.0256 | U | 0.0512 | 0.0154 | mg/kg | 1 | | 06/17/22 03:25 |
| Toluene | 0.0128 | U | 0.0256 | 0.00799 | mg/kg | 1 | | 06/17/22 03:25 |
| Xylenes (total) | 0.0384 | U | 0.0768 | 0.0233 | mg/kg | 1 | | 06/17/22 03:25 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 97.6 | | 71-136 | | % | 1 | | 06/17/22 03:25 |
| 4-Bromofluorobenzene (surr) | 88.5 | | 55-151 | | % | 1 | | 06/17/22 03:25 |
| Toluene-d8 (surr) | 97.3 | | 85-116 | | % | 1 | | 06/17/22 03:25 |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 03:25
Container ID: 1223040012-A

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/08/22 12:00
Prep Initial Wt./Vol.: 48.83 g
Prep Extract Vol: 25 mL

## Results of **Trip Blank 2**

Client Sample ID: **Trip Blank 2**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040013
Lab Project ID: 1223040

Collection Date: 06/08/22 12:05
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.32 | J | 2.58 | 0.775 | mg/kg | 1 | | 06/26/22 19:04 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 93.9 | | 50-150 | | % | 1 | | 06/26/22 19:04 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/26/22 19:04
Container ID: 1223040013-A

Prep Batch: VXX38754
Prep Method: SW5035A
Prep Date/Time: 06/08/22 12:05
Prep Initial Wt./Vol.: 48.397 g
Prep Extract Vol: 25 mL

## Results of **Trip Blank 2**

Client Sample ID: **Trip Blank 2**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040013
Lab Project ID: 1223040

Collection Date: 06/08/22 12:05
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00645 | U | 0.0129 | 0.00403 | mg/kg | 1 | | 06/17/22 03:41 |
| Ethylbenzene | 0.0129 | U | 0.0258 | 0.00806 | mg/kg | 1 | | 06/17/22 03:41 |
| o-Xylene | 0.0129 | U | 0.0258 | 0.00806 | mg/kg | 1 | | 06/17/22 03:41 |
| P & M -Xylene | 0.0259 | U | 0.0517 | 0.0155 | mg/kg | 1 | | 06/17/22 03:41 |
| Toluene | 0.0129 | U | 0.0258 | 0.00806 | mg/kg | 1 | | 06/17/22 03:41 |
| Xylenes (total) | 0.0388 | U | 0.0775 | 0.0236 | mg/kg | 1 | | 06/17/22 03:41 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 101 | | 71-136 | | % | 1 | | 06/17/22 03:41 |
| 4-Bromofluorobenzene (surr) | 87.2 | | 55-151 | | % | 1 | | 06/17/22 03:41 |
| Toluene-d8 (surr) | 98.1 | | 85-116 | | % | 1 | | 06/17/22 03:41 |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 03:41
Container ID: 1223040013-A

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/08/22 12:05
Prep Initial Wt./Vol.: 48.397 g
Prep Extract Vol: 25 mL

Results of **22SCC-SS-14**

Client Sample ID: **22SCC-SS-14**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040014
Lab Project ID: 1223040

Collection Date: 06/09/22 16:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.9
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| 2-Methylnaphthalene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Acenaphthene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Acenaphthylene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Anthracene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Benzo(a)Anthracene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Benzo[a]pyrene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Benzo[b]Fluoranthene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Benzo[g,h,i]perylene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Benzo[k]fluoranthene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Chrysene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Dibenzo[a,h]anthracene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Fluoranthene | 0.0236 | J | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Fluorene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Indeno[1,2,3-c,d] pyrene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Naphthalene | 0.0108 | U | 0.0216 | 0.00539 | mg/kg | 1 | | 07/05/22 19:25 |
| Phenanthrene | 0.0135 | U | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| Pyrene | 0.0202 | J | 0.0270 | 0.00674 | mg/kg | 1 | | 07/05/22 19:25 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 80.5 | | 58-103 | | % | 1 | | 07/05/22 19:25 |
| Fluoranthene-d10 (surr) | 85.1 | | 54-113 | | % | 1 | | 07/05/22 19:25 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/05/22 19:25
Container ID: 1223040014-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.963 g
Prep Extract Vol: 5 mL

Results of **22SCC-SS-14**

Client Sample ID: **22SCC-SS-14**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040014
Lab Project ID: 1223040

Collection Date: 06/09/22 16:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.9
Location:

Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 13.2 | J | 22.0 | 9.89 | mg/kg | 1 | | 06/28/22 19:32 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 98.6 | | 50-150 | | % | 1 | | 06/28/22 19:32 |

**Batch Information**

Analytical Batch: XFC16270
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/28/22 19:32
Container ID: 1223040014-A

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 06/23/22 13:57
Prep Initial Wt./Vol.: 30.037 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-14**

Client Sample ID: **22SCC-SS-14**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040014
Lab Project ID: 1223040

Collection Date: 06/09/22 16:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.9
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.17 | J | 3.29 | 0.988 | mg/kg | 1 | | 06/27/22 04:07 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 76.4 | | 50-150 | | % | 1 | | 06/27/22 04:07 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 04:07
Container ID: 1223040014-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 16:00
Prep Initial Wt./Vol.: 49.263 g
Prep Extract Vol: 29.4878 mL

## Results of **22SCC-SS-14**

Client Sample ID: **22SCC-SS-14**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040014
Lab Project ID: 1223040

Collection Date: 06/09/22 16:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.9
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00825 | U | 0.0165 | 0.00514 | mg/kg | 1 | | 06/17/22 08:22 |
| Ethylbenzene | 0.0164 | U | 0.0329 | 0.0103 | mg/kg | 1 | | 06/17/22 08:22 |
| o-Xylene | 0.0164 | U | 0.0329 | 0.0103 | mg/kg | 1 | | 06/17/22 08:22 |
| P & M -Xylene | 0.0330 | U | 0.0659 | 0.0198 | mg/kg | 1 | | 06/17/22 08:22 |
| Toluene | 0.0164 | U | 0.0329 | 0.0103 | mg/kg | 1 | | 06/17/22 08:22 |
| Xylenes (total) | 0.0494 | U | 0.0988 | 0.0300 | mg/kg | 1 | | 06/17/22 08:22 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 115 | | 71-136 | | % | 1 | | 06/17/22 08:22 |
| 4-Bromofluorobenzene (surr) | 70.5 | | 55-151 | | % | 1 | | 06/17/22 08:22 |
| Toluene-d8 (surr) | 97.5 | | 85-116 | | % | 1 | | 06/17/22 08:22 |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 08:22
Container ID: 1223040014-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/09/22 16:00
Prep Initial Wt./Vol.: 49.263 g
Prep Extract Vol: 29.4878 mL

## Results of **22SCC-SS-110**

Client Sample ID: **22SCC-SS-110**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040015
Lab Project ID: 1223040

Collection Date: 06/09/22 14:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.9
Location:

## Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| 2-Methylnaphthalene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Acenaphthene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Acenaphthylene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Anthracene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Benzo(a)Anthracene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Benzo[a]pyrene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Benzo[b]Fluoranthene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Benzo[g,h,i]perylene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Benzo[k]fluoranthene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Chrysene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Dibenzo[a,h]anthracene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Fluoranthene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Fluorene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Indeno[1,2,3-c,d] pyrene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Naphthalene | 0.0111 | U | 0.0221 | 0.00553 | mg/kg | 1 | | 07/05/22 19:45 |
| Phenanthrene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| Pyrene | 0.0138 | U | 0.0276 | 0.00691 | mg/kg | 1 | | 07/05/22 19:45 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 83.5 | | 58-103 | | % | 1 | | 07/05/22 19:45 |
| Fluoranthene-d10 (surr) | 88.1 | | 54-113 | | % | 1 | | 07/05/22 19:45 |

## Batch Information

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/05/22 19:45
Container ID: 1223040015-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.901 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-110**

Client Sample ID: **22SCC-SS-110**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040015
Lab Project ID: 1223040

Collection Date: 06/09/22 14:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.9
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 20.0 | J | 22.2 | 9.99 | mg/kg | 1 | | 06/28/22 19:42 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 110 | | 50-150 | | % | 1 | | 06/28/22 19:42 |

## Batch Information

Analytical Batch: XFC16270
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/28/22 19:42
Container ID: 1223040015-A

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 06/23/22 13:57
Prep Initial Wt./Vol.: 30.41 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-110**

Client Sample ID: **22SCC-SS-110**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040015
Lab Project ID: 1223040

Collection Date: 06/09/22 14:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.9
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 0.866 | J | 2.49 | 0.746 | mg/kg | 1 | | 06/27/22 04:25 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 76.2 | | 50-150 | | % | 1 | | 06/27/22 04:25 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 04:25
Container ID: 1223040015-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 14:40
Prep Initial Wt./Vol.: 75.551 g
Prep Extract Vol: 33.3892 mL

## Results of **22SCC-SS-110**

Client Sample ID: **22SCC-SS-110**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040015
Lab Project ID: 1223040

Collection Date: 06/09/22 14:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.9
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00620 | U | 0.0124 | 0.00388 | mg/kg | 1 | | 06/17/22 08:37 |
| Ethylbenzene | 0.0124 | U | 0.0249 | 0.00776 | mg/kg | 1 | | 06/17/22 08:37 |
| o-Xylene | 0.0124 | U | 0.0249 | 0.00776 | mg/kg | 1 | | 06/17/22 08:37 |
| P & M -Xylene | 0.0249 | U | 0.0497 | 0.0149 | mg/kg | 1 | | 06/17/22 08:37 |
| Toluene | 0.0124 | U | 0.0249 | 0.00776 | mg/kg | 1 | | 06/17/22 08:37 |
| Xylenes (total) | 0.0373 | U | 0.0746 | 0.0227 | mg/kg | 1 | | 06/17/22 08:37 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 103 | | 71-136 | | % | 1 | | 06/17/22 08:37 |
| 4-Bromofluorobenzene (surr) | 72.1 | | 55-151 | | % | 1 | | 06/17/22 08:37 |
| Toluene-d8 (surr) | 98.1 | | 85-116 | | % | 1 | | 06/17/22 08:37 |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 08:37
Container ID: 1223040015-B

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 06/09/22 14:40
Prep Initial Wt./Vol.: 75.551 g
Prep Extract Vol: 33.3892 mL

Results of **22SCC-SS-13**

Client Sample ID: **22SCC-SS-13**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040016
Lab Project ID: 1223040

Collection Date: 06/09/22 15:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.9
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| 2-Methylnaphthalene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Acenaphthene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Acenaphthylene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Anthracene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Benzo(a)Anthracene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Benzo[a]pyrene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Benzo[b]Fluoranthene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Benzo[g,h,i]perylene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Benzo[k]fluoranthene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Chrysene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Dibenzo[a,h]anthracene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Fluoranthene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Fluorene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Indeno[1,2,3-c,d] pyrene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Naphthalene | 0.0115 | U | 0.0229 | 0.00573 | mg/kg | 1 | | 07/05/22 20:06 |
| Phenanthrene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| Pyrene | 0.0144 | U | 0.0287 | 0.00717 | mg/kg | 1 | | 07/05/22 20:06 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 83.1 | | 58-103 | | % | 1 | | 07/05/22 20:06 |
| Fluoranthene-d10 (surr) | 85.8 | | 54-113 | | % | 1 | | 07/05/22 20:06 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/05/22 20:06
Container ID: 1223040016-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.581 g
Prep Extract Vol: 5 mL

Results of **22SCC-SS-13**

Client Sample ID: **22SCC-SS-13**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040016
Lab Project ID: 1223040

Collection Date: 06/09/22 15:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.9
Location:

Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 11.5 | U | 23.0 | 10.3 | mg/kg | 1 | | 06/28/22 19:53 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 112 | | 50-150 | | % | 1 | | 06/28/22 19:53 |

**Batch Information**

Analytical Batch: XFC16270
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/28/22 19:53
Container ID: 1223040016-A

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 06/23/22 13:57
Prep Initial Wt./Vol.: 30.058 g
Prep Extract Vol: 5 mL



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## Results of **22SCC-SS-13**

Client Sample ID: **22SCC-SS-13**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040016
Lab Project ID: 1223040

Collection Date: 06/09/22 15:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.9
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.65 J | | 3.98 | 1.19 | mg/kg | 1 | | 06/27/22 04:43 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 99.8 | | 50-150 | | % | 1 | | 06/27/22 04:43 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 04:43
Container ID: 1223040016-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 15:55
Prep Initial Wt./Vol.: 44.676 g
Prep Extract Vol: 30.8652 mL

Results of **22SCC-SS-13**

Client Sample ID: **22SCC-SS-13**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040016
Lab Project ID: 1223040

Collection Date: 06/09/22 15:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.9
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00995 | U | 0.0199 | 0.00620 | mg/kg | 1 | | 06/17/22 17:08 |
| Ethylbenzene | 0.0199 | U | 0.0398 | 0.0124 | mg/kg | 1 | | 06/17/22 17:08 |
| o-Xylene | 0.0199 | U | 0.0398 | 0.0124 | mg/kg | 1 | | 06/17/22 17:08 |
| P & M -Xylene | 0.0398 | U | 0.0795 | 0.0239 | mg/kg | 1 | | 06/17/22 17:08 |
| Toluene | 0.0199 | U | 0.0398 | 0.0124 | mg/kg | 1 | | 06/17/22 17:08 |
| Xylenes (total) | 0.0595 | U | 0.119 | 0.0363 | mg/kg | 1 | | 06/17/22 17:08 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 99.6 | | 71-136 | | % | 1 | | 06/17/22 17:08 |
| 4-Bromofluorobenzene (surr) | 92.7 | | 55-151 | | % | 1 | | 06/17/22 17:08 |
| Toluene-d8 (surr) | 97.7 | | 85-116 | | % | 1 | | 06/17/22 17:08 |

**Batch Information**

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 17:08
Container ID: 1223040016-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 15:55
Prep Initial Wt./Vol.: 44.676 g
Prep Extract Vol: 30.8652 mL

Results of **22SCC-SS-12**

Client Sample ID: **22SCC-SS-12**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040017
Lab Project ID: 1223040

Collection Date: 06/09/22 15:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.5
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| 2-Methylnaphthalene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Acenaphthene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Acenaphthylene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Anthracene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Benzo(a)Anthracene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Benzo[a]pyrene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Benzo[b]Fluoranthene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Benzo[g,h,i]perylene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Benzo[k]fluoranthene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Chrysene | 0.00855 | J | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Dibenzo[a,h]anthracene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Fluoranthene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Fluorene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Indeno[1,2,3-c,d] pyrene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Naphthalene | 0.0111 | U | 0.0222 | 0.00556 | mg/kg | 1 | | 07/05/22 20:26 |
| Phenanthrene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| Pyrene | 0.0237 | J | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 20:26 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 80.6 | | 58-103 | | % | 1 | | 07/05/22 20:26 |
| Fluoranthene-d10 (surr) | 83.9 | | 54-113 | | % | 1 | | 07/05/22 20:26 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/05/22 20:26
Container ID: 1223040017-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.591 g
Prep Extract Vol: 5 mL

Results of **22SCC-SS-12**

Client Sample ID: **22SCC-SS-12**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040017
Lab Project ID: 1223040

Collection Date: 06/09/22 15:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.5
Location:

Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 20.8 | J | 21.9 | 9.88 | mg/kg | 1 | | 06/28/22 20:03 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 104 | | 50-150 | | % | 1 | | 06/28/22 20:03 |

**Batch Information**

Analytical Batch: XFC16270
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/28/22 20:03
Container ID: 1223040017-A

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 06/23/22 13:57
Prep Initial Wt./Vol.: 30.534 g
Prep Extract Vol: 5 mL

Results of **22SCC-SS-12**

Client Sample ID: **22SCC-SS-12**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040017
Lab Project ID: 1223040

Collection Date: 06/09/22 15:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.5
Location:

Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 0.919 | J | 2.34 | 0.702 | mg/kg | 1 | | 06/27/22 05:01 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 96 | | 50-150 | | % | 1 | | 06/27/22 05:01 |

**Batch Information**

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 05:01
Container ID: 1223040017-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 15:40
Prep Initial Wt./Vol.: 79.58 g
Prep Extract Vol: 33.3331 mL

## Results of **22SCC-SS-12**

Client Sample ID: **22SCC-SS-12**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040017
Lab Project ID: 1223040

Collection Date: 06/09/22 15:40
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.5
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00585 | U | 0.0117 | 0.00365 | mg/kg | 1 | | 06/17/22 20:33 |
| Ethylbenzene | 0.0117 | U | 0.0234 | 0.00730 | mg/kg | 1 | | 06/17/22 20:33 |
| o-Xylene | 0.0117 | U | 0.0234 | 0.00730 | mg/kg | 1 | | 06/17/22 20:33 |
| P & M -Xylene | 0.0234 | U | 0.0468 | 0.0140 | mg/kg | 1 | | 06/17/22 20:33 |
| Toluene | 0.0117 | U | 0.0234 | 0.00730 | mg/kg | 1 | | 06/17/22 20:33 |
| Xylenes (total) | 0.0351 | U | 0.0702 | 0.0213 | mg/kg | 1 | | 06/17/22 20:33 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 100 | | 71-136 | | % | 1 | | 06/17/22 20:33 |
| 4-Bromofluorobenzene (surr) | 87.5 | | 55-151 | | % | 1 | | 06/17/22 20:33 |
| Toluene-d8 (surr) | 96.1 | | 85-116 | | % | 1 | | 06/17/22 20:33 |

## Batch Information

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 20:33
Container ID: 1223040017-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 15:40
Prep Initial Wt./Vol.: 79.58 g
Prep Extract Vol: 33.3331 mL

## Results of **22SCC-SS-9**

Client Sample ID: **22SCC-SS-9**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040018
Lab Project ID: 1223040

Collection Date: 06/09/22 14:35
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

## Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.00862 | J | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| 2-Methylnaphthalene | 0.0120 | J | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Acenaphthene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Acenaphthylene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Anthracene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Benzo(a)Anthracene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Benzo[a]pyrene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Benzo[b]Fluoranthene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Benzo[g,h,i]perylene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Benzo[k]fluoranthene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Chrysene | 0.0107 | J | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Dibenzo[a,h]anthracene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Fluoranthene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Fluorene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Indeno[1,2,3-c,d] pyrene | 0.0144 | U | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Naphthalene | 0.00872 | J | 0.0230 | 0.00575 | mg/kg | 1 | | 07/05/22 20:47 |
| Phenanthrene | 0.00740 | J | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| Pyrene | 0.00798 | J | 0.0288 | 0.00719 | mg/kg | 1 | | 07/05/22 20:47 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 83.7 | | 58-103 | | % | 1 | | 07/05/22 20:47 |
| Fluoranthene-d10 (surr) | 83.5 | | 54-113 | | % | 1 | | 07/05/22 20:47 |

## Batch Information

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/05/22 20:47
Container ID: 1223040018-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.57 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-9**

Client Sample ID: **22SCC-SS-9**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040018
Lab Project ID: 1223040

Collection Date: 06/09/22 14:35
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 36.1 | | 22.8 | 10.3 | mg/kg | 1 | | 06/25/22 02:15 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 92 | | 50-150 | | % | 1 | | 06/25/22 02:15 |

## Batch Information

Analytical Batch: XFC16268
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/25/22 02:15
Container ID: 1223040018-A

Prep Batch: XXX46464
Prep Method: SW3550C
Prep Date/Time: 06/22/22 15:31
Prep Initial Wt./Vol.: 30.394 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-9**

Client Sample ID: **22SCC-SS-9**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040018
Lab Project ID: 1223040

Collection Date: 06/09/22 14:35
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.80 | J | 3.08 | 0.923 | mg/kg | 1 | | 06/27/22 05:19 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 96.5 | | 50-150 | | % | 1 | | 06/27/22 05:19 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 05:19
Container ID: 1223040018-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 14:35
Prep Initial Wt./Vol.: 62.607 g
Prep Extract Vol: 33.3704 mL

## Results of **22SCC-SS-9**

Client Sample ID: **22SCC-SS-9**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040018
Lab Project ID: 1223040

Collection Date: 06/09/22 14:35
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0247 | | 0.0154 | 0.00480 | mg/kg | 1 | | 06/17/22 20:48 |
| Ethylbenzene | 0.0111 | J | 0.0308 | 0.00960 | mg/kg | 1 | | 06/17/22 20:48 |
| o-Xylene | 0.0154 | U | 0.0308 | 0.00960 | mg/kg | 1 | | 06/17/22 20:48 |
| P & M -Xylene | 0.0348 | J | 0.0615 | 0.0185 | mg/kg | 1 | | 06/17/22 20:48 |
| Toluene | 0.0154 | U | 0.0308 | 0.00960 | mg/kg | 1 | | 06/17/22 20:48 |
| Xylenes (total) | 0.0348 | J | 0.0923 | 0.0281 | mg/kg | 1 | | 06/17/22 20:48 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 102 | | 71-136 | | % | 1 | | 06/17/22 20:48 |
| 4-Bromofluorobenzene (surr) | 84.4 | | 55-151 | | % | 1 | | 06/17/22 20:48 |
| Toluene-d8 (surr) | 97 | | 85-116 | | % | 1 | | 06/17/22 20:48 |

## Batch Information

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 20:48
Container ID: 1223040018-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 14:35
Prep Initial Wt./Vol.: 62.607 g
Prep Extract Vol: 33.3704 mL

Results of **22SCC-SS-11**

Client Sample ID: **22SCC-SS-11**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040019
Lab Project ID: 1223040

Collection Date: 06/09/22 15:30
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| 2-Methylnaphthalene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Acenaphthene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Acenaphthylene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Anthracene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Benzo(a)Anthracene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Benzo[a]pyrene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Benzo[b]Fluoranthene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Benzo[g,h,i]perylene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Benzo[k]fluoranthene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Chrysene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Dibenzo[a,h]anthracene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Fluoranthene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Fluorene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Indeno[1,2,3-c,d] pyrene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Naphthalene | 0.0111 | U | 0.0222 | 0.00556 | mg/kg | 1 | | 07/05/22 21:07 |
| Phenanthrene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| Pyrene | 0.0139 | U | 0.0278 | 0.00695 | mg/kg | 1 | | 07/05/22 21:07 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 80.1 | | 58-103 | | % | 1 | | 07/05/22 21:07 |
| Fluoranthene-d10 (surr) | 82.4 | | 54-113 | | % | 1 | | 07/05/22 21:07 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/05/22 21:07
Container ID: 1223040019-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.846 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-11**

Client Sample ID: **22SCC-SS-11**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040019
Lab Project ID: 1223040

Collection Date: 06/09/22 15:30
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 11.2 | U | 22.4 | 10.1 | mg/kg | 1 | | 06/25/22 02:25 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 87.1 | | 50-150 | | % | 1 | | 06/25/22 02:25 |

## Batch Information

Analytical Batch: XFC16268
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/25/22 02:25
Container ID: 1223040019-A

Prep Batch: XXX46464
Prep Method: SW3550C
Prep Date/Time: 06/22/22 15:31
Prep Initial Wt./Vol.: 30.273 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-11**

Client Sample ID: **22SCC-SS-11**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040019
Lab Project ID: 1223040

Collection Date: 06/09/22 15:30
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 0.977 | J | 2.52 | 0.757 | mg/kg | 1 | | 06/27/22 05:37 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 102 | | 50-150 | | % | 1 | | 06/27/22 05:37 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 05:37
Container ID: 1223040019-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 15:30
Prep Initial Wt./Vol.: 75.081 g
Prep Extract Vol: 33.5747 mL

Results of **22SCC-SS-11**

Client Sample ID: **22SCC-SS-11**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040019
Lab Project ID: 1223040

Collection Date: 06/09/22 15:30
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00630 | U | 0.0126 | 0.00394 | mg/kg | 1 | | 06/17/22 21:04 |
| Ethylbenzene | 0.0126 | U | 0.0252 | 0.00788 | mg/kg | 1 | | 06/17/22 21:04 |
| o-Xylene | 0.0126 | U | 0.0252 | 0.00788 | mg/kg | 1 | | 06/17/22 21:04 |
| P & M -Xylene | 0.0253 | U | 0.0505 | 0.0151 | mg/kg | 1 | | 06/17/22 21:04 |
| Toluene | 0.0126 | U | 0.0252 | 0.00788 | mg/kg | 1 | | 06/17/22 21:04 |
| Xylenes (total) | 0.0379 | U | 0.0757 | 0.0230 | mg/kg | 1 | | 06/17/22 21:04 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 98.6 | | 71-136 | | % | 1 | | 06/17/22 21:04 |
| 4-Bromofluorobenzene (surr) | 94.1 | | 55-151 | | % | 1 | | 06/17/22 21:04 |
| Toluene-d8 (surr) | 96.4 | | 85-116 | | % | 1 | | 06/17/22 21:04 |

**Batch Information**

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 21:04
Container ID: 1223040019-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 15:30
Prep Initial Wt./Vol.: 75.081 g
Prep Extract Vol: 33.5747 mL

Results of **22SCC-SS-23**

Client Sample ID: **22SCC-SS-23**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040020
Lab Project ID: 1223040

Collection Date: 06/09/22 09:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.8
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| 2-Methylnaphthalene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Acenaphthene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Acenaphthylene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Anthracene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Benzo(a)Anthracene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Benzo[a]pyrene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Benzo[b]Fluoranthene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Benzo[g,h,i]perylene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Benzo[k]fluoranthene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Chrysene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Dibenzo[a,h]anthracene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Fluoranthene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Fluorene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Indeno[1,2,3-c,d] pyrene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Naphthalene | 0.0555 | U | 0.111 | 0.0277 | mg/kg | 5 | | 07/06/22 00:13 |
| Phenanthrene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| Pyrene | 0.0690 | U | 0.138 | 0.0346 | mg/kg | 5 | | 07/06/22 00:13 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 79.2 | | 58-103 | | % | 5 | | 07/06/22 00:13 |
| Fluoranthene-d10 (surr) | 88.8 | | 54-113 | | % | 5 | | 07/06/22 00:13 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 00:13
Container ID: 1223040020-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.638 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-23**

Client Sample ID: **22SCC-SS-23**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040020
Lab Project ID: 1223040

Collection Date: 06/09/22 09:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.8
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 75.8 | | 22.0 | 9.91 | mg/kg | 1 | | 06/25/22 02:35 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 95.1 | | 50-150 | | % | 1 | | 06/25/22 02:35 |

## Batch Information

Analytical Batch: XFC16268
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/25/22 02:35
Container ID: 1223040020-A

Prep Batch: XXX46464
Prep Method: SW3550C
Prep Date/Time: 06/22/22 15:31
Prep Initial Wt./Vol.: 30.346 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-23**

Client Sample ID: **22SCC-SS-23**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040020
Lab Project ID: 1223040

Collection Date: 06/09/22 09:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.8
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.17 | J | 2.94 | 0.881 | mg/kg | 1 | | 06/27/22 05:55 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 92.1 | | 50-150 | | % | 1 | | 06/27/22 05:55 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 05:55
Container ID: 1223040020-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 09:45
Prep Initial Wt./Vol.: 58.737 g
Prep Extract Vol: 30.9906 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

Results of **22SCC-SS-23**

Client Sample ID: **22SCC-SS-23**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040020
Lab Project ID: 1223040

Collection Date: 06/09/22 09:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.8
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00735 | U | 0.0147 | 0.00458 | mg/kg | 1 | | 06/17/22 21:19 |
| Ethylbenzene | 0.0147 | U | 0.0294 | 0.00917 | mg/kg | 1 | | 06/17/22 21:19 |
| o-Xylene | 0.0147 | U | 0.0294 | 0.00917 | mg/kg | 1 | | 06/17/22 21:19 |
| P & M -Xylene | 0.0294 | U | 0.0588 | 0.0176 | mg/kg | 1 | | 06/17/22 21:19 |
| Toluene | 0.0147 | U | 0.0294 | 0.00917 | mg/kg | 1 | | 06/17/22 21:19 |
| Xylenes (total) | 0.0440 | U | 0.0881 | 0.0268 | mg/kg | 1 | | 06/17/22 21:19 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 99.7 | | 71-136 | | % | 1 | | 06/17/22 21:19 |
| 4-Bromofluorobenzene (surr) | 86.3 | | 55-151 | | % | 1 | | 06/17/22 21:19 |
| Toluene-d8 (surr) | 96.7 | | 85-116 | | % | 1 | | 06/17/22 21:19 |

**Batch Information**

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 21:19
Container ID: 1223040020-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 09:45
Prep Initial Wt./Vol.: 58.737 g
Prep Extract Vol: 30.9906 mL

Results of **22SCC-SS-7**

Client Sample ID: **22SCC-SS-7**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040021
Lab Project ID: 1223040

Collection Date: 06/09/22 14:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.7
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| 2-Methylnaphthalene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Acenaphthene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Acenaphthylene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Anthracene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Benzo(a)Anthracene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Benzo[a]pyrene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Benzo[b]Fluoranthene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Benzo[g,h,i]perylene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Benzo[k]fluoranthene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Chrysene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Dibenzo[a,h]anthracene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Fluoranthene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Fluorene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Indeno[1,2,3-c,d] pyrene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Naphthalene | 0.0109 | U | 0.0218 | 0.00545 | mg/kg | 1 | | 07/05/22 21:28 |
| Phenanthrene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| Pyrene | 0.0136 | U | 0.0272 | 0.00681 | mg/kg | 1 | | 07/05/22 21:28 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 84.1 | | 58-103 | | % | 1 | | 07/05/22 21:28 |
| Fluoranthene-d10 (surr) | 87.4 | | 54-113 | | % | 1 | | 07/05/22 21:28 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/05/22 21:28
Container ID: 1223040021-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.747 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-7**

Client Sample ID: **22SCC-SS-7**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040021
Lab Project ID: 1223040

Collection Date: 06/09/22 14:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.7
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 16.3 | J | 21.8 | 9.81 | mg/kg | 1 | | 06/25/22 02:46 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 109 | | 50-150 | | % | 1 | | 06/25/22 02:46 |

## Batch Information

Analytical Batch: XFC16268
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/25/22 02:46
Container ID: 1223040021-A

Prep Batch: XXX46464
Prep Method: SW3550C
Prep Date/Time: 06/22/22 15:31
Prep Initial Wt./Vol.: 30.336 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-7**

Client Sample ID: **22SCC-SS-7**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040021
Lab Project ID: 1223040

Collection Date: 06/09/22 14:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.7
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 0.865 | J | 2.40 | 0.719 | mg/kg | 1 | | 06/27/22 06:32 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 92.5 | | 50-150 | | % | 1 | | 06/27/22 06:32 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 06:32
Container ID: 1223040021-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 14:00
Prep Initial Wt./Vol.: 72.964 g
Prep Extract Vol: 31.7505 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-7**

Client Sample ID: **22SCC-SS-7**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040021
Lab Project ID: 1223040

Collection Date: 06/09/22 14:00
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):90.7
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00600 | U | 0.0120 | 0.00374 | mg/kg | 1 | | 06/17/22 21:35 |
| Ethylbenzene | 0.0120 | U | 0.0240 | 0.00748 | mg/kg | 1 | | 06/17/22 21:35 |
| o-Xylene | 0.0120 | U | 0.0240 | 0.00748 | mg/kg | 1 | | 06/17/22 21:35 |
| P & M -Xylene | 0.0240 | U | 0.0480 | 0.0144 | mg/kg | 1 | | 06/17/22 21:35 |
| Toluene | 0.0120 | U | 0.0240 | 0.00748 | mg/kg | 1 | | 06/17/22 21:35 |
| Xylenes (total) | 0.0360 | U | 0.0719 | 0.0219 | mg/kg | 1 | | 06/17/22 21:35 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 101 | | 71-136 | | % | 1 | | 06/17/22 21:35 |
| 4-Bromofluorobenzene (surr) | 86.9 | | 55-151 | | % | 1 | | 06/17/22 21:35 |
| Toluene-d8 (surr) | 97.3 | | 85-116 | | % | 1 | | 06/17/22 21:35 |

## Batch Information

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 21:35
Container ID: 1223040021-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 14:00
Prep Initial Wt./Vol.: 72.964 g
Prep Extract Vol: 31.7505 mL

Results of **22SCC-SS-8**

Client Sample ID: **22SCC-SS-8**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040022
Lab Project ID: 1223040

Collection Date: 06/09/22 14:10
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.4
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| 2-Methylnaphthalene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Acenaphthene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Acenaphthylene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Anthracene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Benzo(a)Anthracene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Benzo[a]pyrene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Benzo[b]Fluoranthene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Benzo[g,h,i]perylene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Benzo[k]fluoranthene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Chrysene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Dibenzo[a,h]anthracene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Fluoranthene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Fluorene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Indeno[1,2,3-c,d] pyrene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Naphthalene | 0.0111 | U | 0.0221 | 0.00552 | mg/kg | 1 | | 07/05/22 22:30 |
| Phenanthrene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| Pyrene | 0.0138 | U | 0.0276 | 0.00690 | mg/kg | 1 | | 07/05/22 22:30 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 82.1 | | 58-103 | | % | 1 | | 07/05/22 22:30 |
| Fluoranthene-d10 (surr) | 86.4 | | 54-113 | | % | 1 | | 07/05/22 22:30 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/05/22 22:30
Container ID: 1223040022-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.79 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-8**

Client Sample ID: **22SCC-SS-8**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040022
Lab Project ID: 1223040

Collection Date: 06/09/22 14:10
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.4
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 17.3 | J | 22.2 | 9.98 | mg/kg | 1 | | 06/28/22 20:14 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 103 | | 50-150 | | % | 1 | | 06/28/22 20:14 |

## Batch Information

Analytical Batch: XFC16270
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/28/22 20:14
Container ID: 1223040022-A

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 06/23/22 13:57
Prep Initial Wt./Vol.: 30.273 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-8**

Client Sample ID: **22SCC-SS-8**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040022
Lab Project ID: 1223040

Collection Date: 06/09/22 14:10
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.4
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 0.756 | J | 2.03 | 0.609 | mg/kg | 1 | | 06/27/22 06:50 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 90.8 | | 50-150 | | % | 1 | | 06/27/22 06:50 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 06:50
Container ID: 1223040022-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 14:10
Prep Initial Wt./Vol.: 97.308 g
Prep Extract Vol: 35.3192 mL

Results of **22SCC-SS-8**

Client Sample ID: **22SCC-SS-8**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040022
Lab Project ID: 1223040

Collection Date: 06/09/22 14:10
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.4
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00510 | U | 0.0102 | 0.00317 | mg/kg | 1 | | 06/17/22 21:50 |
| Ethylbenzene | 0.0102 | U | 0.0203 | 0.00633 | mg/kg | 1 | | 06/17/22 21:50 |
| o-Xylene | 0.0102 | U | 0.0203 | 0.00633 | mg/kg | 1 | | 06/17/22 21:50 |
| P & M -Xylene | 0.0203 | U | 0.0406 | 0.0122 | mg/kg | 1 | | 06/17/22 21:50 |
| Toluene | 0.0102 | U | 0.0203 | 0.00633 | mg/kg | 1 | | 06/17/22 21:50 |
| Xylenes (total) | 0.0305 | U | 0.0609 | 0.0185 | mg/kg | 1 | | 06/17/22 21:50 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 101 | | 71-136 | | % | 1 | | 06/17/22 21:50 |
| 4-Bromofluorobenzene (surr) | 87.1 | | 55-151 | | % | 1 | | 06/17/22 21:50 |
| Toluene-d8 (surr) | 96.7 | | 85-116 | | % | 1 | | 06/17/22 21:50 |

**Batch Information**

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 21:50
Container ID: 1223040022-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 14:10
Prep Initial Wt./Vol.: 97.308 g
Prep Extract Vol: 35.3192 mL

Results of **22SCC-SS-10**

Client Sample ID: **22SCC-SS-10**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040023
Lab Project ID: 1223040

Collection Date: 06/09/22 14:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.2
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| 2-Methylnaphthalene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Acenaphthene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Acenaphthylene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Anthracene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Benzo(a)Anthracene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Benzo[a]pyrene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Benzo[b]Fluoranthene | 0.00809 J | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Benzo[g,h,i]perylene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Benzo[k]fluoranthene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Chrysene | 0.00855 J | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Dibenzo[a,h]anthracene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Fluoranthene | 0.0100 J | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Fluorene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Indeno[1,2,3-c,d] pyrene | 0.0143 U | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Naphthalene | 0.0115 U | | 0.0229 | 0.00572 | mg/kg | 1 | | 07/05/22 22:50 |
| Phenanthrene | 0.00931 J | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| Pyrene | 0.0120 J | | 0.0286 | 0.00716 | mg/kg | 1 | | 07/05/22 22:50 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 82 | | 58-103 | | % | 1 | | 07/05/22 22:50 |
| Fluoranthene-d10 (surr) | 85.6 | | 54-113 | | % | 1 | | 07/05/22 22:50 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/05/22 22:50
Container ID: 1223040023-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.793 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

Results of **22SCC-SS-10**

Client Sample ID: **22SCC-SS-10**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040023
Lab Project ID: 1223040

Collection Date: 06/09/22 14:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.2
Location:

Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 22.6 | J | 23.0 | 10.3 | mg/kg | 1 | | 06/28/22 20:24 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 105 | | 50-150 | | % | 1 | | 06/28/22 20:24 |

**Batch Information**

Analytical Batch: XFC16270
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/28/22 20:24
Container ID: 1223040023-A

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 06/23/22 13:57
Prep Initial Wt./Vol.: 30.294 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-10**

Client Sample ID: **22SCC-SS-10**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040023
Lab Project ID: 1223040

Collection Date: 06/09/22 14:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.2
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 0.905 | J | 2.30 | 0.690 | mg/kg | 1 | | 06/27/22 07:08 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 98.8 | | 50-150 | | % | 1 | | 06/27/22 07:08 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 07:08
Container ID: 1223040023-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 14:50
Prep Initial Wt./Vol.: 96.535 g
Prep Extract Vol: 38.2964 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-10**

Client Sample ID: **22SCC-SS-10**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040023
Lab Project ID: 1223040

Collection Date: 06/09/22 14:50
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):86.2
Location:

## Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00575 | U | 0.0115 | 0.00359 | mg/kg | 1 | | 06/17/22 22:06 |
| Ethylbenzene | 0.0115 | U | 0.0230 | 0.00718 | mg/kg | 1 | | 06/17/22 22:06 |
| o-Xylene | 0.0115 | U | 0.0230 | 0.00718 | mg/kg | 1 | | 06/17/22 22:06 |
| P & M -Xylene | 0.0230 | U | 0.0460 | 0.0138 | mg/kg | 1 | | 06/17/22 22:06 |
| Toluene | 0.0115 | U | 0.0230 | 0.00718 | mg/kg | 1 | | 06/17/22 22:06 |
| Xylenes (total) | 0.0345 | U | 0.0690 | 0.0210 | mg/kg | 1 | | 06/17/22 22:06 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 102 | | 71-136 | | % | 1 | | 06/17/22 22:06 |
| 4-Bromofluorobenzene (surr) | 89.4 | | 55-151 | | % | 1 | | 06/17/22 22:06 |
| Toluene-d8 (surr) | 97.2 | | 85-116 | | % | 1 | | 06/17/22 22:06 |

## Batch Information

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 22:06
Container ID: 1223040023-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 14:50
Prep Initial Wt./Vol.: 96.535 g
Prep Extract Vol: 38.2964 mL

Results of **22SCC-SS-24**

Client Sample ID: **22SCC-SS-24**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040024
Lab Project ID: 1223040

Collection Date: 06/09/22 09:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):91.2
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| 2-Methylnaphthalene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Acenaphthene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Acenaphthylene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Anthracene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Benzo(a)Anthracene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Benzo[a]pyrene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Benzo[b]Fluoranthene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Benzo[g,h,i]perylene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Benzo[k]fluoranthene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Chrysene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Dibenzo[a,h]anthracene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Fluoranthene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Fluorene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Indeno[1,2,3-c,d] pyrene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Naphthalene | 0.0545 | U | 0.109 | 0.0273 | mg/kg | 5 | | 07/06/22 00:33 |
| Phenanthrene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| Pyrene | 0.0680 | U | 0.136 | 0.0341 | mg/kg | 5 | | 07/06/22 00:33 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 79.6 | | 58-103 | | % | 5 | | 07/06/22 00:33 |
| Fluoranthene-d10 (surr) | 86.6 | | 54-113 | | % | 5 | | 07/06/22 00:33 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 00:33
Container ID: 1223040024-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.613 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

## Results of **22SCC-SS-24**

Client Sample ID: **22SCC-SS-24**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040024
Lab Project ID: 1223040

Collection Date: 06/09/22 09:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):91.2
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 53.4 | | 21.6 | 9.74 | mg/kg | 1 | | 06/28/22 20:35 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 103 | | 50-150 | | % | 1 | | 06/28/22 20:35 |

## Batch Information

Analytical Batch: XFC16270
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/28/22 20:35
Container ID: 1223040024-A

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 06/23/22 13:57
Prep Initial Wt./Vol.: 30.409 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-24**

Client Sample ID: **22SCC-SS-24**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040024
Lab Project ID: 1223040

Collection Date: 06/09/22 09:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):91.2
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.09 | J | 2.47 | 0.741 | mg/kg | 1 | | 06/27/22 07:26 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 89.5 | | 50-150 | | % | 1 | | 06/27/22 07:26 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 07:26
Container ID: 1223040024-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 09:55
Prep Initial Wt./Vol.: 68.935 g
Prep Extract Vol: 31.0677 mL

Results of **22SCC-SS-24**

Client Sample ID: **22SCC-SS-24**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040024
Lab Project ID: 1223040

Collection Date: 06/09/22 09:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):91.2
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00620 | U | 0.0124 | 0.00385 | mg/kg | 1 | | 06/17/22 22:22 |
| Ethylbenzene | 0.0124 | U | 0.0247 | 0.00771 | mg/kg | 1 | | 06/17/22 22:22 |
| o-Xylene | 0.0124 | U | 0.0247 | 0.00771 | mg/kg | 1 | | 06/17/22 22:22 |
| P & M -Xylene | 0.0247 | U | 0.0494 | 0.0148 | mg/kg | 1 | | 06/17/22 22:22 |
| Toluene | 0.0124 | U | 0.0247 | 0.00771 | mg/kg | 1 | | 06/17/22 22:22 |
| Xylenes (total) | 0.0371 | U | 0.0741 | 0.0225 | mg/kg | 1 | | 06/17/22 22:22 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 96.4 | | 71-136 | | % | 1 | | 06/17/22 22:22 |
| 4-Bromofluorobenzene (surr) | 84.5 | | 55-151 | | % | 1 | | 06/17/22 22:22 |
| Toluene-d8 (surr) | 97.3 | | 85-116 | | % | 1 | | 06/17/22 22:22 |

**Batch Information**

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 22:22
Container ID: 1223040024-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 09:55
Prep Initial Wt./Vol.: 68.935 g
Prep Extract Vol: 31.0677 mL

Results of **22SCC-SS-19**

Client Sample ID: **22SCC-SS-19**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040025
Lab Project ID: 1223040

Collection Date: 06/09/22 08:35
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.0
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| 2-Methylnaphthalene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Acenaphthene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Acenaphthylene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Anthracene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Benzo(a)Anthracene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Benzo[a]pyrene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Benzo[b]Fluoranthene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Benzo[g,h,i]perylene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Benzo[k]fluoranthene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Chrysene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Dibenzo[a,h]anthracene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Fluoranthene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Fluorene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Indeno[1,2,3-c,d] pyrene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Naphthalene | 0.0110 | U | 0.0220 | 0.00550 | mg/kg | 1 | | 07/05/22 23:11 |
| Phenanthrene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| Pyrene | 0.0138 | U | 0.0275 | 0.00687 | mg/kg | 1 | | 07/05/22 23:11 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 80.1 | | 58-103 | | % | 1 | | 07/05/22 23:11 |
| Fluoranthene-d10 (surr) | 84.7 | | 54-113 | | % | 1 | | 07/05/22 23:11 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/05/22 23:11
Container ID: 1223040025-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.996 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-19**

Client Sample ID: **22SCC-SS-19**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040025
Lab Project ID: 1223040

Collection Date: 06/09/22 08:35
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.0
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 17.3 | J | 22.4 | 10.1 | mg/kg | 1 | | 06/28/22 20:45 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 115 | | 50-150 | | % | 1 | | 06/28/22 20:45 |

## Batch Information

Analytical Batch: XFC16270
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/28/22 20:45
Container ID: 1223040025-A

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 06/23/22 13:57
Prep Initial Wt./Vol.: 30.044 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-19**

Client Sample ID: **22SCC-SS-19**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040025
Lab Project ID: 1223040

Collection Date: 06/09/22 08:35
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.0
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.23 | J | 2.91 | 0.873 | mg/kg | 1 | | 06/27/22 07:44 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 97.9 | | 50-150 | | % | 1 | | 06/27/22 07:44 |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 07:44
Container ID: 1223040025-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 08:35
Prep Initial Wt./Vol.: 61.299 g
Prep Extract Vol: 31.7543 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

Results of **22SCC-SS-19**

Client Sample ID: **22SCC-SS-19**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040025
Lab Project ID: 1223040

Collection Date: 06/09/22 08:35
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):89.0
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00730 | U | 0.0146 | 0.00454 | mg/kg | 1 | | 06/17/22 22:37 |
| Ethylbenzene | 0.0146 | U | 0.0291 | 0.00908 | mg/kg | 1 | | 06/17/22 22:37 |
| o-Xylene | 0.0146 | U | 0.0291 | 0.00908 | mg/kg | 1 | | 06/17/22 22:37 |
| P & M -Xylene | 0.0291 | U | 0.0582 | 0.0175 | mg/kg | 1 | | 06/17/22 22:37 |
| Toluene | 0.0146 | U | 0.0291 | 0.00908 | mg/kg | 1 | | 06/17/22 22:37 |
| Xylenes (total) | 0.0437 | U | 0.0873 | 0.0265 | mg/kg | 1 | | 06/17/22 22:37 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 102 | | 71-136 | | % | 1 | | 06/17/22 22:37 |
| 4-Bromofluorobenzene (surr) | 90.4 | | 55-151 | | % | 1 | | 06/17/22 22:37 |
| Toluene-d8 (surr) | 98 | | 85-116 | | % | 1 | | 06/17/22 22:37 |

**Batch Information**

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 22:37
Container ID: 1223040025-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 08:35
Prep Initial Wt./Vol.: 61.299 g
Prep Extract Vol: 31.7543 mL

Results of **22SCC-SS-20**

Client Sample ID: **22SCC-SS-20**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040026
Lab Project ID: 1223040

Collection Date: 06/09/22 08:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):84.7
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| 2-Methylnaphthalene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Acenaphthene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Acenaphthylene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Anthracene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Benzo(a)Anthracene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Benzo[a]pyrene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Benzo[b]Fluoranthene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Benzo[g,h,i]perylene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Benzo[k]fluoranthene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Chrysene | 0.0680 | J | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Dibenzo[a,h]anthracene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Fluoranthene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Fluorene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Indeno[1,2,3-c,d] pyrene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Naphthalene | 0.0585 | U | 0.117 | 0.0294 | mg/kg | 5 | | 07/06/22 00:54 |
| Phenanthrene | 0.0385 | J | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| Pyrene | 0.0735 | U | 0.147 | 0.0367 | mg/kg | 5 | | 07/06/22 00:54 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 82.3 | | 58-103 | | % | 5 | | 07/06/22 00:54 |
| Fluoranthene-d10 (surr) | 92.1 | | 54-113 | | % | 5 | | 07/06/22 00:54 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 00:54
Container ID: 1223040026-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.606 g
Prep Extract Vol: 5 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

Results of **22SCC-SS-20**

Client Sample ID: **22SCC-SS-20**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040026
Lab Project ID: 1223040

Collection Date: 06/09/22 08:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):84.7
Location:

Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 68.6 | | 23.2 | 10.5 | mg/kg | 1 | | 06/28/22 20:56 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 111 | | 50-150 | | % | 1 | | 06/28/22 20:56 |

**Batch Information**

Analytical Batch: XFC16270
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/28/22 20:56
Container ID: 1223040026-A

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 06/23/22 13:57
Prep Initial Wt./Vol.: 30.464 g
Prep Extract Vol: 5 mL



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Results of **22SCC-SS-20**

Client Sample ID: **22SCC-SS-20**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040026
Lab Project ID: 1223040

Collection Date: 06/09/22 08:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):84.7
Location:

Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.92 | J | 4.67 | 1.40 | mg/kg | 1 | | 06/27/22 08:02 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 82.4 | | 50-150 | | % | 1 | | 06/27/22 08:02 |

**Batch Information**

Analytical Batch: VFC16138
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/27/22 08:02
Container ID: 1223040026-B

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 06/09/22 08:45
Prep Initial Wt./Vol.: 39.147 g
Prep Extract Vol: 30.9709 mL

Results of **22SCC-SS-20**

Client Sample ID: **22SCC-SS-20**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040026
Lab Project ID: 1223040

Collection Date: 06/09/22 08:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):84.7
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0117 | U | 0.0233 | 0.00728 | mg/kg | 1 | | 06/17/22 22:53 |
| Ethylbenzene | 0.0234 | U | 0.0467 | 0.0146 | mg/kg | 1 | | 06/17/22 22:53 |
| o-Xylene | 0.0234 | U | 0.0467 | 0.0146 | mg/kg | 1 | | 06/17/22 22:53 |
| P & M -Xylene | 0.0467 | U | 0.0934 | 0.0280 | mg/kg | 1 | | 06/17/22 22:53 |
| Toluene | 0.0234 | U | 0.0467 | 0.0146 | mg/kg | 1 | | 06/17/22 22:53 |
| Xylenes (total) | 0.0700 | U | 0.140 | 0.0426 | mg/kg | 1 | | 06/17/22 22:53 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 102 | | 71-136 | | % | 1 | | 06/17/22 22:53 |
| 4-Bromofluorobenzene (surr) | 78.1 | | 55-151 | | % | 1 | | 06/17/22 22:53 |
| Toluene-d8 (surr) | 97 | | 85-116 | | % | 1 | | 06/17/22 22:53 |

**Batch Information**

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 22:53
Container ID: 1223040026-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 08:45
Prep Initial Wt./Vol.: 39.147 g
Prep Extract Vol: 30.9709 mL

Results of **22SCC-SS-120**

Client Sample ID: **22SCC-SS-120**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040027
Lab Project ID: 1223040

Collection Date: 06/09/22 08:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):69.2
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| 2-Methylnaphthalene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Acenaphthene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Acenaphthylene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Anthracene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Benzo(a)Anthracene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Benzo[a]pyrene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Benzo[b]Fluoranthene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Benzo[g,h,i]perylene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Benzo[k]fluoranthene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Chrysene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Dibenzo[a,h]anthracene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Fluoranthene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Fluorene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Indeno[1,2,3-c,d] pyrene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Naphthalene | 0.0715 | U | 0.143 | 0.0358 | mg/kg | 5 | | 07/06/22 01:14 |
| Phenanthrene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| Pyrene | 0.0895 | U | 0.179 | 0.0448 | mg/kg | 5 | | 07/06/22 01:14 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 82 | | 58-103 | | % | 5 | | 07/06/22 01:14 |
| Fluoranthene-d10 (surr) | 87.7 | | 54-113 | | % | 5 | | 07/06/22 01:14 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 01:14
Container ID: 1223040027-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.683 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-120**

Client Sample ID: **22SCC-SS-120**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040027
Lab Project ID: 1223040

Collection Date: 06/09/22 08:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):69.2
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 80.5 | | 28.7 | 12.9 | mg/kg | 1 | | 06/28/22 21:06 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 106 | | 50-150 | | % | 1 | | 06/28/22 21:06 |

## Batch Information

Analytical Batch: XFC16270
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/28/22 21:06
Container ID: 1223040027-A

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 06/23/22 13:57
Prep Initial Wt./Vol.: 30.157 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-120**

Client Sample ID: **22SCC-SS-120**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040027
Lab Project ID: 1223040

Collection Date: 06/09/22 08:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):69.2
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 3.00 | J | 6.27 | 1.88 | mg/kg | 1 | | 06/29/22 23:33 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 124 | | 50-150 | | % | 1 | | 06/29/22 23:33 |

## Batch Information

Analytical Batch: VFC16142
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/29/22 23:33
Container ID: 1223040027-B

Prep Batch: VXX38775
Prep Method: SW5035A
Prep Date/Time: 06/09/22 08:55
Prep Initial Wt./Vol.: 44.563 g
Prep Extract Vol: 38.7132 mL

Print Date: 07/12/2022 4:04:49PM

J flagging is activated

Results of **22SCC-SS-120**

Client Sample ID: **22SCC-SS-120**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040027
Lab Project ID: 1223040

Collection Date: 06/09/22 08:55
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):69.2
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0157 | U | 0.0314 | 0.00979 | mg/kg | 1 | | 06/17/22 23:08 |
| Ethylbenzene | 0.0314 | U | 0.0627 | 0.0196 | mg/kg | 1 | | 06/17/22 23:08 |
| o-Xylene | 0.0314 | U | 0.0627 | 0.0196 | mg/kg | 1 | | 06/17/22 23:08 |
| P & M -Xylene | 0.0625 | U | 0.125 | 0.0376 | mg/kg | 1 | | 06/17/22 23:08 |
| Toluene | 0.0314 | U | 0.0627 | 0.0196 | mg/kg | 1 | | 06/17/22 23:08 |
| Xylenes (total) | 0.0940 | U | 0.188 | 0.0572 | mg/kg | 1 | | 06/17/22 23:08 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 102 | | 71-136 | | % | 1 | | 06/17/22 23:08 |
| 4-Bromofluorobenzene (surr) | 95.4 | | 55-151 | | % | 1 | | 06/17/22 23:08 |
| Toluene-d8 (surr) | 98.5 | | 85-116 | | % | 1 | | 06/17/22 23:08 |

**Batch Information**

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 23:08
Container ID: 1223040027-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 08:55
Prep Initial Wt./Vol.: 44.563 g
Prep Extract Vol: 38.7132 mL

Results of **22SCC-SS-15**

Client Sample ID: **22SCC-SS-15**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040028
Lab Project ID: 1223040

Collection Date: 06/09/22 06:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):81.1
Location:

Results by **Polynuclear Aromatics GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| 2-Methylnaphthalene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Acenaphthene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Acenaphthylene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Anthracene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Benzo(a)Anthracene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Benzo[a]pyrene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Benzo[b]Fluoranthene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Benzo[g,h,i]perylene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Benzo[k]fluoranthene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Chrysene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Dibenzo[a,h]anthracene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Fluoranthene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Fluorene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Indeno[1,2,3-c,d] pyrene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Naphthalene | 0.0610 | U | 0.122 | 0.0305 | mg/kg | 5 | | 07/06/22 01:35 |
| Phenanthrene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| Pyrene | 0.0765 | U | 0.153 | 0.0382 | mg/kg | 5 | | 07/06/22 01:35 |
| **Surrogates** | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | 82.8 | | 58-103 | | % | 5 | | 07/06/22 01:35 |
| Fluoranthene-d10 (surr) | 90.1 | | 54-113 | | % | 5 | | 07/06/22 01:35 |

**Batch Information**

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 07/06/22 01:35
Container ID: 1223040028-A

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 06/23/22 11:26
Prep Initial Wt./Vol.: 22.723 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-15**

Client Sample ID: **22SCC-SS-15**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040028
Lab Project ID: 1223040

Collection Date: 06/09/22 06:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):81.1
Location:

## Results by **Semivolatile Organic Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics | 40.9 | | 24.7 | 11.1 | mg/kg | 1 | | 06/28/22 21:16 |
| **Surrogates** | | | | | | | | |
| 5a Androstane (surr) | 94.6 | | 50-150 | | % | 1 | | 06/28/22 21:16 |

## Batch Information

Analytical Batch: XFC16270
Analytical Method: AK102
Analyst: MDT
Analytical Date/Time: 06/28/22 21:16
Container ID: 1223040028-A

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 06/23/22 13:57
Prep Initial Wt./Vol.: 30.006 g
Prep Extract Vol: 5 mL

## Results of **22SCC-SS-15**

Client Sample ID: **22SCC-SS-15**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040028
Lab Project ID: 1223040

Collection Date: 06/09/22 06:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):81.1
Location:

## Results by **Volatile Fuels**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics | 1.29 | J | 3.05 | 0.915 | mg/kg | 1 | | 06/29/22 23:51 |
| **Surrogates** | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 106 | | 50-150 | | % | 1 | | 06/29/22 23:51 |

## Batch Information

Analytical Batch: VFC16142
Analytical Method: AK101
Analyst: PHK
Analytical Date/Time: 06/29/22 23:51
Container ID: 1223040028-B

Prep Batch: VXX38775
Prep Method: SW5035A
Prep Date/Time: 06/09/22 06:45
Prep Initial Wt./Vol.: 81.83 g
Prep Extract Vol: 40.4733 mL

Results of **22SCC-SS-15**

Client Sample ID: **22SCC-SS-15**
Client Project ID: **106427-001 Deadhorse Airport**
Lab Sample ID: 1223040028
Lab Project ID: 1223040

Collection Date: 06/09/22 06:45
Received Date: 06/14/22 07:59
Matrix: Soil/Solid (dry weight)
Solids (%):81.1
Location:

Results by **Volatile GC/MS**

| Parameter | Result | Qual | LOQ/CL | DL | Units | DF | Allowable Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| Benzene | 0.00760 | U | 0.0152 | 0.00476 | mg/kg | 1 | | 06/17/22 23:24 |
| Ethylbenzene | 0.0153 | U | 0.0305 | 0.00951 | mg/kg | 1 | | 06/17/22 23:24 |
| o-Xylene | 0.0153 | U | 0.0305 | 0.00951 | mg/kg | 1 | | 06/17/22 23:24 |
| P & M -Xylene | 0.0305 | U | 0.0610 | 0.0183 | mg/kg | 1 | | 06/17/22 23:24 |
| Toluene | 0.0153 | U | 0.0305 | 0.00951 | mg/kg | 1 | | 06/17/22 23:24 |
| Xylenes (total) | 0.0457 | U | 0.0915 | 0.0278 | mg/kg | 1 | | 06/17/22 23:24 |
| **Surrogates** | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | 98.5 | | 71-136 | | % | 1 | | 06/17/22 23:24 |
| 4-Bromofluorobenzene (surr) | 90.9 | | 55-151 | | % | 1 | | 06/17/22 23:24 |
| Toluene-d8 (surr) | 98.7 | | 85-116 | | % | 1 | | 06/17/22 23:24 |

**Batch Information**

Analytical Batch: VMS21705
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 06/17/22 23:24
Container ID: 1223040028-B

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 06/09/22 06:45
Prep Initial Wt./Vol.: 81.83 g
Prep Extract Vol: 40.4733 mL

## Method Blank

Blank ID: MB for HBN 1838335 [SPT/11550]
Blank Lab ID: 1669168

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040001, 1223040002, 1223040003, 1223040004, 1223040005, 1223040006, 1223040007, 1223040008, 1223040009, 1223040010, 1223040011

## Results by **SM21 2540G**

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| Total Solids | 99.9 | | | % |

## Batch Information

Analytical Batch: SPT11550
Analytical Method: SM21 2540G
Instrument:
Analyst: ICC
Analytical Date/Time: 6/21/2022 4:42:00PM



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

## Duplicate Sample Summary

Original Sample ID: 1223034005
Duplicate Sample ID: 1669175

Analysis Date: 06/21/2022 16:42
Matrix: Soil/Solid (dry weight)

QC for Samples:

1223040001, 1223040002, 1223040003, 1223040004, 1223040005, 1223040006, 1223040007, 1223040008, 1223040009, 1223040010, 1223040011

## Results by **SM21 2540G**

| NAME | Original | Duplicate | Units | RPD (%) | RPD CL |
|---|---|---|---|---|---|
| Total Solids | 99.8 | 92.6 | % | 7.50 | (< 15 ) |

## Batch Information

Analytical Batch: SPT11550
Analytical Method: SM21 2540G
Instrument:
Analyst: ICC

Print Date: 07/12/2022 4:04:57PM

## Method Blank

Blank ID: MB for HBN 1838432 [SPT/11551]
Blank Lab ID: 1669338

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040014, 1223040015, 1223040016, 1223040017, 1223040018, 1223040019, 1223040020, 1223040021, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026, 1223040027, 1223040028

## Results by **SM21 2540G**

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| Total Solids | 99.9 | | | % |

## Batch Information

Analytical Batch: SPT11551
Analytical Method: SM21 2540G
Instrument:
Analyst: ICC
Analytical Date/Time: 6/22/2022 6:00:00PM



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

## Duplicate Sample Summary

Original Sample ID: 1223007001
Duplicate Sample ID: 1669339

Analysis Date: 06/22/2022 18:00
Matrix: Soil/Solid (dry weight)

QC for Samples:

1223040014, 1223040015, 1223040016, 1223040017, 1223040018, 1223040019, 1223040020, 1223040021, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026, 1223040027, 1223040028

## Results by **SM21 2540G**

| NAME | Original | Duplicate | Units | RPD (%) | RPD CL |
|---|---|---|---|---|---|
| Total Solids | 100 | 96.8 | % | 3.20 | (< 15 ) |

## Batch Information

Analytical Batch: SPT11551
Analytical Method: SM21 2540G
Instrument:
Analyst: ICC

Print Date: 07/12/2022 4:05:01PM

## Duplicate Sample Summary

Original Sample ID: 1223176024
Duplicate Sample ID: 1669340

Analysis Date: 06/22/2022 18:00
Matrix: Soil/Solid (dry weight)

QC for Samples:

1223040014, 1223040015, 1223040016, 1223040017, 1223040018, 1223040019, 1223040020, 1223040021, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026, 1223040027, 1223040028

## Results by **SM21 2540G**

| NAME | Original | Duplicate | Units | RPD (%) | RPD CL |
|---|---|---|---|---|---|
| Total Solids | 77.7 | 79.0 | % | 1.60 | (< 15 ) |

## Batch Information

Analytical Batch: SPT11551
Analytical Method: SM21 2540G
Instrument:
Analyst: ICC

Print Date: 07/12/2022 4:05:01PM

## Method Blank

Blank ID: MB for HBN 1838046 [VXX/38711]
Blank Lab ID: 1668535

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040001, 1223040002, 1223040003, 1223040004, 1223040005, 1223040006, 1223040007, 1223040008, 1223040009, 1223040010, 1223040011, 1223040012, 1223040013, 1223040014, 1223040015

## Results by **SW8260D**

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| Benzene | 0.00625U | 0.0125 | 0.00390 | mg/kg |
| Ethylbenzene | 0.0125U | 0.0250 | 0.00780 | mg/kg |
| o-Xylene | 0.0125U | 0.0250 | 0.00780 | mg/kg |
| P & M -Xylene | 0.0250U | 0.0500 | 0.0150 | mg/kg |
| Toluene | 0.0125U | 0.0250 | 0.00780 | mg/kg |
| Xylenes (total) | 0.0375U | 0.0750 | 0.0228 | mg/kg |
| **Surrogates** | | | | |
| 1,2-Dichloroethane-D4 (surr) | 101 | 71-136 | | % |
| 4-Bromofluorobenzene (surr) | 102 | 55-151 | | % |
| Toluene-d8 (surr) | 98 | 85-116 | | % |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: S.S
Analytical Date/Time: 6/17/2022 1:20:00AM

Prep Batch: VXX38711
Prep Method: SW5035A
Prep Date/Time: 6/16/2022 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223040 [VXX38711]
Blank Spike Lab ID: 1668536
Date Analyzed: 06/17/2022 01:36

Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040001, 1223040002, 1223040003, 1223040004, 1223040005, 1223040006, 1223040007, 1223040008, 1223040009, 1223040010, 1223040011, 1223040012, 1223040013, 1223040014, 1223040015

## Results by **SW8260D**

Blank Spike (mg/kg)

| Parameter | Spike | Result | Rec (%) | CL |
|---|---|---|---|---|
| Benzene | 0.750 | 0.792 | 106 | ( 77-121 ) |
| Ethylbenzene | 0.750 | 0.731 | 98 | ( 76-122 ) |
| o-Xylene | 0.750 | 0.746 | 99 | ( 77-123 ) |
| P & M -Xylene | 1.50 | 1.49 | 99 | ( 77-124 ) |
| Toluene | 0.750 | 0.733 | 98 | ( 77-121 ) |
| Xylenes (total) | 2.25 | 2.24 | 99 | ( 78-124 ) |
| **Surrogates** | | | | |
| 1,2-Dichloroethane-D4 (surr) | 0.750 | | 97 | ( 71-136 ) |
| 4-Bromofluorobenzene (surr) | 0.750 | | 100 | ( 55-151 ) |
| Toluene-d8 (surr) | 0.750 | | 98 | ( 85-116 ) |

## Batch Information

Analytical Batch: **VMS21703**
Analytical Method: **SW8260D**
Instrument: **VRA Agilent GC/MS 7890B/5977A**
Analyst: **S.S**

Prep Batch: **VXX38711**
Prep Method: **SW5035A**
Prep Date/Time: **06/16/2022 06:00**
Spike Init Wt./Vol.: 0.750 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:



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## Matrix Spike Summary

Original Sample ID: 1668537
MS Sample ID: 1668538 MS
MSD Sample ID: 1668539 MSD

Analysis Date: 06/17/2022 4:28
Analysis Date: 06/17/2022 2:07
Analysis Date: 06/17/2022 2:23
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1223040001, 1223040002, 1223040003, 1223040004, 1223040005, 1223040006, 1223040007, 1223040008, 1223040009, 1223040010, 1223040011, 1223040012, 1223040013, 1223040014, 1223040015

## Results by **SW8260D**

| | | Matrix Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Benzene | 0.0135U | 1.62 | 1.81 | 112 | 1.62 | 1.83 | 113 | 77-121 | 0.64 | (< 20 ) |
| Ethylbenzene | 0.0270U | 1.62 | 1.69 | 104 | 1.62 | 1.68 | 104 | 76-122 | 0.70 | (< 20 ) |
| o-Xylene | 0.0270U | 1.62 | 1.68 | 104 | 1.62 | 1.69 | 104 | 77-123 | 0.63 | (< 20 ) |
| P & M -Xylene | 0.0540U | 3.23 | 3.41 | 105 | 3.23 | 3.39 | 105 | 77-124 | 0.39 | (< 20 ) |
| Toluene | 0.0270U | 1.62 | 1.70 | 105 | 1.62 | 1.69 | 105 | 77-121 | 0.57 | (< 20 ) |
| Xylenes (total) | 0.0810U | 4.85 | 5.08 | 105 | 4.85 | 5.08 | 105 | 78-124 | 0.06 | (< 20 ) |
| **Surrogates** | | | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | | 1.62 | 1.52 | 94 | 1.62 | 1.58 | 98 | 71-136 | 3.90 | |
| 4-Bromofluorobenzene (surr) | | 2.69 | 1.82 | 68 | 2.69 | 1.77 | 66 | 55-151 | 2.80 | |
| Toluene-d8 (surr) | | 1.62 | 1.59 | 98 | 1.62 | 1.59 | 98 | 85-116 | 0.08 | |

## Batch Information

Analytical Batch: VMS21703
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: S.S
Analytical Date/Time: 6/17/2022 2:07:00AM

Prep Batch: VXX38711
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 6/16/2022 6:00:00AM
Prep Initial Wt./Vol.: 23.20g
Prep Extract Vol: 25.00mL

Print Date: 07/12/2022 4:05:08PM

## Method Blank

Blank ID: MB for HBN 1838131 [VXX/38713]
Blank Lab ID: 1668696

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040016, 1223040017, 1223040018, 1223040019, 1223040020, 1223040021, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026, 1223040027, 1223040028

## Results by **SW8260D**

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| Benzene | 0.00625U | 0.0125 | 0.00390 | mg/kg |
| Ethylbenzene | 0.0125U | 0.0250 | 0.00780 | mg/kg |
| o-Xylene | 0.0125U | 0.0250 | 0.00780 | mg/kg |
| P & M -Xylene | 0.0250U | 0.0500 | 0.0150 | mg/kg |
| Toluene | 0.0125U | 0.0250 | 0.00780 | mg/kg |
| Xylenes (total) | 0.0375U | 0.0750 | 0.0228 | mg/kg |
| **Surrogates** | | | | |
| 1,2-Dichloroethane-D4 (surr) | 102 | 71-136 | | % |
| 4-Bromofluorobenzene (surr) | 103 | 55-151 | | % |
| Toluene-d8 (surr) | 97.4 | 85-116 | | % |

## Batch Information

Analytical Batch: VMS21705
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: S.S
Analytical Date/Time: 6/17/2022 1:50:00PM

Prep Batch: VXX38713
Prep Method: SW5035A
Prep Date/Time: 6/17/2022 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223040 [VXX38713]
Blank Spike Lab ID: 1668697
Date Analyzed: 06/17/2022 14:05

Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040016, 1223040017, 1223040018, 1223040019, 1223040020, 1223040021, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026, 1223040027, 1223040028

## Results by **SW8260D**

Blank Spike (mg/kg)

| Parameter | Spike | Result | Rec (%) | CL |
|---|---|---|---|---|
| Benzene | 0.750 | 0.817 | 109 | ( 77-121 ) |
| Ethylbenzene | 0.750 | 0.756 | 101 | ( 76-122 ) |
| o-Xylene | 0.750 | 0.777 | 104 | ( 77-123 ) |
| P & M -Xylene | 1.50 | 1.56 | 104 | ( 77-124 ) |
| Toluene | 0.750 | 0.755 | 101 | ( 77-121 ) |
| Xylenes (total) | 2.25 | 2.34 | 104 | ( 78-124 ) |
| **Surrogates** | | | | |
| 1,2-Dichloroethane-D4 (surr) | 0.750 | | 98 | ( 71-136 ) |
| 4-Bromofluorobenzene (surr) | 0.750 | | 100 | ( 55-151 ) |
| Toluene-d8 (surr) | 0.750 | | 98 | ( 85-116 ) |

## Batch Information

Analytical Batch: **VMS21705**
Analytical Method: **SW8260D**
Instrument: **VRA Agilent GC/MS 7890B/5977A**
Analyst: **S.S**

Prep Batch: **VXX38713**
Prep Method: **SW5035A**
Prep Date/Time: **06/17/2022 06:00**
Spike Init Wt./Vol.: 0.750 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:



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## Matrix Spike Summary

Original Sample ID: 1668698
MS Sample ID: 1668699 MS
MSD Sample ID: 1668700 MSD

Analysis Date: 06/17/2022 17:08
Analysis Date: 06/17/2022 15:50
Analysis Date: 06/17/2022 16:05
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1223040016, 1223040017, 1223040018, 1223040019, 1223040020, 1223040021, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026, 1223040027, 1223040028

## Results by **SW8260D**

| | | Matrix Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Benzene | 0.00700U | 0.839 | 0.933 | 111 | 0.839 | 0.932 | 111 | 77-121 | 0.07 | (< 20 ) |
| Ethylbenzene | 0.0140U | 0.839 | 0.861 | 103 | 0.839 | 0.864 | 103 | 76-122 | 0.36 | (< 20 ) |
| o-Xylene | 0.0140U | 0.839 | 0.869 | 104 | 0.839 | 0.863 | 103 | 77-123 | 0.71 | (< 20 ) |
| P & M -Xylene | 0.0280U | 1.68 | 1.76 | 105 | 1.68 | 1.75 | 104 | 77-124 | 0.64 | (< 20 ) |
| Toluene | 0.0140U | 0.839 | 0.861 | 103 | 0.839 | 0.854 | 102 | 77-121 | 0.73 | (< 20 ) |
| Xylenes (total) | 0.0420U | 2.52 | 2.63 | 104 | 2.52 | 2.61 | 104 | 78-124 | 0.66 | (< 20 ) |
| **Surrogates** | | | | | | | | | | |
| 1,2-Dichloroethane-D4 (surr) | | 0.839 | 0.815 | 97 | 0.839 | 0.821 | 98 | 71-136 | 0.70 | |
| 4-Bromofluorobenzene (surr) | | 1.40 | 1.05 | 75 | 1.40 | 1.04 | 75 | 55-151 | 0.89 | |
| Toluene-d8 (surr) | | 0.839 | 0.816 | 97 | 0.839 | 0.821 | 98 | 85-116 | 0.60 | |

## Batch Information

Analytical Batch: VMS21705
Analytical Method: SW8260D
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: S.S
Analytical Date/Time: 6/17/2022 3:50:00PM

Prep Batch: VXX38713
Prep Method: Vol. Extraction SW8260 Field Extracted L
Prep Date/Time: 6/17/2022 6:00:00AM
Prep Initial Wt./Vol.: 44.68g
Prep Extract Vol: 25.00mL

Print Date: 07/12/2022 4:05:12PM

## Method Blank

Blank ID: MB for HBN 1838869 [VXX/38754]
Blank Lab ID: 1670078

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040001, 1223040002, 1223040003, 1223040004, 1223040012, 1223040013

## Results by **AK101**

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| Gasoline Range Organics | 1.16J | 2.50 | 0.750 | mg/kg |
| **Surrogates** | | | | |
| 4-Bromofluorobenzene (surr) | 101 | 50-150 | | % |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: PHK
Analytical Date/Time: 6/26/2022 4:18:00PM

Prep Batch: VXX38754
Prep Method: SW5035A
Prep Date/Time: 6/26/2022 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL



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## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223040 [VXX38754]
Blank Spike Lab ID: 1670079
Date Analyzed: 06/26/2022 15:41

Spike Duplicate ID: LCSD for HBN 1223040 [VXX38754]
Spike Duplicate Lab ID: 1670080
Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040001, 1223040002, 1223040003, 1223040004, 1223040012, 1223040013

## Results by **AK101**

| | Blank Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Parameter | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Gasoline Range Organics | 12.5 | 12.9 | 103 | 12.5 | 13.2 | 106 | ( 60-120 ) | 2.90 | (< 20 ) |
| **Surrogates** | | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 1.25 | | 90 | 1.25 | | 101 | ( 50-150 ) | 11.10 | |

## Batch Information

Analytical Batch: **VFC16138**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **PHK**

Prep Batch: **VXX38754**
Prep Method: **SW5035A**
Prep Date/Time: **06/26/2022 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL



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## Method Blank

Blank ID: MB for HBN 1838870 [VXX/38755]
Blank Lab ID: 1670081

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040005, 1223040006, 1223040007, 1223040008, 1223040009, 1223040010, 1223040011, 1223040014, 1223040015, 1223040016, 1223040017, 1223040018, 1223040019, 1223040020, 1223040021, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026

## Results by **AK101**

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| Gasoline Range Organics | 1.22J | 2.50 | 0.750 | mg/kg |
| **Surrogates** | | | | |
| 4-Bromofluorobenzene (surr) | 93.1 | 50-150 | | % |

## Batch Information

Analytical Batch: VFC16138
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: PHK
Analytical Date/Time: 6/27/2022 1:42:00AM

Prep Batch: VXX38755
Prep Method: SW5035A
Prep Date/Time: 6/26/2022 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223040 [VXX38755]
Blank Spike Lab ID: 1670082
Date Analyzed: 06/27/2022 01:06

Spike Duplicate ID: LCSD for HBN 1223040 [VXX38755]
Spike Duplicate Lab ID: 1670083
Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040005, 1223040006, 1223040007, 1223040008, 1223040009, 1223040010, 1223040011, 1223040014, 1223040015, 1223040016, 1223040017, 1223040018, 1223040019, 1223040020, 1223040021, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026

## Results by **AK101**

| | Blank Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Parameter | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Gasoline Range Organics | 12.5 | 13.8 | 110 | 12.5 | 13.4 | 107 | ( 60-120 ) | 2.90 | (< 20 ) |
| **Surrogates** | | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 1.25 | | 95 | 1.25 | | 95 | ( 50-150 ) | 0.06 | |

## Batch Information

Analytical Batch: **VFC16138**
Analytical Method: **AK101**
Instrument: **Agilent 7890 PID/FID**
Analyst: **PHK**

Prep Batch: **VXX38755**
Prep Method: **SW5035A**
Prep Date/Time: **06/26/2022 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL



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## Method Blank

Blank ID: MB for HBN 1839054 [VXX/38775]
Blank Lab ID: 1670915

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040027, 1223040028

## Results by **AK101**

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| Gasoline Range Organics | 1.19J | 2.50 | 0.750 | mg/kg |
| **Surrogates** | | | | |
| 4-Bromofluorobenzene (surr) | 106 | 50-150 | | % |

## Batch Information

Analytical Batch: VFC16142
Analytical Method: AK101
Instrument: Agilent 7890A PID/FID
Analyst: PHK
Analytical Date/Time: 6/29/2022 5:55:00PM

Prep Batch: VXX38775
Prep Method: SW5035A
Prep Date/Time: 6/29/2022 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223040 [VXX38775]
Blank Spike Lab ID: 1670916
Date Analyzed: 06/29/2022 17:17

Spike Duplicate ID: LCSD for HBN 1223040 [VXX38775]
Spike Duplicate Lab ID: 1670917
Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040027, 1223040028

## Results by **AK101**

| | Blank Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Parameter | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Gasoline Range Organics | 12.5 | 14.0 | 112 | 12.5 | 13.8 | 111 | ( 60-120 ) | 1.10 | (< 20 ) |
| **Surrogates** | | | | | | | | | |
| 4-Bromofluorobenzene (surr) | 1.25 | | 97 | 1.25 | | 108 | ( 50-150 ) | 10.80 | |

## Batch Information

Analytical Batch: **VFC16142**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **PHK**

Prep Batch: **VXX38775**
Prep Method: **SW5035A**
Prep Date/Time: **06/29/2022 06:00**
Spike Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: 1.25 mg/kg Extract Vol: 25 mL

## Method Blank

Blank ID: MB for HBN 1838193 [XXX/46446]
Blank Lab ID: 1668937

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040002

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

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| 2-Methylnaphthalene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Acenaphthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Acenaphthylene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Anthracene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo(a)Anthracene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[a]pyrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[b]Fluoranthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[g,h,i]perylene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[k]fluoranthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Chrysene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Dibenzo[a,h]anthracene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Fluoranthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Fluorene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Indeno[1,2,3-c,d] pyrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Naphthalene | 0.0100U | 0.0200 | 0.00500 | mg/kg |
| Phenanthrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Pyrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| **Surrogates** | | | | |
| 2-Methylnaphthalene-d10 (surr) | 76.5 | 58-103 | | % |
| Fluoranthene-d10 (surr) | 77.1 | 54-113 | | % |

## Batch Information

Analytical Batch: XMS13211
Analytical Method: 8270D SIM (PAH)
Instrument: Agilent GC 7890B/5977A SWA
Analyst: DSD
Analytical Date/Time: 7/4/2022 7:49:00PM

Prep Batch: XXX46446
Prep Method: SW3550C
Prep Date/Time: 6/21/2022 8:10:09AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL



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## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223040 [XXX46446]
Blank Spike Lab ID: 1668938
Date Analyzed: 07/04/2022 20:09

Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040002

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

Blank Spike (mg/kg)

| Parameter | Spike | Result | Rec (%) | CL |
|---|---|---|---|---|
| 1-Methylnaphthalene | 0.111 | 0.0886 | 80 | ( 43-111 ) |
| 2-Methylnaphthalene | 0.111 | 0.0860 | 77 | ( 39-114 ) |
| Acenaphthene | 0.111 | 0.0895 | 81 | ( 44-111 ) |
| Acenaphthylene | 0.111 | 0.0854 | 77 | ( 39-116 ) |
| Anthracene | 0.111 | 0.0901 | 81 | ( 50-114 ) |
| Benzo(a)Anthracene | 0.111 | 0.0892 | 80 | ( 54-122 ) |
| Benzo[a]pyrene | 0.111 | 0.0857 | 77 | ( 50-125 ) |
| Benzo[b]Fluoranthene | 0.111 | 0.0966 | 87 | ( 53-128 ) |
| Benzo[g,h,i]perylene | 0.111 | 0.0885 | 80 | ( 49-127 ) |
| Benzo[k]fluoranthene | 0.111 | 0.0897 | 81 | ( 56-123 ) |
| Chrysene | 0.111 | 0.0883 | 80 | ( 57-118 ) |
| Dibenzo[a,h]anthracene | 0.111 | 0.0902 | 81 | ( 50-129 ) |
| Fluoranthene | 0.111 | 0.0897 | 81 | ( 55-119 ) |
| Fluorene | 0.111 | 0.0880 | 79 | ( 47-114 ) |
| Indeno[1,2,3-c,d] pyrene | 0.111 | 0.0889 | 80 | ( 49-130 ) |
| Naphthalene | 0.111 | 0.0858 | 77 | ( 38-111 ) |
| Phenanthrene | 0.111 | 0.0919 | 83 | ( 49-113 ) |
| Pyrene | 0.111 | 0.0885 | 80 | ( 55-117 ) |
| **Surrogates** | | | | |
| 2-Methylnaphthalene-d10 (surr) | 0.111 | | 75 | ( 58-103 ) |
| Fluoranthene-d10 (surr) | 0.111 | | 74 | ( 54-113 ) |

## Batch Information

Analytical Batch: **XMS13211**
Analytical Method: **8270D SIM (PAH)**
Instrument: **Agilent GC 7890B/5977A SWA**
Analyst: **DSD**

Prep Batch: **XXX46446**
Prep Method: **SW3550C**
Prep Date/Time: **06/21/2022 08:10**
Spike Init Wt./Vol.: 0.111 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: Extract Vol:



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## Matrix Spike Summary

Original Sample ID: 1222923013
MS Sample ID: 1668939 MS
MSD Sample ID: 1668940 MSD

QC for Samples: 1223040002

Analysis Date: 07/03/2022 20:59
Analysis Date: 07/03/2022 21:20
Analysis Date: 07/03/2022 21:40
Matrix: Soil/Solid (dry weight)

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

| | | Matrix Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| 1-Methylnaphthalene | 0.0135U | 0.122 | 0.0953 | 78 | 0.120 | 0.0899 | 75 | 43-111 | 5.90 | (< 20 ) |
| 2-Methylnaphthalene | 0.0135U | 0.122 | 0.0959 | 79 | 0.120 | 0.0893 | 75 | 39-114 | 7.20 | (< 20 ) |
| Acenaphthene | 0.0135U | 0.122 | 0.0957 | 79 | 0.120 | 0.0894 | 75 | 44-111 | 6.90 | (< 20 ) |
| Acenaphthylene | 0.0135U | 0.122 | 0.0924 | 76 | 0.120 | 0.0868 | 72 | 39-116 | 6.30 | (< 20 ) |
| Anthracene | 0.0135U | 0.122 | 0.0882 | 72 | 0.120 | 0.0818 | 68 | 50-114 | 7.50 | (< 20 ) |
| Benzo(a)Anthracene | 0.0135U | 0.122 | 0.0917 | 75 | 0.120 | 0.0848 | 71 | 54-122 | 7.80 | (< 20 ) |
| Benzo[a]pyrene | 0.0135U | 0.122 | 0.0883 | 73 | 0.120 | 0.0823 | 69 | 50-125 | 7.20 | (< 20 ) |
| Benzo[b]Fluoranthene | 0.0135U | 0.122 | 0.0923 | 76 | 0.120 | 0.0841 | 70 | 53-128 | 9.30 | (< 20 ) |
| Benzo[g,h,i]perylene | 0.0135U | 0.122 | 0.0822 | 68 | 0.120 | 0.0763 | 64 | 49-127 | 7.30 | (< 20 ) |
| Benzo[k]fluoranthene | 0.0135U | 0.122 | 0.0937 | 77 | 0.120 | 0.0894 | 75 | 56-123 | 4.70 | (< 20 ) |
| Chrysene | 0.0135U | 0.122 | 0.0945 | 78 | 0.120 | 0.0884 | 74 | 57-118 | 6.60 | (< 20 ) |
| Dibenzo[a,h]anthracene | 0.0135U | 0.122 | 0.0830 | 68 | 0.120 | 0.0775 | 65 | 50-129 | 7.00 | (< 20 ) |
| Fluoranthene | 0.0135U | 0.122 | 0.0978 | 80 | 0.120 | 0.0907 | 76 | 55-119 | 7.50 | (< 20 ) |
| Fluorene | 0.0135U | 0.122 | 0.0936 | 77 | 0.120 | 0.0865 | 72 | 47-114 | 7.90 | (< 20 ) |
| Indeno[1,2,3-c,d] pyrene | 0.0135U | 0.122 | 0.0822 | 68 | 0.120 | 0.0765 | 64 | 49-130 | 7.20 | (< 20 ) |
| Naphthalene | 0.0108U | 0.122 | 0.0935 | 77 | 0.120 | 0.0887 | 74 | 38-111 | 5.40 | (< 20 ) |
| Phenanthrene | 0.0135U | 0.122 | 0.0944 | 78 | 0.120 | 0.0877 | 73 | 49-113 | 7.40 | (< 20 ) |
| Pyrene | 0.0135U | 0.122 | 0.0976 | 80 | 0.120 | 0.0902 | 75 | 55-117 | 7.90 | (< 20 ) |
| **Surrogates** | | | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | | 0.122 | 0.0888 | 73 | 0.120 | 0.0828 | 69 | 58-103 | 6.90 | |
| Fluoranthene-d10 (surr) | | 0.122 | 0.0919 | 75 | 0.120 | 0.0860 | 72 | 54-113 | 6.60 | |

## Batch Information

Analytical Batch: XMS13209
Analytical Method: 8270D SIM (PAH)
Instrument: Agilent GC 7890B/5977A SWA
Analyst: DSD
Analytical Date/Time: 7/3/2022 9:20:00PM

Prep Batch: XXX46446
Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml
Prep Date/Time: 6/21/2022 8:10:09AM
Prep Initial Wt./Vol.: 22.61g
Prep Extract Vol: 5.00mL

Print Date: 07/12/2022 4:05:29PM

## Method Blank

Blank ID: MB for HBN 1838217 [XXX/46450]
Blank Lab ID: 1669000

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040002, 1223040003, 1223040008, 1223040009, 1223040010, 1223040011

## Results by **AK102**

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| Diesel Range Organics | 10.0U | 20.0 | 9.00 | mg/kg |
| **Surrogates** | | | | |
| 5a Androstane (surr) | 88.9 | 60-120 | | % |

## Batch Information

Analytical Batch: XFC16265
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: MDT
Analytical Date/Time: 6/22/2022 6:12:00PM

Prep Batch: XXX46450
Prep Method: SW3550C
Prep Date/Time: 6/21/2022 1:48:02PM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 5 mL

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223040 [XXX46450]
Blank Spike Lab ID: 1669001
Date Analyzed: 06/22/2022 18:22

Spike Duplicate ID: LCSD for HBN 1223040 [XXX46450]
Spike Duplicate Lab ID: 1669002
Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040002, 1223040003, 1223040008, 1223040009, 1223040010, 1223040011

## Results by **AK102**

| | Blank Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Parameter | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Diesel Range Organics | 667 | 712 | 107 | 667 | 751 | 113 | ( 75-125 ) | 5.30 | (< 20 ) |
| **Surrogates** | | | | | | | | | |
| 5a Androstane (surr) | 16.7 | | 94 | 16.7 | | 100 | ( 60-120 ) | 6.30 | |

## Batch Information

Analytical Batch: **XFC16265**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **MDT**

Prep Batch: **XXX46450**
Prep Method: **SW3550C**
Prep Date/Time: **06/21/2022 13:48**
Spike Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL



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## Method Blank

Blank ID: MB for HBN 1838336 [XXX/46460]
Blank Lab ID: 1669176

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040001, 1223040003, 1223040004, 1223040005, 1223040006, 1223040007, 1223040008, 1223040009, 1223040010, 1223040011

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

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| 2-Methylnaphthalene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Acenaphthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Acenaphthylene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Anthracene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo(a)Anthracene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[a]pyrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[b]Fluoranthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[g,h,i]perylene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[k]fluoranthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Chrysene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Dibenzo[a,h]anthracene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Fluoranthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Fluorene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Indeno[1,2,3-c,d] pyrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Naphthalene | 0.0100U | 0.0200 | 0.00500 | mg/kg |
| Phenanthrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Pyrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| **Surrogates** | | | | |
| 2-Methylnaphthalene-d10 (surr) | 84.7 | 58-103 | | % |
| Fluoranthene-d10 (surr) | 86.2 | 54-113 | | % |

## Batch Information

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Instrument: Agilent GC 7890B/5977A SWA
Analyst: DSD
Analytical Date/Time: 7/6/2022 10:52:00AM

Prep Batch: XXX46460
Prep Method: SW3550C
Prep Date/Time: 6/22/2022 9:33:41AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223040 [XXX46460]
Blank Spike Lab ID: 1669177
Date Analyzed: 07/06/2022 11:12

Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040001, 1223040003, 1223040004, 1223040005, 1223040006, 1223040007, 1223040008, 1223040009, 1223040010, 1223040011

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

Blank Spike (mg/kg)

| Parameter | Spike | Result | Rec (%) | CL |
|---|---|---|---|---|
| 1-Methylnaphthalene | 0.111 | 0.0945 | 85 | ( 43-111 ) |
| 2-Methylnaphthalene | 0.111 | 0.0975 | 88 | ( 39-114 ) |
| Acenaphthene | 0.111 | 0.102 | 92 | ( 44-111 ) |
| Acenaphthylene | 0.111 | 0.0999 | 90 | ( 39-116 ) |
| Anthracene | 0.111 | 0.112 | 101 | ( 50-114 ) |
| Benzo(a)Anthracene | 0.111 | 0.0993 | 89 | ( 54-122 ) |
| Benzo[a]pyrene | 0.111 | 0.103 | 93 | ( 50-125 ) |
| Benzo[b]Fluoranthene | 0.111 | 0.112 | 101 | ( 53-128 ) |
| Benzo[g,h,i]perylene | 0.111 | 0.107 | 96 | ( 49-127 ) |
| Benzo[k]fluoranthene | 0.111 | 0.109 | 98 | ( 56-123 ) |
| Chrysene | 0.111 | 0.111 | 100 | ( 57-118 ) |
| Dibenzo[a,h]anthracene | 0.111 | 0.109 | 99 | ( 50-129 ) |
| Fluoranthene | 0.111 | 0.102 | 92 | ( 55-119 ) |
| Fluorene | 0.111 | 0.105 | 94 | ( 47-114 ) |
| Indeno[1,2,3-c,d] pyrene | 0.111 | 0.108 | 98 | ( 49-130 ) |
| Naphthalene | 0.111 | 0.0954 | 86 | ( 38-111 ) |
| Phenanthrene | 0.111 | 0.107 | 96 | ( 49-113 ) |
| Pyrene | 0.111 | 0.101 | 91 | ( 55-117 ) |
| **Surrogates** | | | | |
| 2-Methylnaphthalene-d10 (surr) | 0.111 | | 84 | ( 58-103 ) |
| Fluoranthene-d10 (surr) | 0.111 | | 85 | ( 54-113 ) |

## Batch Information

Analytical Batch: **XMS13217**
Analytical Method: **8270D SIM (PAH)**
Instrument: **Agilent GC 7890B/5977A SWA**
Analyst: **DSD**

Prep Batch: **XXX46460**
Prep Method: **SW3550C**
Prep Date/Time: **06/22/2022 09:33**
Spike Init Wt./Vol.: 0.111 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: Extract Vol:



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## Matrix Spike Summary

Original Sample ID: 1223034003
MS Sample ID: 1669178 MS
MSD Sample ID: 1669179 MSD

Analysis Date: 07/06/2022 15:30
Analysis Date: 07/06/2022 15:51
Analysis Date: 07/06/2022 16:12
Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040001, 1223040003, 1223040004, 1223040005, 1223040006, 1223040007, 1223040008, 1223040009, 1223040010, 1223040011

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

| | | Matrix Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| 1-Methylnaphthalene | 0.0740U | 0.133 | 0.113J | 85 | 0.130 | 0.110J | 84 | 43-111 | 2.70 | (< 20 ) |
| 2-Methylnaphthalene | 0.0740U | 0.133 | 0.112J | 85 | 0.130 | 0.112J | 86 | 39-114 | 0.30 | (< 20 ) |
| Acenaphthene | 0.0740U | 0.133 | 0.114J | 86 | 0.130 | 0.111J | 85 | 44-111 | 2.90 | (< 20 ) |
| Acenaphthylene | 0.0740U | 0.133 | 0.115J | 87 | 0.130 | 0.110J | 85 | 39-116 | 4.00 | (< 20 ) |
| Anthracene | 0.0740U | 0.133 | 0.115J | 87 | 0.130 | 0.117J | 90 | 50-114 | 2.00 | (< 20 ) |
| Benzo(a)Anthracene | 0.0740U | 0.133 | 0.128J | 96 | 0.130 | 0.124J | 95 | 54-122 | 2.70 | (< 20 ) |
| Benzo[a]pyrene | 0.0740U | 0.133 | 0.123J | 93 | 0.130 | 0.123J | 95 | 50-125 | 0.52 | (< 20 ) |
| Benzo[b]Fluoranthene | 0.0740U | 0.133 | 0.135J | 102 | 0.130 | 0.130J | 100 | 53-128 | 3.80 | (< 20 ) |
| Benzo[g,h,i]perylene | 0.0703J | 0.133 | 0.164 | 71 | 0.130 | 0.162 | 71 | 49-127 | 0.94 | (< 20 ) |
| Benzo[k]fluoranthene | 0.0740U | 0.133 | 0.122J | 92 | 0.130 | 0.123J | 95 | 56-123 | 1.00 | (< 20 ) |
| Chrysene | 0.0740U | 0.133 | 0.134J | 101 | 0.130 | 0.130J | 100 | 57-118 | 2.80 | (< 20 ) |
| Dibenzo[a,h]anthracene | 0.0740U | 0.133 | 0.110J | 83 | 0.130 | 0.112J | 86 | 50-129 | 2.30 | (< 20 ) |
| Fluoranthene | 0.0558J | 0.133 | 0.146J | 68 | 0.130 | 0.143J | 68 | 55-119 | 1.10 | (< 20 ) |
| Fluorene | 0.0740U | 0.133 | 0.119J | 91 | 0.130 | 0.117J | 90 | 47-114 | 2.50 | (< 20 ) |
| Indeno[1,2,3-c,d] pyrene | 0.0740U | 0.133 | 0.127J | 96 | 0.130 | 0.125J | 96 | 49-130 | 1.20 | (< 20 ) |
| Naphthalene | 0.0590U | 0.133 | 0.113J | 86 | 0.130 | 0.110J | 84 | 38-111 | 3.00 | (< 20 ) |
| Phenanthrene | 0.0436J | 0.133 | 0.135J | 69 | 0.130 | 0.137J | 72 | 49-113 | 2.00 | (< 20 ) |
| Pyrene | 0.0547J | 0.133 | 0.146J | 69 | 0.130 | 0.146J | 70 | 55-117 | 0.51 | (< 20 ) |
| **Surrogates** | | | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | | 0.133 | 0.105 | 80 | 0.130 | 0.103 | 79 | 58-103 | 2.40 | |
| Fluoranthene-d10 (surr) | | 0.133 | 0.111 | 84 | 0.130 | 0.110 | 85 | 54-113 | 0.76 | |

## Batch Information

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Instrument: Agilent GC 7890B/5977A SWA
Analyst: DSD
Analytical Date/Time: 7/6/2022 3:51:00PM

Prep Batch: XXX46460
Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml
Prep Date/Time: 6/22/2022 9:33:41AM
Prep Initial Wt./Vol.: 22.60g
Prep Extract Vol: 5.00mL

Print Date: 07/12/2022 4:05:38PM

## Method Blank

Blank ID: MB for HBN 1838359 [XXX/46464]
Blank Lab ID: 1669255

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040001, 1223040004, 1223040005, 1223040006, 1223040007, 1223040018, 1223040019, 1223040020, 1223040021

## Results by **AK102**

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| Diesel Range Organics | 10.0U | 20.0 | 9.00 | mg/kg |
| **Surrogates** | | | | |
| 5a Androstane (surr) | 102 | 60-120 | | % |

## Batch Information

Analytical Batch: XFC16268
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: MDT
Analytical Date/Time: 6/24/2022 11:21:00PM

Prep Batch: XXX46464
Prep Method: SW3550C
Prep Date/Time: 6/22/2022 3:31:13PM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 5 mL

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223040 [XXX46464]
Blank Spike Lab ID: 1669256
Date Analyzed: 06/24/2022 23:31

Spike Duplicate ID: LCSD for HBN 1223040 [XXX46464]
Spike Duplicate Lab ID: 1669257
Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040001, 1223040004, 1223040005, 1223040006, 1223040007, 1223040018, 1223040019, 1223040020, 1223040021

## Results by **AK102**

| | Blank Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Parameter | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Diesel Range Organics | 667 | 832 | 125 | 667 | 706 | 106 | ( 75-125 ) | 16.40 | (< 20 ) |
| **Surrogates** | | | | | | | | | |
| 5a Androstane (surr) | 16.7 | | 110 | 16.7 | | 94 | ( 60-120 ) | 15.80 | |

## Batch Information

Analytical Batch: **XFC16268**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **MDT**

Prep Batch: **XXX46464**
Prep Method: **SW3550C**
Prep Date/Time: **06/22/2022 15:31**
Spike Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL



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## Method Blank

Blank ID: MB for HBN 1838532 [XXX/46473]
Blank Lab ID: 1669479

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040014, 1223040015, 1223040016, 1223040017, 1223040018, 1223040019, 1223040020, 1223040021, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026, 1223040027, 1223040028

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

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| 1-Methylnaphthalene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| 2-Methylnaphthalene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Acenaphthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Acenaphthylene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Anthracene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo(a)Anthracene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[a]pyrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[b]Fluoranthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[g,h,i]perylene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Benzo[k]fluoranthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Chrysene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Dibenzo[a,h]anthracene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Fluoranthene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Fluorene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Indeno[1,2,3-c,d] pyrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Naphthalene | 0.0100U | 0.0200 | 0.00500 | mg/kg |
| Phenanthrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| Pyrene | 0.0125U | 0.0250 | 0.00625 | mg/kg |
| **Surrogates** | | | | |
| 2-Methylnaphthalene-d10 (surr) | 81.6 | 58-103 | | % |
| Fluoranthene-d10 (surr) | 84.7 | 54-113 | | % |

## Batch Information

Analytical Batch: XMS13217
Analytical Method: 8270D SIM (PAH)
Instrument: Agilent GC 7890B/5977A SWA
Analyst: DSD
Analytical Date/Time: 7/6/2022 10:11:00AM

Prep Batch: XXX46473
Prep Method: SW3550C
Prep Date/Time: 6/23/2022 11:26:09AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223040 [XXX46473]
Blank Spike Lab ID: 1669480
Date Analyzed: 07/06/2022 10:31

Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040014, 1223040015, 1223040016, 1223040017, 1223040018, 1223040019, 1223040020, 1223040021, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026, 1223040027, 1223040028

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

Blank Spike (mg/kg)

| Parameter | Spike | Result | Rec (%) | CL |
|---|---|---|---|---|
| 1-Methylnaphthalene | 0.111 | 0.0939 | 85 | ( 43-111 ) |
| 2-Methylnaphthalene | 0.111 | 0.0962 | 87 | ( 39-114 ) |
| Acenaphthene | 0.111 | 0.0998 | 90 | ( 44-111 ) |
| Acenaphthylene | 0.111 | 0.0980 | 88 | ( 39-116 ) |
| Anthracene | 0.111 | 0.110 | 99 | ( 50-114 ) |
| Benzo(a)Anthracene | 0.111 | 0.101 | 91 | ( 54-122 ) |
| Benzo[a]pyrene | 0.111 | 0.104 | 94 | ( 50-125 ) |
| Benzo[b]Fluoranthene | 0.111 | 0.111 | 100 | ( 53-128 ) |
| Benzo[g,h,i]perylene | 0.111 | 0.107 | 97 | ( 49-127 ) |
| Benzo[k]fluoranthene | 0.111 | 0.108 | 97 | ( 56-123 ) |
| Chrysene | 0.111 | 0.109 | 99 | ( 57-118 ) |
| Dibenzo[a,h]anthracene | 0.111 | 0.108 | 97 | ( 50-129 ) |
| Fluoranthene | 0.111 | 0.101 | 91 | ( 55-119 ) |
| Fluorene | 0.111 | 0.104 | 94 | ( 47-114 ) |
| Indeno[1,2,3-c,d] pyrene | 0.111 | 0.106 | 96 | ( 49-130 ) |
| Naphthalene | 0.111 | 0.0946 | 85 | ( 38-111 ) |
| Phenanthrene | 0.111 | 0.109 | 98 | ( 49-113 ) |
| Pyrene | 0.111 | 0.101 | 91 | ( 55-117 ) |
| **Surrogates** | | | | |
| 2-Methylnaphthalene-d10 (surr) | 0.111 | | 84 | ( 58-103 ) |
| Fluoranthene-d10 (surr) | 0.111 | | 86 | ( 54-113 ) |

## Batch Information

Analytical Batch: **XMS13217**
Analytical Method: **8270D SIM (PAH)**
Instrument: **Agilent GC 7890B/5977A SWA**
Analyst: **DSD**

Prep Batch: **XXX46473**
Prep Method: **SW3550C**
Prep Date/Time: **06/23/2022 11:26**
Spike Init Wt./Vol.: 0.111 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: Extract Vol:



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## Matrix Spike Summary

Original Sample ID: 1223040021
MS Sample ID: 1669493 MS
MSD Sample ID: 1669494 MSD

Analysis Date: 07/05/2022 21:28
Analysis Date: 07/05/2022 21:49
Analysis Date: 07/05/2022 22:09
Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040014, 1223040015, 1223040016, 1223040017, 1223040018, 1223040019, 1223040020, 1223040021, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026, 1223040027, 1223040028

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

| | | Matrix Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| 1-Methylnaphthalene | 0.0136U | 0.121 | 0.0950 | 79 | 0.122 | 0.0967 | 79 | 43-111 | 1.70 | (< 20 ) |
| 2-Methylnaphthalene | 0.0136U | 0.121 | 0.0965 | 80 | 0.122 | 0.0983 | 81 | 39-114 | 1.90 | (< 20 ) |
| Acenaphthene | 0.0136U | 0.121 | 0.0986 | 82 | 0.122 | 0.101 | 83 | 44-111 | 2.40 | (< 20 ) |
| Acenaphthylene | 0.0136U | 0.121 | 0.0953 | 79 | 0.122 | 0.0967 | 79 | 39-116 | 1.40 | (< 20 ) |
| Anthracene | 0.0136U | 0.121 | 0.105 | 87 | 0.122 | 0.107 | 88 | 50-114 | 1.90 | (< 20 ) |
| Benzo(a)Anthracene | 0.0136U | 0.121 | 0.0991 | 82 | 0.122 | 0.101 | 83 | 54-122 | 1.60 | (< 20 ) |
| Benzo[a]pyrene | 0.0136U | 0.121 | 0.0968 | 80 | 0.122 | 0.101 | 83 | 50-125 | 4.00 | (< 20 ) |
| Benzo[b]Fluoranthene | 0.0136U | 0.121 | 0.0985 | 82 | 0.122 | 0.107 | 87 | 53-128 | 7.90 | (< 20 ) |
| Benzo[g,h,i]perylene | 0.0136U | 0.121 | 0.0957 | 79 | 0.122 | 0.0990 | 81 | 49-127 | 3.40 | (< 20 ) |
| Benzo[k]fluoranthene | 0.0136U | 0.121 | 0.104 | 86 | 0.122 | 0.106 | 87 | 56-123 | 2.10 | (< 20 ) |
| Chrysene | 0.0136U | 0.121 | 0.101 | 84 | 0.122 | 0.107 | 88 | 57-118 | 6.10 | (< 20 ) |
| Dibenzo[a,h]anthracene | 0.0136U | 0.121 | 0.0968 | 80 | 0.122 | 0.0997 | 82 | 50-129 | 3.00 | (< 20 ) |
| Fluoranthene | 0.0136U | 0.121 | 0.0986 | 82 | 0.122 | 0.102 | 84 | 55-119 | 3.40 | (< 20 ) |
| Fluorene | 0.0136U | 0.121 | 0.101 | 84 | 0.122 | 0.104 | 85 | 47-114 | 3.00 | (< 20 ) |
| Indeno[1,2,3-c,d] pyrene | 0.0136U | 0.121 | 0.0955 | 79 | 0.122 | 0.0977 | 80 | 49-130 | 2.40 | (< 20 ) |
| Naphthalene | 0.0109U | 0.121 | 0.0915 | 76 | 0.122 | 0.0944 | 77 | 38-111 | 3.00 | (< 20 ) |
| Phenanthrene | 0.0136U | 0.121 | 0.107 | 88 | 0.122 | 0.110 | 90 | 49-113 | 3.20 | (< 20 ) |
| Pyrene | 0.0136U | 0.121 | 0.100 | 83 | 0.122 | 0.104 | 85 | 55-117 | 3.70 | (< 20 ) |
| **Surrogates** | | | | | | | | | | |
| 2-Methylnaphthalene-d10 (surr) | | 0.121 | 0.0901 | 75 | 0.122 | 0.0927 | 76 | 58-103 | 3.00 | |
| Fluoranthene-d10 (surr) | | 0.121 | 0.0933 | 77 | 0.122 | 0.0988 | 81 | 54-113 | 5.80 | |

## Batch Information

Analytical Batch: XMS13216
Analytical Method: 8270D SIM (PAH)
Instrument: Agilent GC 7890B/5977A SWA
Analyst: DSD
Analytical Date/Time: 7/5/2022 9:49:00PM

Prep Batch: XXX46473
Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml
Prep Date/Time: 6/23/2022 11:26:09AM
Prep Initial Wt./Vol.: 22.82g
Prep Extract Vol: 5.00mL

Print Date: 07/12/2022 4:05:48PM

## Method Blank

Blank ID: MB for HBN 1838547 [XXX/46474]
Blank Lab ID: 1669521

Matrix: Soil/Solid (dry weight)

QC for Samples:
1223040014, 1223040015, 1223040016, 1223040017, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026, 1223040027, 1223040028

## Results by **AK102**

| Parameter | Results | LOQ/CL | DL | Units |
|---|---|---|---|---|
| Diesel Range Organics | 10.0U | 20.0 | 9.00 | mg/kg |
| **Surrogates** | | | | |
| 5a Androstane (surr) | 109 | 60-120 | | % |

## Batch Information

Analytical Batch: XFC16270
Analytical Method: AK102
Instrument: Agilent 7890B R
Analyst: MDT
Analytical Date/Time: 6/28/2022 6:11:00PM

Prep Batch: XXX46474
Prep Method: SW3550C
Prep Date/Time: 6/23/2022 1:57:05PM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 5 mL

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223040 [XXX46474]
Blank Spike Lab ID: 1669522
Date Analyzed: 06/28/2022 18:22

Spike Duplicate ID: LCSD for HBN 1223040 [XXX46474]
Spike Duplicate Lab ID: 1669523
Matrix: Soil/Solid (dry weight)

QC for Samples: 1223040014, 1223040015, 1223040016, 1223040017, 1223040022, 1223040023, 1223040024, 1223040025, 1223040026, 1223040027, 1223040028

## Results by **AK102**

| | Blank Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Parameter | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Diesel Range Organics | 667 | 765 | 115 | 667 | 718 | 108 | ( 75-125 ) | 6.30 | (< 20 ) |
| **Surrogates** | | | | | | | | | |
| 5a Androstane (surr) | 16.7 | | 104 | 16.7 | | 98 | ( 60-120 ) | 6.30 | |

## Batch Information

Analytical Batch: **XFC16270**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **MDT**

Prep Batch: **XXX46474**
Prep Method: **SW3550C**
Prep Date/Time: **06/23/2022 13:57**
Spike Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: 16.7 mg/kg Extract Vol: 5 mL



SGS North America Inc.
200 West Potter Drive Anchorage, AK 95518
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SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

2355 Hill Road
Fairbanks, AK 99709
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www.shannonwilson.com

# CHAIN-OF-CUSTODY RECORD



Laboratory SGS
Attn: Jen Dawkins

**Turn Around Time:** [X] Normal [ ] Rush — Please Specify

**Quote No:**

**J-Flags:** [X] Yes [ ] No

1223040

**Analytical Methods** (include preservative if used)

| Sample Identity | Lab No. | Time | Date Sampled | GRO/BTEX (methanol) AK101/SW8260C | DRO/PAH AK102/SW8270D-SIM | Total Number | Composition/Grab? Sample Containers |
|---|---|---|---|---|---|---|---|
| 22SCC-SS-16 | (1) A-B | 0655 | 6-9-22 | X | X | 2 | Soil |
| 22SCC-SS-6 | (2) A-B | 1500 | 6-8-22 | | | | |
| 22SCC-SS-1 | (3) A-B | 1340 | 6-8-22 | | | | |
| 22SCC-SS-22 | (4) A-B | 0815 | 6-9-22 | | | | |
| 22SCC-SS-21 | (5) A-B | 0805 | 6-9-22 | | | | |
| 22SCC-SS-18 | (6) A-B | 0740 | 6-9-22 | | | | |
| 22SCC-SS-17 | (7) A-B | 0730 | 6-9-22 | | | | |
| 22SCC-SS-5 | (8) A-B | 1450 | 6-8-22 | | | | |
| 22SCC-SS-2 | (9) A-B | 1350 | 6-8-22 | | | | |
| 22SCC-SS-3 | (10) A-B | 1415 | 6-8-22 | | | | |

| Project Information | |
|---|---|
| Number: | 106427-001 |
| Name: | Deadhorse Airport |
| Contact: | Michael Jaramillo |
| Ongoing Project? | Yes [X] No [ ] |
| Sampler: | MSC |

| Sample Receipt | |
|---|---|
| Total No. of Containers: | 54 |
| COC Seals/Intact? Y/N/NA | |
| Received Good Cond./Cold | |
| Temp: | 5.7 |
| Delivery Method: | Hand |

**Notes:**

Trip Blank kept with Samples at all times

| Reliquished By: 1. | Reliquished By: 2. | Reliquished By: 3. |
|---|---|---|
| Signature: Time: 1503 | Signature: Time: 1600 | Signature: Time: |
| Printed Name: Mason Baker Date: 6/13/22 | Printed Name: Jen D. Date: 6/13/22 | Printed Name: Date: |
| Company: Shannon + Wilson | Company: SGS | Company: |

| Received By: 1. | Received By: 2. | Received By: 3. |
|---|---|---|
| Signature: Time: 1503 | Signature: Time: | Signature: Time: 7:57 |
| Printed Name: Jen Dawkins Date: 6/13/22 | Printed Name: Date: | Printed Name: DanikaBR Date: 6/14/22 |
| Company: SGS | Company: | Company: SGS 4.6 D58 |

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

-intact IF IE
No. CD: Linden

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Fairbanks, AK 99709
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# CHAIN-OF-CUSTODY RECORD



Laboratory SGS
Attn: Jen Dawkins

**Analytical Methods** (include preservative if used)

1223040

| Turn Around Time: | Quote No: |
|---|---|
| ☒ Normal ☐ Rush | J-Flags: ☒ Yes ☐ No |
| Please Specify | |

| Sample Identity | Lab No. | Time | Date Sampled | GRO/BTEX (methanol) AK101/SW8260C | DRO/PAH AK102/SW8270D-SIM | Total Num | Remarks/Matrix Composition/Grab? Sample Containers |
|---|---|---|---|---|---|---|---|
| 22SCC-SS-4 | (11) A-B | 1425 | 6-8-22 | X | X | 2 | Soil |
| TRIP BLANK 1 | (12) A | 1200 | ↓ | | | 1 | |
| TRIP BLANK 2 | (13) A | 1205 | ↓ | | | 1 | |
| 22SCC-SS-14 | (14) A-B | 1600 | 6-9-22 | | | 2 | |
| 22SCC-SS-110 | (15) A-B | 1440 | | | | | |
| 22SCC-SS-13 | (16) A-B | 1555 | | | | | |
| 22SCC-SS-12 | (17) A-B | 1540 | | | | | |
| 22SCC-SS-9 | (18) A-B | 1435 | | | | | |
| 22SCC-SS-11 | (19) A-B | 1530 | | | | | |
| 22SCC-SS-23 | (20) A-B | 0945 | ↓ | ↓ | ↓ | ↓ | ↓ |

| Project Information | |
|---|---|
| Number: | 106427-001 |
| Name: | Deadhorse Airport |
| Contact: | Michael Jaramillo |
| Ongoing Project? | Yes ☒ No ☐ |
| Sampler: | MSC |

| Sample Receipt | |
|---|---|
| Total No. of Containers: | 54 |
| COC Seals/Intact? Y/N/NA | |
| Received Good Cond./Cold | |
| Temp: | 5.7 |
| Delivery Method: | Hand |

| Reliquished By: 1. | Reliquished By: 2. | Reliquished By: 3. |
|---|---|---|
| Signature: Time: 1503 | Signature: Time: 1609 | Signature: Time: |
| Printed Name: Mason Craker Date: 6/13/22 | Printed Name: Jen D. Date: 6/13/22 | Printed Name: Date: |
| Company: Shannon + Wilson | Company: SGS | Company: |
| **Received By: 1.** | **Received By: 2.** | **Received By: 3.** |
| Signature: Time: 1503 | Signature: Time: | Signature: Time: 7:54 |
| Printed Name: Jen Dawkins Date: 6/13/22 | Printed Name: Date: | Printed Name: Danika BR Date: 6/14/22 |
| Company: SGS | Company: | Company: SGS 4.4°C |

**Notes:**

Trip Blank kept with samples at all times

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

-intact IF IB



No. GS-Linden

# CHAIN-OF-CUSTODY RECORD

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Page 3 of 3

Laboratory SGS

Attn: Jen Dawkins

**Analytical Methods** (include preservative if used)

1223040

| Turn Around Time: | Quote No: | J-Flags: |
|---|---|---|
| [X] Normal [ ] Rush | | [X] Yes [ ] No |
| Please Specify | | |

| Sample Identity | Lab No. | Time | Date Sampled | GRO/BTEX (methanol) AK101/SW8260C | DRO/RAH AK102/SW8270D-SIM | Total | Composition/Grab? Sample Containers |
|---|---|---|---|---|---|---|---|
| 225CC-SS-7 | (21) A-B | 1400 | 6-9-22 | X | X | 2 | Soil |
| 225CC-SS-8 | (22) A-B | 1410 | | | | | |
| 225CC-SS-10 | (23) A-B | 1450 | | | | | |
| 225CC-SS-24 | (24) A-B | 0955 | | | | | |
| 225CC-SS-19 | (25) A-B | 0835 | | | | | |
| 225CC-SS-20 | (26) A-B | 0845 | | | | | |
| 225CC-SS-120 | (27) A-B | 0855 | | | | | |
| 225CC-SS-15 | (28) A-B | 0645 | ↓ | ↓ | ↓ | ↓ | ↓ |

| Project Information | |
|---|---|
| Number: | 106427-001 |
| Name: | Deadhorse Airport |
| Contact: | Michael Jaramillo |
| Ongoing Project? | Yes [X] No [ ] |
| Sampler: | MSC |

| Sample Receipt | |
|---|---|
| Total No. of Containers: | 64 |
| COC Seals/Intact? Y/N/NA | |
| Received Good Cond./Cold | |
| Temp: | 5.7 |
| Delivery Method: | Hand |

| Relinquished By: 1. | Relinquished By: 2. | Relinquished By: 3. |
|---|---|---|
| Signature: Time: 1503 | Signature: Time: 1600 | Signature: Time: |
| Printed Name: Mason Craker Date: 6/13/22 | Printed Name: Jen D. Date: 6/13/22 | Printed Name: Date: |
| Company: Shannon + Wilson | Company: SGS | Company: |

| Received By: 1. | Received By: 2. | Received By: 3. |
|---|---|---|
| Signature: Time: 1505 | Signature: Time: | Signature: Time: 7:59 |
| Printed Name: Jen Dawkins Date: 6/13/22 | Printed Name: Date: | Printed Name: DanikaBR Date: 6/14/22 |
| Company: SGS | Company: | Company: SGS 4.6 D58 |

**Notes:**

Trip Blank kept with Samples at all times

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

- intact IF-N



No. CO-linden

e-Sample Receipt Form FBK

| SGS Workorder #: | S&W | S&W |
|---|---|---|

| Review Criteria | Condition (Yes, No, N/A) | Exceptions Noted below |
|---|---|---|
| **Chain of Custody / Temperature Requirements** | | Yes — Exemption permitted if sampler hand carries/delivers. |
| Were Custody Seals intact? Note # & location | N/A | |
| COC accompanied samples? | Yes | |
| DOD: Were samples received in COC corresponding coolers? | N/A | |
| **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required | | |
| Temperature blank compliant* (i.e., 0-6 °C after CF)? | Yes | Cooler ID: 1 @ 5.7 °C Therm. ID: D52 |
| If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available. | | Cooler ID: @ °C Therm. ID: |
| | | Cooler ID: @ °C Therm. ID: |
| | | Cooler ID: @ °C Therm. ID: |
| *If >6°C, were samples collected <8 hours ago?* | | |
| If <0°C, were sample containers ice free? | | |
| Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed. | | |
| **Holding Time / Documentation / Sample Condition Requirements** | | Note: Refer to form F-083 "Sample Guide" for specific holding times. |
| Do samples **match COC**** (i.e.,sample IDs,dates/times collected)? | N/C | |
| **Note: If times differ <1hr, record details & login per COC. | | |
| ***Note: If sample information on containers differs from COC, SGS will default to COC information | | |
| Were samples in good condition (no leaks/cracks/breakage)? | Yes | |
| Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals) | Yes | |
| Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples? | Yes | |
| Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)? | N/A | |
| Were all soil VOAs field extracted with MeOH+BFB? | N/C | |
| For Rush/Short Hold Time, was RUSH/Short HT email sent? | N/A | |

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

Additional notes (if applicable):

| SGS Profile # | 371577 | 0 |
|---|---|---|

e-Sample Receipt Form

| SGS Workorder #: | 1223040 | 1223040 |
|---|---|---|

| Review Criteria | Condition (Yes, No, N/A | Exceptions Noted below |
|---|---|---|
| **Chain of Custody / Temperature Requirements** | *Note:* Temperature and COC seal information is found on the chain of custody form | |
| DOD only: Did all sample coolers have a corresponding COC? | N/A | |
| If <0°C, were sample containers ice free? | N/A | |
| Note containers received with ice: | | |
| Identify any containers received at non-compliant temperature:<br>*(Use form FS-0029 if more space is needed)* | | |
| **Holding Time / Documentation / Sample Condition Requirements** | *Note:* Refer to form F-083 "Sample Guide" for specific holding times and sample containers. | |
| Were samples received within analytical holding time? | Yes | |
| Do sample labels match COC? Record discrepancies. | Yes | |
| ***Note:*** *If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.* | | |
| Were analytical requests clear?<br>*(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)* | Yes | |
| Were proper containers (type/mass/volume/preservative)used?<br>Note: Exemption for metals analysis by 200.8/6020 in water. | Yes | |
| **Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)** | | |
| Were all soil VOAs received with a corresponding % solids container? | Yes | |
| Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples? | N/A | |
| Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)? | Yes | |
| Were all soil VOAs field extracted with Methanol+BFB? | Yes | |

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

**Additional notes (if applicable):**

## Sample Containers and Preservatives

| Container Id | Preservative | Container Condition |
|---|---|---|
| 1223040001-A | No Preservative Required | OK |
| 1223040001-B | Methanol field pres. 4 C | OK |
| 1223040002-A | No Preservative Required | OK |
| 1223040002-B | Methanol field pres. 4 C | OK |
| 1223040003-A | No Preservative Required | OK |
| 1223040003-B | Methanol field pres. 4 C | OK |
| 1223040004-A | No Preservative Required | OK |
| 1223040004-B | Methanol field pres. 4 C | OK |
| 1223040005-A | No Preservative Required | OK |
| 1223040005-B | Methanol field pres. 4 C | OK |
| 1223040006-A | No Preservative Required | OK |
| 1223040006-B | Methanol field pres. 4 C | OK |
| 1223040007-A | No Preservative Required | OK |
| 1223040007-B | Methanol field pres. 4 C | OK |
| 1223040008-A | No Preservative Required | OK |
| 1223040008-B | Methanol field pres. 4 C | OK |
| 1223040009-A | No Preservative Required | OK |
| 1223040009-B | Methanol field pres. 4 C | OK |
| 1223040010-A | No Preservative Required | OK |
| 1223040010-B | Methanol field pres. 4 C | OK |
| 1223040011-A | No Preservative Required | OK |
| 1223040011-B | Methanol field pres. 4 C | OK |
| 1223040012-A | Methanol field pres. 4 C | OK |
| 1223040013-A | Methanol field pres. 4 C | OK |
| 1223040014-A | No Preservative Required | OK |
| 1223040014-B | Methanol field pres. 4 C | OK |
| 1223040015-A | No Preservative Required | OK |
| 1223040015-B | Methanol field pres. 4 C | OK |
| 1223040016-A | No Preservative Required | OK |
| 1223040016-B | Methanol field pres. 4 C | OK |
| 1223040017-A | No Preservative Required | OK |
| 1223040017-B | Methanol field pres. 4 C | OK |
| 1223040018-A | No Preservative Required | OK |
| 1223040018-B | Methanol field pres. 4 C | OK |
| 1223040019-A | No Preservative Required | OK |
| 1223040019-B | Methanol field pres. 4 C | OK |
| 1223040020-A | No Preservative Required | OK |
| 1223040020-B | Methanol field pres. 4 C | OK |
| 1223040021-A | No Preservative Required | OK |
| 1223040021-B | Methanol field pres. 4 C | OK |
| 1223040022-A | No Preservative Required | OK |
| 1223040022-B | Methanol field pres. 4 C | OK |
| 1223040023-A | No Preservative Required | OK |
| 1223040023-B | Methanol field pres. 4 C | OK |
| 1223040024-A | No Preservative Required | OK |
| 1223040024-B | Methanol field pres. 4 C | OK |
| 1223040025-A | No Preservative Required | OK |
| 1223040025-B | Methanol field pres. 4 C | OK |
| 1223040026-A | No Preservative Required | OK |
| 1223040026-B | Methanol field pres. 4 C | OK |
| 1223040027-A | No Preservative Required | OK |
| 1223040027-B | Methanol field pres. 4 C | OK |
| 1223040028-A | No Preservative Required | OK |
| 1223040028-B | Methanol field pres. 4 C | OK |

| Container Id | Preservative | Container Condition | Container Id | Preservative | Container Condition |
|---|---|---|---|---|---|

Container Condition Glossary

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

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

# Laboratory Data Review Checklist

Completed By:

Mason Craker

Title:

Geologist

Date:

July 12, 2022

Consultant Firm:

Shannon & Wilson, Inc.

Laboratory Name:

SGS North America, Inc.

Laboratory Report Number:

1223040

Laboratory Report Date:

July 12, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

ADEC File Number:

N/A; not directly associated with a contaminated site

Hazard Identification Number:

N/A; not directly associated with a contaminated site

1223040

Laboratory Report Date:

July 12, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

1. Laboratory

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

   Yes☒ No☐ N/A☐ Comments:

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

   Yes☐ No☐ N/A☒ Comments:

2. Chain of Custody (CoC)

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

   Yes☒ No☐ N/A☐ Comments:

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

3. Laboratory Sample Receipt Documentation

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

   Yes☒ No☐ N/A☐ Comments:

   Samples received within acceptable temperature range.

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

   Yes☒ No☐ N/A☐ Comments:

1223040

Laboratory Report Date:

July 12, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

Yes☒ No☐ N/A☐ Comments:

Samples were received in good condition.

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

Yes☐ No☐ N/A☒ Comments:

No discrepancies.

e. Data quality or usability affected?

Comments:

Data quality or usability are not affected.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

The limits of quantitation (LOQs) for PAH analytes are elevated due to sample dilution in samples *22SCC-SS-4*, *22SCC-SS-15*, *22SCC-SS-16*, *22SCC-SS-20*, *22SCC-SS-120*, *22SCC-SS-22*, *22SCC-SS-23*, and *22SCC-SS-24*. Samples were analyzed at a dilution due to the dark color of the extract.

c. Were all corrective actions documented?

Yes☒ No☐ N/A☐ Comments:

Samples identified in Section 4.b were analyzed at a dilution for PAH analysis due to the dark color of the extract.

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

Comments:

Data quality/usability unaffected.

1223040

Laboratory Report Date:

July 12, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

5. Samples Results

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

Yes☒ No☐ N/A☐ Comments:

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

c. All soils reported on a dry weight basis?

Yes☒ No☐ N/A☐ Comments:

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

Yes☐ No☒ N/A☐ Comments:

Samples listed in Section 4.b which were analyzed at a dilution due to the dark color of the extract had LODs that are greater than the project action limits for naphthalene. We cannot assess if the project sample have this analyte at concentrations less than the LOD but greater than the project action limit.

e. Data quality or usability affected?

Yes; see above.

6. QC Samples

a. Method Blank

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

However, GRO was detected at estimated concentrations (below the LOQ) in all preparatory batches.

1223040

Laboratory Report Date:

July 12, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

Comments:

All project samples had estimated detections for GRO within five times the concentrations detected in the method blank samples. The sample results are considered non-detect at the LOQ and are flagged "B" in the analytical summary tables.

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

Yes☒ No☐ N/A☐ Comments:

See above.

v. Data quality or usability affected?

Comments:

Yes; see above.

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

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

Yes☒ No☐ N/A☐ Comments:

LCS samples were reported for BTEX and PAH analyses. Refer to Section 6.c for assessment of laboratory precision.

LCS/LCSD samples were reported for GRO and RRO analyses.

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

Yes☐ No☐ N/A☒ Comments:

Metals/inorganic analyses were not required for this project.

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

Yes☒ No☐ N/A☐ Comments:

1223040

Laboratory Report Date:

July 12, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

Yes☒ No☐ N/A☐ Comments:

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

Comments:

N/A, see above.

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

Yes☐ No☐ N/A☒ Comments:

N/A, see above.

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

Comments:

Data quality or usability are not affected.

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

**Note: Leave blank if not required for project**

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

Yes☒ No☐ N/A☐ Comments:

MS/MSD samples were reported for BTEX and PAH analyses.

MS and MSD samples were not repored for GRO and DRO analyses. Refer to Section 6.b for assessment of laboratory precision and accuracy for these analyses.

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

Yes☐ No☐ N/A☒ Comments:

Metals/inorganic analyses were not required for this project.

1223040

Laboratory Report Date:

July 12, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

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

Comments:

N/A, see above.

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

Yes☐ No☐ N/A☒ Comments:

See above.

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

Comments:

Data quality or usability are not affected.

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

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

1223040

Laboratory Report Date:

July 12, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

Yes☐ No☐ N/A☒ Comments:

Surrogate recoveries were within laboratory QC criteria.

iv. Data quality or usability affected?

Comments:

Data quality or usability is unaffected.

e. Trip Blanks

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

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

Yes☒ No☐ N/A☐ Comments:

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

Comments:

N/A, see above.

v. Data quality or usability affected?

Comments:

Data quality or usability are unaffected.

1223040

Laboratory Report Date:

July 12, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

f. Field Duplicate

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

Yes☒ No☐ N/A☐ Comments:

Duplicate pairs are *22SCC-SS-10/22SCC-SS-110* and *22SCC-SS-20/22SCC-SS-120*.

ii. Submitted blind to lab?

Yes☒ No☐ N/A☐ Comments:

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

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

Where $R_1$ = Sample Concentration
$R_2$ = Field Duplicate Concentration

Yes☒ No☐ N/A☐ Comments:

Field duplicate RPDs were within the project data quality objective of 50%, where calculable.

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

Data quality or usability unaffected.

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

Yes☐ No☐ N/A☒ Comments:

Samples were collected with single use equipment.

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

Yes☐ No☐ N/A☒ Comments:

See above.

1223040

Laboratory Report Date:

July 12, 2022

CS Site Name:

Deadhorse Airport DOT&PF PFAS

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

Comments:

See above.

iii. Data quality or usability affected?

Comments:

Data quality or usability unaffected.

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

a. Defined and appropriate?

Yes☐ No☐ N/A☒ Comments:

Additional data flags/qualifiers were not required.