



**WISCONSIN AIR NATIONAL GUARD
HEADQUARTERS 115TH FIGHTER WING (ACC) (ANG)
3110 MITCHELL STREET
MADISON WISCONSIN 53704-2529**

6 November 2023

MEMORANDUM FOR WISCONSIN DEPARTMENT OF NATURAL RESOURCES

FROM: 115 CES/CC

SUBJECT: XGFG179036 Small Arms Range, Truax Field. Materials Management Plan Addendum – BRRTS #: 02-13-585319

1. Pursuant to the 21 July 2021 approved materials management plan, this serves as a project specific addendum for the subject project.
2. Attachment 1 details PFAS sampling results for the subject project. Only one of the sampling borings within the sampling area contained detectable levels of PFAS compromised soil without requiring the laboratory to issue a “J” qualifier to estimate a value.

(ug/kg)	TR21-03_1.0-1.5_2021	TR21-03_12.5-13_2021	TR21-01_1.0-1.5_2021	TR21-01_12-12.5_2021	TR21-02_1.0-1.5_2021	TR21-02_12-12.5_2021
PFBA	ND	ND	0.16 J	ND	ND	ND
PFHXA	ND	ND	0.23 J	ND	ND	ND
PFHXS	ND	ND	0.32 J	ND	ND	0.21 J
PFNA	ND	ND	ND	ND	0.12 J	ND
PFOS	0.32 J	0.19 J	0.82 J	0.17 J	2.6	2.4
PFPEA	ND	ND	0.25 J	ND	ND	ND

3. As standards for contamination do not exist for the State of Wisconsin with respect to PFAS containing materials, the United States Air Force screening levels is being used as a reference point for management. The United States Air Force Screening levels for PFAS compounds in soil/sediment for PFOS and PFOA at 130 µg/Kg. Sample Point TR21-02 was the only location with a result greater than 1 µg/Kg at 2.6 µg/Kg for PFOS. All other sample point results were a “qualified” result (estimations used for their quantity given the result was at the edge of detection), and were less than 1 µg/Kg. Keeping with previously approved materials management plans for the beddown of the F-35, namely the XGFG182005 F-35 Repair Apron, the same management techniques will be used. For materials removed within a 50’x50’ area associated with Sample Point TR21-02 (shallow and deep), only material from ground surface down to 20’ will be managed as compromised soil in accordance with the 21 July 2021 letter, BRRTS #: 02-13-585319. All other materials outside of the red box will be disposed of at the contractor’s discretion. The sample boundaries represent the entirety of the construction area.

4. If you have any additional questions, please feel free to contact me at 608-286-0010 or michael.dunlap@us.af.mil at any time. Thank you in advance for your review of this material management plan.

MICHAEL J. DUNLAP, Lt Col, WI ANG
Commander, 115th Civil Engineer Squadron
Base Civil Engineer, 115th Fighter Wing

Attachment:

1. Small Arms Range Report Results
2. Small Arms Range Sampling Site Plan



1.0 Introduction

This report presents the results of a subsurface investigation and preliminary geotechnical engineering analysis for the proposed Small Arms Range at Truax Field Air National Guard Base (ANGB) in Madison, Wisconsin. The purpose of this report is to provide subsurface information and preliminary recommendations for the proposed project. The contents within this report are provided for information only. A complete geotechnical investigation and final recommendations shall be provided by the Contractor's geotechnical engineer-of-record.

2.0 Site and Project Description

The project is located west of the intersection of Mitchell Street and Pierstorff Street at Truax Field ANGB. The approximate center of the project is Latitude: 43.1288°, Longitude: -89.3376°. At the time of this report, the project site consisted of an open, graded lot with grass cover. The site is bounded by chain link fence on the east and south sides. A fenced area housing two electrical boxes is located on the north side of the site.

The project will include the construction of a single-story, slab-on-grade building to house an indoor firing range and associated training and storage rooms. The building is anticipated to be supported on a shallow, spread footing foundation system.

Grading across the building footprint is relatively flat with approximately 1 to 2 feet of grade change across most of the footprint. Grade change of 4 to 5 feet occurs along the western boundary of the building where an apparent man-made berm is located. The site slopes down to the west beyond the building perimeter with an elevation change of approximately 10 feet from the top of the berm to the bottom of the slope. Grade change is gradual beyond the building footprint to the north, east, and south.

Grading for construction is anticipated to include fills of 1 to 2 feet over most of the building footprint, with as much as 5 feet of cut along the western perimeter of the footprint.

3.0 Subsurface Investigation

3.1 Field Investigation

The field investigation for this project was completed in November and December of 2021. The investigation included the advancement of two geotechnical soil borings (TX21-01, TX21-02) to depths of approximately 25 feet below the ground surface. Three environmental test borings (TR21-01, TR21-02, TR21-03) were advanced to depths ranging from approximately 14 to 18.5 feet to collect samples for per- and polyfluoroalkyl substances (PFAS) testing. General information regarding the environmental borings has been provided in this report; however, evaluation of the



environmental test data has not been provided. The results of the PFAS testing can be found in the RFP documents.

The geotechnical boring locations were selected by a U.S. Army Corps of Engineers (USACE) Omaha District geotechnical engineer. The environmental boring locations were selected by personnel from Truax Field ANGB in coordination with the Wisconsin Department of Natural Resources. The boring locations were located and marked at the site by a USACE Omaha District survey crew. Coordinates and ground surface elevations at each boring location were surveyed by the USACE survey crew and are presented in the following table.

Boring Information						
Boring	Latitude	Longitude	Northing ¹	Easting ¹	Depth ²	Elevation ³
TX21-01	43.1290488°	-89.3376745°	412205.127	2145303.799	25.0 ft	868.0 ft
TX21-02	43.1285904°	-89.3374709°	412038.473	2145359.455	25.0 ft	863.5 ft
TR21-01	43.1285953°	-89.3374451°	412040.317	2145366.328	18.5 ft	863.5 ft
TR21-02	43.1285934°	-89.3376928°	412039.108	2145300.237	18.5 ft	862.5 ft
TR21-03	43.1290108°	-89.3375129°	412191.608	2145347.031	14.0 ft	861.5 ft

1. United States State Plane Coordinates, US Survey Feet, Zone 4803, Wisconsin South.
2. Depth drilled below top of ground surface.
3. Top of boring elevation obtained from survey information. Values have been rounded to nearest half foot.

The subsurface investigation was performed by a USACE Omaha District drilling crew. The borings were advanced with a Gus Pech 1100C drilling rig utilizing 4.25-inch inside diameter (I.D.) hollow stem augers and a 4-inch center bit. Samples from the geotechnical borings were taken at depth intervals of approximately 2.5 feet in the upper 10 feet of each boring, then approximately every 5 feet for the remainder of the boring. Samples from the environmental borings were taken at depth intervals of approximately 1 to 1.5 feet below the ground surface and approximately 1 foot above groundwater.

Representative samples were obtained using disturbed sampling procedures. In the disturbed sampling procedure, a standard 2-inch O.D. split-barrel sampling spoon was driven into the ground with an automated 140-pound hammer falling a distance of 30 inches. Standard penetration tests (SPTs) were performed during sampling by recording the number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration. The standard penetration resistance values are indicated on the boring logs at the depths of occurrence. The samples were sealed and transported to the laboratory for testing and classification.

In addition to soil samples, groundwater samples were taken from each environmental boring.



3.2 Laboratory Testing

Soil samples obtained from the geotechnical borings were transported to Terracon Consultants, Inc. in Omaha, Nebraska for laboratory testing. The following laboratory tests were performed on selected samples:

- Visual description and identification of soils (ASTM D2488)
- Water content (ASTM D2216)
- Density determination (ASTM D2937)
- Atterberg limits (ASTM D4318)
- Grain size analysis (ASTM D6913)

The soil descriptions presented in this report are in general accordance with the Unified Soil Classification System (USCS) and are based on visual classifications and the results of laboratory testing. The estimated group symbol for the USCS is shown on the boring log sheet in Appendix B. Laboratory test results will be located in Appendix C once available.

The noted procedural standards are for reference to methodology in general. Variations to methods can be applied as a result of professional judgment.

Environmental samples from TR21-01, TR21-02, and TR21-03 were sent to APPL Labs in Clovis, California for PFAS testing. The results of the PFAS testing are included as an attachment to the RFP.

4.0 Subsurface Conditions

4.1 General Geology

Truax Field Air National Guard Base is located in south-central Wisconsin in central Dane County. The Quaternary (Recent) age deposits in Dane County consist of unconsolidated loess, marsh deposits, glacial lake deposits, outwash and alluvium, morainal deposits, and undifferentiated glacial deposits. Pleistocene and Recent deposits have a stratigraphic thickness of approximately 370 feet in Dane County.

Continental glaciers advanced across the area during Pleistocene time, transporting massive quantities of material that was deposited on the surface by melting glaciers, covering most of the bedrock in the area.

These deposits are known to be underlain by Ordovician deposits consisting of the Maquoketa Shale, which is a dolomitic shale extending approximately 100 feet below ground surface, followed by the Platteville, Decorah, and Galena Formations extending approximately 315 feet, underlain by 200 feet of the St. Peter Sandstone, followed by an unconformity, and the Prairie du Chien Group. Following the Ordovician deposits, approximately 700 feet of Cambrian age



sandstones lies above Pre-Cambrian crystalline rocks of rhyolitic, granitic, and basaltic composition.

4.2 Typical Subsurface Profile

The geologic conditions encountered in the borings advanced for this investigation are consistent with the regional geology discussion presented in the previous section. The soils encountered from the surface to depths of approximately 3 to 8 feet typically consist of clayey sands (SC), silty clays (CL-ML) and sandy lean clays (CL) with traces of gravel. Poorly graded sands (SP) were primarily encountered below the clays and clayey sands.

The upper clayey soils likely represent loess and lake bottom sediments and often contain roots and pieces of wood. The berm to the west of the proposed building appears to be man-made as part of previous grading operations at the site. Some of upper soils are likely fill materials placed during construction of the air base, as evident by the apparent grading and presence of concrete in some samples. The soils generally appear to be stiff to very stiff (clays) and medium dense (sands) in the upper 5 feet of the borings.

The sands beneath the clayey soils are part of the Horicon Member of the Holy Hill Formation. These sands are outwash sediments in a paleo valley. The sand is poorly-graded and generally consists of fine to medium grained sand with traces of silt, clay, and gravel. The sand is generally loose to medium dense.

4.3 Groundwater

The borings were observed during and after drilling for the presence and level of groundwater. The water levels observed are noted in the following table.

Groundwater Depths		
Boring	Depth during drilling ¹	Depth immediately after drilling ¹
TX21-01	18.1 ft	Not measured
TX21-02	14.8 ft	13.8 ft
TR21-01	13.5 ft	Not measured
TR21-02	14.7 ft	Not measured
TR21-03	11.7 ft	Not measured

1. Depth below top of ground surface.

A relatively long period of time is necessary for a groundwater level to develop and stabilize in a boring. Longer term monitoring in cased holes or piezometers would be required for a more accurate evaluation of the groundwater conditions.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff, and other factors not evident at the time the borings were performed. Groundwater levels during



construction or at other times in the life of the structures may be higher or lower than the levels indicated in this report. The possibility of groundwater fluctuations should be considered when developing the design and construction plans for the project.

5.0 Seismic Evaluation

In reference to the American Society of Civil Engineers *Minimum Design Loads for Buildings and other Structures (ASCE 7-16)*, the Department of Defense (DoD) *Unified Facilities Criteria (UFC) Seismic Design for Buildings (UFC 3-310-04)* dated May 1, 2012, and the International Building Code (IBC) 2012, Truax has a 0.2-second spectral response acceleration (S_s) of 0.073 g and a 1.0-second spectral response acceleration (S_1) of 0.047 g.

These accelerations are interpolated from 1:5,000,000 scale maps prepared by the US Geological Survey (USGS), the Building Seismic Safety Council (BSSC), and the ASCE 7 Seismic Subcommittee for 0.2-second spectral response acceleration (5% critical damping), Site Class E, and 1.0-second spectral response acceleration (5% critical damping), Site Class E, respectively. These accelerations were confirmed by using the USGS Seismic Design Maps web-based tool available at:

- <https://earthquake.usgs.gov/hazards/designmaps/usdesign.php>
- <https://hazards.atcouncil.org/#/> (IBC 2012)

For all structures located within regions of the maps having S_s values greater than 0.15 g, or values of S_1 greater than 0.04 g, the spectral response accelerations taken from these maps must be adjusted for site class effects using coefficients provided in the aforementioned guidance. Chapter 20 of ASCE 7-16, Site Classification provides six site classes, Class A through Class F, which are defined on various geotechnical parameters (shear wave velocity, standard penetration resistance, or undrained shear strength). For this investigation, shear wave velocity and undrained shear strength were not determined; therefore, the site classification is based on standard penetration resistance (i.e., SPT blow counts). For design purposes, the referenced site condition for this project is taken as Site Class E, based on the standard penetration resistance (ASTM D1586) data collected during this investigation. The overall (\bar{N}) value for the five borings deeper than 10 feet is 6.2.

The estimated Site Class E assumes that the sands at the bottom of the borings continue to a depth of 100 feet. A more detailed and accurate Site Class evaluation shall be performed during the final geotechnical investigation as directed by the Contractor.

The adjusted maximum considered earthquake spectral response acceleration parameters (USGS values) using the Site Class E response coefficients (for $S_s < 0.25$ and $S_1 < 0.10$) are:



- The short-period spectral acceleration ($S_{MS} = F_a S_s$) is $(1.600 \times 0.073) = 0.175$
- The 1-second period spectral acceleration ($S_{M1} = F_v S_1$) is $(2.400 \times 0.047) = 0.197$

Summary of Seismic Design Parameters									
Site Location	N (blows/ft)	Site Class	PGA (g)	S_s (g)	S_1 (g)	F_a	F_v	S_{MS} (g)	S_{M1} (g)
Truax Field, Madison, WI	6.2	E	0.035	0.073	0.047	1.600	2.400	0.175	0.197

6.0 Preliminary Geotechnical Recommendations

The following is a summary of preliminary geotechnical recommendations for the proposed Small Arms Range building and associated site/civil work. The information provided is based on the subsurface conditions encountered in the exploratory soil borings performed at the site. Final design recommendations have not been provided.

6.1 Areas of Concern

- **Existing Below-Grade Features:** Existing utility lines associated with previous development are present at the site and extend through the footprint of the new building and pavement areas. Existing utility lines should be rerouted outside of the proposed building footprint, and any abandoned utility lines and subsurface features of existing structures should be completely removed. Poorly compacted backfill is commonly found in utility line trenches and adjacent to existing subsurface structures. Backfill associated with these features should be reworked and recompacted.
- **Existing Fill:** Existing fill appeared to be encountered in all borings to depths ranging from about 2 to 5 feet, and will likely be encountered at other areas across the site. The fill consisted of sandy clay and clayey sand with variable amounts of silt, gravel, and concrete fragments. The fill appears to be moderately well-compacted; however, USACE does not have any record of placement or compaction effort of the fill material. Existing fill presents a risk of larger than tolerable and unpredictable settlement due to potential variations in site preparation, composition, and compaction. The extent and condition of the existing fill should be determined by the Contractor after the final geotechnical investigation. The Contractor's geotechnical engineer shall determine if the fill needs to be removed from within the building footprint and replaced with structural fill. It is the recommendation of USACE that existing fill be removed from below foundations and floor slabs. Consideration can be given to leaving



existing fill in-place below pavements after moisture conditioning and reworking/recompacting.

- **Soft Clay Layer:** A 1 to 2 feet thick layer of loose clayey sand overlying medium stiff sandy/silty clay was encountered in Boring TX21-01 at a depth of approximately 5 feet below the ground surface. The clay, in its current condition, is prone to consolidation under new loading, which could lead to settlement of new structures. The Contractor's geotechnical engineer should evaluate the consolidation settlement of the clay under new loading and determine if the building is susceptible to larger than tolerable movement.
- **Slope Evaluation:** A slope with an approximate height of 8 to 10 feet is present on the west side of the proposed building footprint. The Contractor's geotechnical engineer should determine if the new building will impact the condition of the existing slope.
- **PFAS-Contaminated Soils:** Per- and polyfluoroalkyl substances (PFAS) were detected in soil and water samples taken from borings TR21-01, TR21-02, and TR21-03, which could impact disposal of on-site soil and groundwater during construction. Dewatering of the site is not anticipated since excavations are not likely to extend below the groundwater table; however, disposal of on-site soils may be necessary. The Contractor should consult with Truax personnel and the Wisconsin Department of Natural Resources for proper handling of PFAS-contaminated soils.

6.2 Foundations

It is anticipated that the new building can be supported on a shallow, spread footing foundation system bearing at a design frost depth of 48 inches below final surrounding grade. The bearing conditions across the building footprint are expected to be variable due to the presence of existing fill and soft to medium stiff clayey soils at the approximate bearing depth. Reworking and recompacting, or removing and replacing, existing soils by overexcavating to a uniform depth below foundations should be considered to provide a uniform bearing stratum. Consideration could also be given to installing a ground improvement system (e.g. rammed aggregate piers, etc.) if overexcavation into soft soils will create difficulties during construction. The Contractor's geotechnical engineer shall make recommendations for construction of the foundation system and provide net allowable bearing pressures and other appropriate parameters for design.

6.3 Floor Slab and Pavements

It is recommended that floor slabs are underlain by a capillary break of compacted granular material. Additionally, a vapor barrier should be placed beneath the slabs. Removal and replacement of existing fill beneath floor slabs may be necessary per the final recommendations of the Contractor's geotechnical engineer.

It is anticipated that pavements can be supported on a subgrade of existing soils after moisture conditioning and reworking/compacting.



6.4 Earthwork and Construction Considerations


The soils encountered in the borings will be sensitive to disturbance from construction activity and water seepage. Stabilization of haul roads and access drives may be necessary to facilitate construction if site conditions are disturbed by precipitation. Surface water should not be allowed to pond on the site and soak into the soil during construction. Construction staging and final surrounding grades should provide drainage of surface water away from buildings and pavements. Final surrounding grades should be sloped away from the building exterior for a minimum distance of 10 feet at a slope of not less than 5% for unpaved areas, and not less than 2% for paved areas. Gutters and downspouts that drain water a minimum of 10 feet beyond the footprint of the building are recommended.

7.0 General Notes

The preliminary recommendations presented in this report are based upon the limited data obtained from the subsurface investigation performed at the indicated locations. This report does not reflect variations which may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until an additional subsurface exploration is performed, or during or after construction. The contents of this report should be used for informational purposes only. A complete geotechnical investigation and design recommendations should be provided by the Contractor's geotechnical engineer-of-record prior to design and construction.

Appendix A – Boring Location Plan

(Sheet VF101 from Drawings)



U.S. Army Corps of Engineers
OF ENGINEERS

ISSUE DATE:	3/10/2022
DESIGNED BY:	E. CHRISTENSEN
CHECKED BY:	E. CHRISTENSEN
SCALE:	AS SHOWN
PROJECT NO.:	W128220001
CONTRACT NO.:	
DATE:	TX08F101.090

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
OMAHA, NE 68102

RE: CONTROL ME
OMAHA, NE 68102

SURVEY AND BORING LOCATION PLAN

TRUNK FIELD AMB. WISCONSIN
CONSTRUCT SMALL AMB. RANGE

DATE	MARK	DESCRIPTION

1 SURVEY PLAN
SCALE: 1"=30'



LEGEND

- SANITARY SEWER MANHOLE
- ⊙ STORM SEWER MANHOLE
- ELECTRICAL PULL BOX
- ⊕ ELECTRIC TRANSFORMER
- ⊖ FIRE HYDRANT
- ⊗ CATCH BASIN
- ⊘ CLEAN OUT
- ⊙ COMM. PEDESTAL
- ⊙ WATER VALVE
- ⊙ ELECTRIC PULL BOX
- ⊙ COMM. MANHOLE
- ⊙ ELECTRIC MANHOLE
- ⊙ COMMUNICATION LINE
- UNDERGROUND ELECTRIC LINE
- GAS LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE

BORING TABLE

NAME	NORTHING	EASTING	ELEVATION DESCRIPTION
TR 21-01	412305.73	2145383.004	862.688 DRILLED
TR 21-02	412305.73	2145383.004	862.688 DRILLED
TR 21-03	412319.688	2145347.231	861.671 DRILLED
TX 21-01	412205.127	2145353.799	867.879 DRILLED
TX 21-02	412308.473	2145359.455	863.605 DRILLED

GENERAL DATA

NORTHING	412305.73
EASTING	2145383.004
HEIGHT	861.372
DESCRIPTION	ALUMINUM CAP ON REBAR

CONTRIBUTOR DATA

NORTHING	412305.73
EASTING	2145383.004
HEIGHT	861.372
DESCRIPTION	ALUMINUM CAP ON REBAR

FIELD SURVEY DATA

NORTHING	412305.73
EASTING	2145383.004
HEIGHT	861.372
DESCRIPTION	ALUMINUM CAP ON REBAR

CONTOUR INTERVALS 1 US SURVEY FOOT.

5) COMBINED GRID FACTOR IS: 0.999998006.

6) ALL UTILITIES WERE LOCATED BY SURFACE INDICATION ONLY.

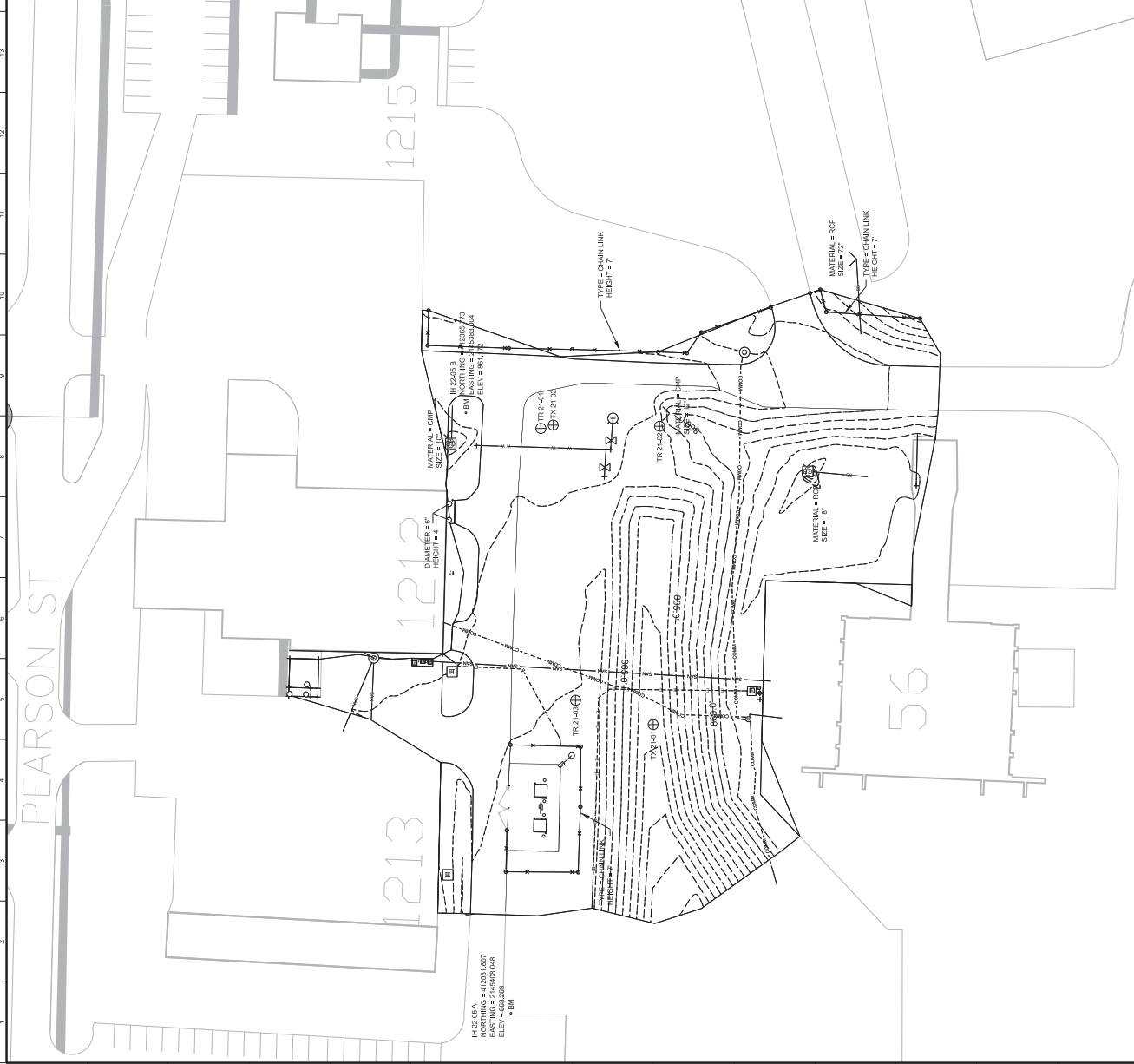
7) ALL UNDERGROUND UTILITIES WERE LOCATED BY GAGE PERSONNEL AND PRIVATE CONTRACTOR.

SURVEY NOTES

1) GRID COORDINATES ARE REFLECTED IN U.S. SURVEY FEET AND REFER TO THE NATIONAL GRID SYSTEM FOR WISCONSIN SOUTH (NAD 83). ELEVATIONS ARE BASED ON CONTROL POINT # 22-56 A.

2) ELEVATIONS ARE REFLECTED IN U.S. SURVEY FEET AND REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). THEY ARE BASED ON CONTROL POINT # 22-56 A.

3) TOPOGRAPHY IS DERIVED FROM GSP/TK SURVEY METHODS.



Appendix B – Boring Logs

(Sheet B-301 from Drawings)



908 North Temperance Ave. ▽ Clovis, CA 93611 ▽ Phone 559-275-2175 ▽ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
South Carolina DHEC Certificate number: 87017001
DoD-ELAP Certificate number: 4064.01

Data Validation Report

January 19, 2022

USACE Omaha
1616 Capitol Avenue.
Omaha, Nebraska 68102

Attn: Danielle Bieber

Title: Report of Data: Case 98379

Project: Truax PFAS Investigation

Contract #: Prime contract for DoD: W912HZ20A0067

Dear Ms. Bieber:

Nine water samples were received December 3, 2021. Written results for the requested analysis are being provided on this January 19, 2022.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Diane Anderson, danderson@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

for

Loren Portwood, Laboratory Director
APPL, Inc.

LP/gs
Enclosure
cc: File

Data Validation Package
for
Truax PFAS Investigation
ARF 98379

TABLE OF CONTENTS

LABORATORY NAME: APPL, Inc.

Case Narrative	<u>3</u>
Sample Management Records	<u>7</u>
Sample Results	<u>13</u>
QC Forms	<u>33</u>
PFAS Calibration Data	<u>72</u>
PFAS Raw Data	<u>299</u>

CASE NARRATIVE

Case Narrative

ARF: 98379

Project: Truax PFAS Investigation

Sample Receipt Information:

Nine water samples were received December 3, 2021, at 2.1°C. The sample group was assigned Analytical Request Form (ARF) number 98379. No exception was noted.

Sample Preparation and Analysis:

For the PFAS analysis, the samples were extracted according to APPL SOP PRE537 and analyzed according to APPL SOP ANA537 and DoD QSM Table B-15.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Exceptions, Abnormalities and Deviations:

PFAS: The 2022-01-04 ISC at 09:50 recovered above the upper control limit for PFHxS. Some extracted internal standards recovered outside of control limits.

SDG	Received	Client ID	APPL ID	Collected DateTime	Matrix	Method	Method Description	Prep DateTime	Analysis DateTime
98379	12/3/2021	TR21-03_1.0-1.5_2021	BA47147	12/1/2021 9:00:00 AM	SOIL	B-15	PFAS IN SOLIDS	12/8/2021 8:00:00 AM	12/21/2021 1:18:00 PM
98379	12/3/2021	TR21-03_1.0-1.5_2021	BA47147	12/1/2021 9:00:00 AM	SOIL	CLP MOIST	Moisture	12/7/2021 12:58:00 PM	12/8/2021 7:58:00 AM
98379	12/3/2021	TR21-03_12.5-13_2021	BA47148	12/1/2021 11:30:00 AM	SOIL	B-15	PFAS IN SOLIDS	12/8/2021 8:00:00 AM	12/21/2021 1:34:00 PM
98379	12/3/2021	TR21-03_12.5-13_2021	BA47148	12/1/2021 11:30:00 AM	SOIL	CLP MOIST	Moisture	12/7/2021 12:58:00 PM	12/8/2021 7:58:00 AM
98379	12/3/2021	TR21-01_1.0-1.5_2021	BA47149	12/1/2021 1:00:00 PM	SOIL	B-15	PFAS IN SOLIDS	12/8/2021 8:00:00 AM	12/21/2021 1:49:00 PM
98379	12/3/2021	TR21-01_1.0-1.5_2021	BA47149	12/1/2021 1:00:00 PM	SOIL	CLP MOIST	Moisture	12/7/2021 12:58:00 PM	12/8/2021 7:58:00 AM
98379	12/3/2021	TR21-01_12-12.5_2021	BA47150	12/1/2021 2:45:00 PM	SOIL	B-15	PFAS IN SOLIDS	12/8/2021 8:00:00 AM	12/21/2021 2:05:00 PM
98379	12/3/2021	TR21-01_12-12.5_2021	BA47150	12/1/2021 2:45:00 PM	SOIL	CLP MOIST	Moisture	12/7/2021 12:58:00 PM	12/8/2021 7:58:00 AM
98379	12/3/2021	TR21-01_20211201	BA47151	12/1/2021 3:00:00 PM	WATER	B-15	PFAS IN WATER	12/15/2021 8:00:00 AM	1/4/2022 4:02:00 PM
98379	12/3/2021	TR21-02_1.0-1.5_2021	BA47152	12/2/2021 8:30:00 AM	SOIL	B-15	PFAS IN SOLIDS	12/8/2021 8:00:00 AM	12/21/2021 2:21:00 PM
98379	12/3/2021	TR21-02_1.0-1.5_2021	BA47152	12/2/2021 8:30:00 AM	SOIL	CLP MOIST	Moisture	12/7/2021 12:58:00 PM	12/8/2021 7:58:00 AM
98379	12/3/2021	TR21-02_12-12.5_2021	BA47153	12/2/2021 10:00:00 AM	SOIL	B-15	PFAS IN SOLIDS	12/8/2021 8:00:00 AM	12/21/2021 2:36:00 PM
98379	12/3/2021	TR21-02_12-12.5_2021	BA47153	12/2/2021 10:00:00 AM	SOIL	CLP MOIST	Moisture	12/7/2021 12:58:00 PM	12/8/2021 7:58:00 AM
98379	12/3/2021	TR21-02_20211202	BA47154	12/2/2021 10:15:00 AM	WATER	B-15	PFAS IN WATER	12/15/2021 8:00:00 AM	1/4/2022 4:18:00 PM
98379	12/3/2021	EB-01-20211202	BA47155	12/2/2021 9:30:00 AM	WATER	B-15	PFAS IN WATER	12/15/2021 8:00:00 AM	1/4/2022 4:33:00 PM

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, e.g. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, e.g. asphaltene, waste oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS
CHAIN OF CUSTODY,
ARF, CRF, AND
CLIENT COMMUNICATION

APPL - Analysis Request Form

98379







Client: USACE-OMAHA
 Address: 1616 Capitol Avenue, Suite 9000
Omaha, NE 68102
 Attn: Danielle Bieber
 Phone: 402-216-4004 Fax: _____
 Job: Truax PFAS Investigation
 PO #: NA
 Chain of Custody (Y/N): Y # 53520
 RAD Screen (Y/N): Y pH (Y/N): N
 Turn Around Type: STD

Received by: MSA 
 Date Received: 12/03/21 Time: 11:35
 Delivered by: FEDEX
 Shuttle Custody Seals (Y/N): N Time Zone: -6
 Chest Temp(s): 2.1°C
 Color: J-PurpleBlack
 Samples Chilled until Placed in Refrig/Freezer: Y
 Project Manager: Greg Salata *12/10/21*
 QC Report Type: DVP4/SEDD/NE
 Due Date: 12/24/21

Comments:
 AN: *Guidance DOD QSM v5.1; DOD forms with LOQ/LOD Database/DL; U at LOD, PKG STYLE 1 (DVP4)*
 FR: *book marked pdf DVP 4 to Charles Klaus*
 EDD: *SEDD 5.2 2A DOD FUDSCHEM and APPL excel .csv to charles klaus*

Sample Distribution:
 Extractions: 6- 537S, 3- 537WM
 LCMS: 6-\$PFASCALIFS, 3-\$PFASCALIF
 Wetlab: 6-MOIST

Charges: _____
Invoice To: _____

Client ID	APPL ID	Sampled	Analyses Requested
1. TR21-03_1.0-1.5_2021	BA47147S 	12/01/21 09:00	\$PFASCALIFS, MOIST
2. TR21-03_12.5-13_2021	BA47148S 	12/01/21 11:30	\$PFASCALIFS, MOIST
3. TR21-01_1.0-1.5_2021	BA47149S 	12/01/21 13:00	\$PFASCALIFS, MOIST
4. TR21-01_12-12.5_2021	BA47150S 	12/01/21 14:45	\$PFASCALIFS, MOIST
5. TR21-01_20211201	BA47151W 	12/01/21 15:00	\$PFASCALIF
6. TR21-02_1.0-1.5_2021	BA47152S 	12/02/21 08:30	\$PFASCALIFS, MOIST

APPL - Analysis Request Form

98379

7. TR21-02_12-12.5_2021	BA47153S	12/02/21	10:00	\$PFASCALIFS, MOIST
8. TR21-02_20211202	BA47154W	12/02/21	10:15	\$PFASCALIF
9. EB-01-20211202	BA47155W	12/02/21	09:30	\$PFASCALIF

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -6 UTC

APPL Sample Receipt Form

ARF# 98379

Sample	Container Type	Count	p
BA47147	26 Other	1	NA
BA47148	26 Other	1	NA
BA47149	26 Other	1	NA
BA47150	26 Other	1	NA
BA47151	26 Other	2	NA
BA47152	26 Other	1	NA
BA47153	26 Other	1	NA
BA47154	26 Other	2	NA
BA47155	26 Other	1	NA

Sample Container Type Count p

COOLER RECEIPT FORM

ARF: 98379

- 1) Project: Truax PFAS Investigation Date Received: 12/3/2021
- 2) Coolers: Number of Coolers: 1
- 3) No Were custody seals present and intact?
How many? 0 Name/Date on seal? _____
- 4) YES Was there a shipping slip? Carrier name: FEDEX
- 5) Type of packing in cooler: bubble wrap popcorn foam plastic bags other
 wet ice dry ice no ice gel ice
- 6) YES Were cooler temperatures acceptable?
- 7) Serial number of calibrated thermometer used: R3 CF:-1.9°C
- 8) Cooler temp(s): In °C. Thermometer Temp / Corrected Temp
1: 4.0/2.1 2: _____ 3: _____ 4: _____ 5: _____ 6: _____
7: _____ 8: _____ 9: _____ 10: _____ 11: _____ 12: _____

Chain of custody:

- 9) YES Was a chain of custody received?
- 10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

- 11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?
- 12) YES Did all container labels agree with custody papers?

Sample Containers:

- 13) YES Were all containers sealed in separate bags?
- 14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?
- 15) YES Were correct containers and preservatives used for the tests indicated?
- 16) YES Was a sufficient amount of sample sent for tests indicated?
- 17) NA Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea: _____
Smaller than a pea: _____

Preservation Hold time:

- 18) Yes Was a sufficient amount of holding time remaining to analyze the samples?
- 19) NA Was the pH taken of all non-VOA preserved samples and written on the sample container?
- 20) NA Was the pH of acid preserved non-VOA samples < 2?
- 21) NA Was the pH of the "basic" preserved samples for Cyanide > 12, Sulfide >9, Hexchrom >9?
- 22) NO Were unpreserved VOA Vials received for VOA Dept analysis?
- 23) NA If "yes", are the unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: _____
Lab notified if pH was not adequate: _____

Notes/Deficiencies:

Personnel receiving samples: DH Second reviewer: MS
 Personnel labeling samples: CH
 Project manager notified: _____ Date/Time of notification _____
 Name of client notified: _____ Date/Time of notification _____

SAMPLE RESULTS

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Danielle Bieber

Project: Truax PFAS Investigation

ARF: 98379

Sample ID: TR21-03_1.0-1.5_2021

APPL ID: BA47147

Sample Collection Date: 12/01/21

CGC: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 15.1 Percent Moisture.)								
B-15	11-CL-PF3OUDS	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	9-CL-PF3ONS	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	ADONA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	FTS 4:2	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	FTS 6:2	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	FTS 8:2	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	HFPO-DA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSAA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSE	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSAA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSE	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	PFBA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFBS	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFDA	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFDOA	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFDS	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	PFHPA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFHPS	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFHXA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFHXS	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFNA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFNS	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFOA	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFOS	0.32 J	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFOSA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFPEA	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFPEs	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFTEDA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	PFTRDA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFUDA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	SURROGATE: 13C2-4:2FTS (S)	93.1	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-6:2FTS (S)	170 #	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-8:2FTS (S)	109	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2111
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

Attn: Danielle Bieber

Project: Truax PFAS Investigation

Sample ID: TR21-03_1.0-1.5_2021

Sample Collection Date: 12/01/21

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 98379

APPL ID: BA47147

QCG: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	SURROGATE: 13C2-PFDOA (S)	120	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-PFTEDA (S)	134	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-HFPO-DA (S)	119	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFBS (S)	120	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFHXS (S)	134	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFBA (S)	141	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFHFA (S)	120	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFHXA (S)	122	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFPEA (S)	129	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C6-PFDA (S)	123	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C7-PFUDA (S)	134	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOA (S)	122	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOS (S)	130	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOSA (S)	131	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C9-PFNA (S)	121	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSA (S)	128	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSAA (S)	130	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSA (S)	127	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSAA (S)	121	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D7-NMEFOSE (S)	124	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D9-NETFOS (S)	117	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2111
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Danielle Bieber

Project: Truax PFAS Investigation

ARF: 98379

Sample ID: TR21-03_12.5-13_2021

APPL ID: BA47148

Sample Collection Date: 12/01/21

CGC: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 15.3 Percent Moisture.)								
B-15	11-CL-PF3OUDS	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	9-CL-PF3ONS	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	ADONA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	FTS 4:2	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	FTS 6:2	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	FTS 8:2	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	HFPO-DA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSAA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSE	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSAA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSE	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	PFBA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFBS	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFDA	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFDOA	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFDS	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	PFHPA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFHPS	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFHXA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFHXS	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFNA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFNS	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFOA	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFOS	0.19 J	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFOSA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFPEA	0.47 U	1.2	0.47	0.18	ug/kg	12/08/21	12/21/21
B-15	PFPEs	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFTEDA	0.47 U	1.2	0.47	0.24	ug/kg	12/08/21	12/21/21
B-15	PFTRDA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	PFUDA	0.47 U	1.2	0.47	0.12	ug/kg	12/08/21	12/21/21
B-15	SURROGATE: 13C2-4:2FTS (S)	94.1	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-6:2FTS (S)	185 #	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-8:2FTS (S)	105	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2112
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Danielle Bieber

Project: Truax PFAS Investigation

ARF: 98379

Sample ID: TR21-03_12.5-13_2021

APPL ID: BA47148

Sample Collection Date: 12/01/21

QCG: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	SURROGATE: 13C2-PFDOA (S)	124	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-PFTEDA (S)	140	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-HFPO-DA (S)	125	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFBS (S)	126	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFHXS (S)	129	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFBA (S)	149	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFHFA (S)	123	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFHXA (S)	122	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFPEA (S)	143	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C6-PFDA (S)	129	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C7-PFUDA (S)	133	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOA (S)	127	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOS (S)	133	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOSA (S)	147	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C9-PFNA (S)	116	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSA (S)	134	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSAA (S)	144	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSA (S)	134	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSAA (S)	132	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D7-NMEFOSE (S)	125	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D9-NETFOS (S)	120	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2112
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Danielle Bieber

Project: Truax PFAS Investigation

ARF: 98379

Sample ID: TR21-01_1.0-1.5_2021

APPL ID: BA47149

Sample Collection Date: 12/01/21

CGC: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 12.7 Percent Moisture.)								
B-15	11-CL-PF3OUDS	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	9-CL-PF3ONS	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	ADONA	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	FTS 4:2	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	FTS 6:2	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	FTS 8:2	0.46 U	1.1	0.46	0.17	ug/kg	12/08/21	12/21/21
B-15	HFPO-DA	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSA	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSAA	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSE	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSA	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSAA	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSE	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	PFBA	0.16 J	1.1	0.46	0.11	ug/kg	12/08/21	12/21/21
B-15	PFBS	0.46 U	1.1	0.46	0.11	ug/kg	12/08/21	12/21/21
B-15	PFDA	0.46 U	1.1	0.46	0.17	ug/kg	12/08/21	12/21/21
B-15	PFDOA	0.46 U	1.1	0.46	0.17	ug/kg	12/08/21	12/21/21
B-15	PFDS	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	PFHPA	0.46 U	1.1	0.46	0.11	ug/kg	12/08/21	12/21/21
B-15	PFHPS	0.46 U	1.1	0.46	0.17	ug/kg	12/08/21	12/21/21
B-15	PFHXA	0.23 J	1.1	0.46	0.11	ug/kg	12/08/21	12/21/21
B-15	PFHXS	0.32 J	1.1	0.46	0.17	ug/kg	12/08/21	12/21/21
B-15	PFNA	0.46 U	1.1	0.46	0.11	ug/kg	12/08/21	12/21/21
B-15	PFNS	0.46 U	1.1	0.46	0.11	ug/kg	12/08/21	12/21/21
B-15	PFOA	0.46 U	1.1	0.46	0.17	ug/kg	12/08/21	12/21/21
B-15	PFOS	0.82 J	1.1	0.46	0.11	ug/kg	12/08/21	12/21/21
B-15	PFOSA	0.46 U	1.1	0.46	0.11	ug/kg	12/08/21	12/21/21
B-15	PFPEA	0.25 J	1.1	0.46	0.17	ug/kg	12/08/21	12/21/21
B-15	PFPEs	0.46 U	1.1	0.46	0.11	ug/kg	12/08/21	12/21/21
B-15	PFTEDA	0.46 U	1.1	0.46	0.23	ug/kg	12/08/21	12/21/21
B-15	PFTRDA	0.46 U	1.1	0.46	0.11	ug/kg	12/08/21	12/21/21
B-15	PFUDA	0.46 U	1.1	0.46	0.11	ug/kg	12/08/21	12/21/21
B-15	SURROGATE: 13C2-4:2FTS (S)	111	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-6:2FTS (S)	185 #	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-8:2FTS (S)	119	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2113
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

Attn: Danielle Bieber

Project: Truax PFAS Investigation

Sample ID: TR21-01_1.0-1.5_2021

Sample Collection Date: 12/01/21

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 98379

APPL ID: BA47149

QCG: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	SURROGATE: 13C2-PFDOA (S)	127	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-PFTEDA (S)	141	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-HFPO-DA (S)	119	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFBS (S)	127	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFHXS (S)	129	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFBA (S)	148	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFHFA (S)	119	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFHXA (S)	126	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFPEA (S)	138	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C6-PFDA (S)	126	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C7-PFUDA (S)	120	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOA (S)	116	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOS (S)	135	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOSA (S)	147	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C9-PFNA (S)	118	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSA (S)	134	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSAA (S)	137	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSA (S)	131	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSAA (S)	125	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D7-NMEFOSE (S)	124	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D9-NETFOS (S)	115	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2113
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Danielle Bieber

Project: Truax PFAS Investigation

ARF: 98379

Sample ID: TR21-01_12-12.5_2021

APPL ID: BA47150

Sample Collection Date: 12/01/21

CGC: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 2.8 Percent Moisture.)								
B-15	11-CL-PF3OUDS	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	9-CL-PF3ONS	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	ADONA	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	FTS 4:2	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	FTS 6:2	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	FTS 8:2	0.41 U	1.0	0.41	0.15	ug/kg	12/08/21	12/21/21
B-15	HFPO-DA	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSA	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSAA	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSE	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSA	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSAA	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSE	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	PFBA	0.41 U	1.0	0.41	0.10	ug/kg	12/08/21	12/21/21
B-15	PFBS	0.41 U	1.0	0.41	0.10	ug/kg	12/08/21	12/21/21
B-15	PFDA	0.41 U	1.0	0.41	0.15	ug/kg	12/08/21	12/21/21
B-15	PFDOA	0.41 U	1.0	0.41	0.15	ug/kg	12/08/21	12/21/21
B-15	PFDS	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	PFHPA	0.41 U	1.0	0.41	0.10	ug/kg	12/08/21	12/21/21
B-15	PFHPS	0.41 U	1.0	0.41	0.15	ug/kg	12/08/21	12/21/21
B-15	PFHXA	0.41 U	1.0	0.41	0.10	ug/kg	12/08/21	12/21/21
B-15	PFHXS	0.41 U	1.0	0.41	0.15	ug/kg	12/08/21	12/21/21
B-15	PFNA	0.41 U	1.0	0.41	0.10	ug/kg	12/08/21	12/21/21
B-15	PFNS	0.41 U	1.0	0.41	0.10	ug/kg	12/08/21	12/21/21
B-15	PFOA	0.41 U	1.0	0.41	0.15	ug/kg	12/08/21	12/21/21
B-15	PFOS	0.17 J	1.0	0.41	0.10	ug/kg	12/08/21	12/21/21
B-15	PFOSA	0.41 U	1.0	0.41	0.10	ug/kg	12/08/21	12/21/21
B-15	PFPEA	0.41 U	1.0	0.41	0.15	ug/kg	12/08/21	12/21/21
B-15	PFPEs	0.41 U	1.0	0.41	0.10	ug/kg	12/08/21	12/21/21
B-15	PFTEDA	0.41 U	1.0	0.41	0.21	ug/kg	12/08/21	12/21/21
B-15	PFTRDA	0.41 U	1.0	0.41	0.10	ug/kg	12/08/21	12/21/21
B-15	PFUDA	0.41 U	1.0	0.41	0.10	ug/kg	12/08/21	12/21/21
B-15	SURROGATE: 13C2-4:2FTS (S)	106	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-6:2FTS (S)	188 #	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-8:2FTS (S)	124	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2114
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

Attn: Danielle Bieber

Project: Truax PFAS Investigation

Sample ID: TR21-01_12-12.5_2021

Sample Collection Date: 12/01/21

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 98379

APPL ID: BA47150

QCG: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	SURROGATE: 13C2-PFDOA (S)	128	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-PFTEDA (S)	144	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-HFPO-DA (S)	120	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFBS (S)	129	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFHXS (S)	129	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFBA (S)	152 #	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFHFA (S)	123	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFHXA (S)	126	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFPEA (S)	138	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C6-PFDA (S)	127	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C7-PFUDA (S)	130	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOA (S)	126	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOS (S)	142	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOSA (S)	144	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C9-PFNA (S)	120	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSA (S)	133	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSAA (S)	156 #	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSA (S)	130	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSAA (S)	147	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D7-NMEFOSE (S)	126	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D9-NETFOS (S)	120	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2114
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN WATER

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Danielle Bieber

Project: Truax PFAS Investigation

ARF: 98379

Sample ID: TR21-01_20211201

APPL ID: BA47151

Sample Collection Date: 12/01/21

CGC: #PFASC-211215A-272307

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	11-CL-PF3OUDS	3.00 U	8.0	3.00	1.20	ng/L	12/15/21	01/04/22
B-15	9-CL-PF3ONS	3.00 U	8.0	3.00	1.18	ng/L	12/15/21	01/04/22
B-15	ADONA	3.00 U	8.0	3.00	1.30	ng/L	12/15/21	01/04/22
B-15	FTS 4:2	2.00 U	8.0	2.00	0.54	ng/L	12/15/21	01/04/22
B-15	FTS 6:2	1.00 U	8.0	1.00	0.45	ng/L	12/15/21	01/04/22
B-15	FTS 8:2	3.00 U	8.0	3.00	1.01	ng/L	12/15/21	01/04/22
B-15	HFPO-DA	5.00 U	8.0	5.00	2.45	ng/L	12/15/21	01/04/22
B-15	N-ETFOSA	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	N-ETFOSAA	1.00 U	8.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	N-ETFOSE	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	N-MEFOSA	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	N-MEFOSAA	1.00 U	8.0	1.00	0.36	ng/L	12/15/21	01/04/22
B-15	N-MEFOSE	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	PFBA	18	8.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFBS	35	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFDA	1.00 U	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFDOA	1.00 U	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFDS	1.00 U	5.0	1.00	0.32	ng/L	12/15/21	01/04/22
B-15	PFHPA	3.2 J	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFHPS	4.9 J	5.0	1.00	0.28	ng/L	12/15/21	01/04/22
B-15	PFHXA	13	5.0	1.00	0.32	ng/L	12/15/21	01/04/22
B-15	PFHXS	110	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFNA	1.00 U	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFNS	1.00 U	8.0	1.00	0.40	ng/L	12/15/21	01/04/22
B-15	PFOA	7.4	5.0	1.00	0.41	ng/L	12/15/21	01/04/22
B-15	PFOS	66	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFOSA	1.00 U	8.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFPEA	9.7	5.0	1.00	0.31	ng/L	12/15/21	01/04/22
B-15	PFPEA	24	5.0	1.00	0.29	ng/L	12/15/21	01/04/22
B-15	PFTEDA	1.00 U	8.0	1.00	0.43	ng/L	12/15/21	01/04/22
B-15	PFTRDA	1.00 U	5.0	1.00	0.29	ng/L	12/15/21	01/04/22
B-15	PFUDA	1.00 U	5.0	1.00	0.40	ng/L	12/15/21	01/04/22
B-15	SURROGATE: 13C2-4:2FTS (S)	113	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C2-6:2FTS (S)	108	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C2-8:2FTS (S)	111	50-150			%	12/15/21	01/04/22

J = Estimated value.

Quant Method: 1633\2022_01_0
Run #: 2022-01-0426
Instrument: Saphira
Sequence: 2022-01-04
Dilution Factor: 1
Initials: DG

Printed: 1/10/2022 11:05:27 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

PFAS IN WATER

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

Attn: Danielle Bieber

Project: Truax PFAS Investigation

Sample ID: TR21-01_20211201

Sample Collection Date: 12/01/21

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 98379

APPL ID: BA47151

QCG: #PFASC-211215A-272307

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	SURROGATE: 13C2-PFDOA (S)	102	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C2-PFTEDA (S)	71.2	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C3-HFPO-DA (S)	93.5	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C3-PFBS (S)	112	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C3-PFHXS (S)	123	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C4-PFBA (S)	110	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C4-PFHFA (S)	103	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C5-PFHXA (S)	107	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C5-PFPEA (S)	90.1	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C6-PFDA (S)	104	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C7-PFUDA (S)	98.8	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C8-PFOA (S)	97.0	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C8-PFOS (S)	113	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C8-PFOSA (S)	85.0	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C9-PFNA (S)	99.4	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D3-MEFOSA (S)	60.6	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D3-NMEFOSAA (S)	86.1	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D5-ETFOSA (S)	61.6	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D5-NETFOSAA (S)	82.4	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D7-MEFOSE (S)	79.9	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D9-ETFOSE (S)	69.5	50-150			%	12/15/21	01/04/22

J = Estimated value.

Quant Method: 1633\2022_01_0
Run #: 2022-01-0426
Instrument: Saphira
Sequence: 2022-01-04
Dilution Factor: 1
Initials: DG

Printed: 1/10/2022 11:05:27 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Danielle Bieber

Project: Truax PFAS Investigation

ARF: 98379

Sample ID: TR21-02_1.0-1.5_2021

APPL ID: BA47152

Sample Collection Date: 12/02/21

CGC: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Moisture is < PQL (2%)). No adjustments to solid Concentrations and Limits are necessary.)								
B-15	11-CL-PF3OUDS	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	9-CL-PF3ONS	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	ADONA	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	FTS 4:2	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	FTS 6:2	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	FTS 8:2	0.40 U	1.0	0.40	0.15	ug/kg	12/08/21	12/21/21
B-15	HFPO-DA	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSA	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSAA	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSE	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSA	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSAA	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSE	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	PFBA	0.40 U	1.0	0.40	0.10	ug/kg	12/08/21	12/21/21
B-15	PFBS	0.40 U	1.0	0.40	0.10	ug/kg	12/08/21	12/21/21
B-15	PFDA	0.40 U	1.0	0.40	0.15	ug/kg	12/08/21	12/21/21
B-15	PFDOA	0.40 U	1.0	0.40	0.15	ug/kg	12/08/21	12/21/21
B-15	PFDS	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	PFHPA	0.40 U	1.0	0.40	0.10	ug/kg	12/08/21	12/21/21
B-15	PFHPS	0.40 U	1.0	0.40	0.15	ug/kg	12/08/21	12/21/21
B-15	PFHXA	0.40 U	1.0	0.40	0.10	ug/kg	12/08/21	12/21/21
B-15	PFHXS	0.40 U	1.0	0.40	0.15	ug/kg	12/08/21	12/21/21
B-15	PFNA	0.12 J	1.0	0.40	0.10	ug/kg	12/08/21	12/21/21
B-15	PFNS	0.40 U	1.0	0.40	0.10	ug/kg	12/08/21	12/21/21
B-15	PFOA	0.40 U	1.0	0.40	0.15	ug/kg	12/08/21	12/21/21
B-15	PFOS	2.6	1.0	0.40	0.10	ug/kg	12/08/21	12/21/21
B-15	PFOSA	0.40 U	1.0	0.40	0.10	ug/kg	12/08/21	12/21/21
B-15	PFPEA	0.40 U	1.0	0.40	0.15	ug/kg	12/08/21	12/21/21
B-15	PFPEs	0.40 U	1.0	0.40	0.10	ug/kg	12/08/21	12/21/21
B-15	PFTEDA	0.40 U	1.0	0.40	0.20	ug/kg	12/08/21	12/21/21
B-15	PFTRDA	0.40 U	1.0	0.40	0.10	ug/kg	12/08/21	12/21/21
B-15	PFUDA	0.40 U	1.0	0.40	0.10	ug/kg	12/08/21	12/21/21
B-15	SURROGATE: 13C2-4:2FTS (S)	98.3	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-6:2FTS (S)	192 #	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-8:2FTS (S)	117	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2115
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

Attn: Danielle Bieber

Project: Truax PFAS Investigation

Sample ID: TR21-02_1.0-1.5_2021

Sample Collection Date: 12/02/21

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 98379

APPL ID: BA47152

QCG: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	SURROGATE: 13C2-PFDOA (S)	125	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-PFTEDA (S)	135	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-HFPO-DA (S)	109	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFBS (S)	126	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFHXS (S)	136	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFBA (S)	136	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFHFA (S)	115	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFHXA (S)	114	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFPEA (S)	124	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C6-PFDA (S)	125	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C7-PFUDA (S)	128	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOA (S)	120	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOS (S)	141	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOSA (S)	126	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C9-PFNA (S)	111	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSA (S)	118	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSAA (S)	132	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSA (S)	120	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSAA (S)	123	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D7-NMEFOSE (S)	114	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D9-NETFOS (S)	114	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2115
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Danielle Bieber

Project: Truax PFAS Investigation

ARF: 98379

Sample ID: TR21-02_12-12.5_2021

APPL ID: BA47153

Sample Collection Date: 12/02/21

CGC: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 16.1 Percent Moisture.)								
B-15	11-CL-PF3OUDS	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	9-CL-PF3ONS	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	ADONA	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	FTS 4:2	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	FTS 6:2	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	FTS 8:2	0.48 U	1.2	0.48	0.18	ug/kg	12/08/21	12/21/21
B-15	HFPO-DA	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSA	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSAA	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	N-ETFOSE	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSA	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSAA	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	N-MEFOSE	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	PFBA	0.48 U	1.2	0.48	0.12	ug/kg	12/08/21	12/21/21
B-15	PFBS	0.48 U	1.2	0.48	0.12	ug/kg	12/08/21	12/21/21
B-15	PFDA	0.48 U	1.2	0.48	0.18	ug/kg	12/08/21	12/21/21
B-15	PFDOA	0.48 U	1.2	0.48	0.18	ug/kg	12/08/21	12/21/21
B-15	PFDS	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	PFHPA	0.48 U	1.2	0.48	0.12	ug/kg	12/08/21	12/21/21
B-15	PFHPS	0.48 U	1.2	0.48	0.18	ug/kg	12/08/21	12/21/21
B-15	PFHXA	0.48 U	1.2	0.48	0.12	ug/kg	12/08/21	12/21/21
B-15	PFHXS	0.21 J	1.2	0.48	0.18	ug/kg	12/08/21	12/21/21
B-15	PFNA	0.48 U	1.2	0.48	0.12	ug/kg	12/08/21	12/21/21
B-15	PFNS	0.48 U	1.2	0.48	0.12	ug/kg	12/08/21	12/21/21
B-15	PFOA	0.48 U	1.2	0.48	0.18	ug/kg	12/08/21	12/21/21
B-15	PFOS	2.4	1.2	0.48	0.12	ug/kg	12/08/21	12/21/21
B-15	PFOSA	0.48 U	1.2	0.48	0.12	ug/kg	12/08/21	12/21/21
B-15	PFPEA	0.48 U	1.2	0.48	0.18	ug/kg	12/08/21	12/21/21
B-15	PFPEs	0.48 U	1.2	0.48	0.12	ug/kg	12/08/21	12/21/21
B-15	PFTEDA	0.48 U	1.2	0.48	0.24	ug/kg	12/08/21	12/21/21
B-15	PFTRDA	0.48 U	1.2	0.48	0.12	ug/kg	12/08/21	12/21/21
B-15	PFUDA	0.48 U	1.2	0.48	0.12	ug/kg	12/08/21	12/21/21
B-15	SURROGATE: 13C2-4:2FTS (S)	102	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-6:2FTS (S)	167 #	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-8:2FTS (S)	130	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2116
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN SOLIDS

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

Attn: Danielle Bieber

Project: Truax PFAS Investigation

Sample ID: TR21-02_12-12.5_2021

Sample Collection Date: 12/02/21

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 98379

APPL ID: BA47153

QCG: #PFASC-211208A1-272275

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	SURROGATE: 13C2-PFDOA (S)	129	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C2-PFTEDA (S)	143	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-HFPO-DA (S)	119	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFBS (S)	127	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C3-PFHXS (S)	138	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFBA (S)	153 #	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C4-PFHFA (S)	120	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFHXA (S)	125	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C5-PFPEA (S)	136	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C6-PFDA (S)	123	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C7-PFUDA (S)	128	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOA (S)	130	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOS (S)	140	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C8-PFOSA (S)	150	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: 13C9-PFNA (S)	122	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSA (S)	136	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D3-NMEFOSAA (S)	150	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSA (S)	142	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D5-NETFOSAA (S)	152 #	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D7-NMEFOSE (S)	127	50-150			%	12/08/21	12/21/21
B-15	SURROGATE: D9-NETFOS (S)	124	50-150			%	12/08/21	12/21/21

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: B15\2021_12_20
Run #: 2021-12-2116
Instrument: Saphira
Sequence: 2021-12-21
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN WATER

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Danielle Bieber

Project: Truax PFAS Investigation

ARF: 98379

Sample ID: TR21-02_20211202

APPL ID: BA47154

Sample Collection Date: 12/02/21

QCG: #PFASC-211215A-272307

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	11-CL-PF3OUDS	3.00 U	8.0	3.00	1.20	ng/L	12/15/21	01/04/22
B-15	9-CL-PF3ONS	3.00 U	8.0	3.00	1.18	ng/L	12/15/21	01/04/22
B-15	ADONA	3.00 U	8.0	3.00	1.30	ng/L	12/15/21	01/04/22
B-15	FTS 4:2	2.00 U	8.0	2.00	0.54	ng/L	12/15/21	01/04/22
B-15	FTS 6:2	8.9	8.0	1.00	0.45	ng/L	12/15/21	01/04/22
B-15	FTS 8:2	4.3 J	8.0	3.00	1.01	ng/L	12/15/21	01/04/22
B-15	HFPO-DA	5.00 U	8.0	5.00	2.45	ng/L	12/15/21	01/04/22
B-15	N-ETFOSA	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	N-ETFOSAA	1.00 U	8.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	N-ETFOSE	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	N-MEFOSA	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	N-MEFOSAA	1.00 U	8.0	1.00	0.36	ng/L	12/15/21	01/04/22
B-15	N-MEFOSE	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	PFBA	45	8.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFBS	32	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFDA	2.9 J	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFDOA	1.00 U	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFDS	1.00 U	5.0	1.00	0.32	ng/L	12/15/21	01/04/22
B-15	PFHPA	47	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFHPS	40	5.0	1.00	0.28	ng/L	12/15/21	01/04/22
B-15	PFHXA	70	5.0	1.00	0.32	ng/L	12/15/21	01/04/22
B-15	PFHXS	670	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFNA	56	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFNS	1.00 U	8.0	1.00	0.40	ng/L	12/15/21	01/04/22
B-15	PFOA	200	5.0	1.00	0.41	ng/L	12/15/21	01/04/22
B-15	PFOS	1100	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFOSA	3.3 J	8.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFPEA	82	5.0	1.00	0.31	ng/L	12/15/21	01/04/22
B-15	PFPESE	40	5.0	1.00	0.29	ng/L	12/15/21	01/04/22
B-15	PFTEDA	1.00 U	8.0	1.00	0.43	ng/L	12/15/21	01/04/22
B-15	PFTRDA	1.00 U	5.0	1.00	0.29	ng/L	12/15/21	01/04/22
B-15	PFUDA	1.3 J	5.0	1.00	0.40	ng/L	12/15/21	01/04/22
B-15	SURROGATE: 13C2-4:2FTS (S)	107	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C2-6:2FTS (S)	105	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C2-8:2FTS (S)	103	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C2-PFDOA (S)	69.5	50-150			%	12/15/21	01/04/22

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: 1633\2022_01_0
Run #: 2022-01-0427
Instrument: Saphira
Sequence: 2022-01-04
Dilution Factor: 1
Initials: DG

Printed: 1/10/2022 11:05:33 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

PFAS IN WATER

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

Attn: Danielle Bieber

Project: Truax PFAS Investigation

Sample ID: TR21-02_20211202

Sample Collection Date: 12/02/21

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 98379

APPL ID: BA47154

QCG: #PFASC-211215A-272307

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	SURROGATE: 13C2-PFTEDA (S)	44.4 #	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C3-HFPO-DA (S)	90.8	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C3-PFBS (S)	118	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C3-PFHXS (S)	119	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C4-PFBA (S)	111	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C4-PFHFA (S)	100	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C5-PFHXA (S)	99.6	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C5-PFPEA (S)	92.9	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C6-PFDA (S)	106	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C7-PFUDA (S)	81.4	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C8-PFOA (S)	99.6	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C8-PFOS (S)	104	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C8-PFOSA (S)	75.8	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C9-PFNA (S)	97.4	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D3-MEFOSA (S)	41.3 #	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D3-NMEFOSAA (S)	69.7	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D5-ETFOSA (S)	41.8 #	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D5-NETFOSAA (S)	72.2	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D7-MEFOSE (S)	47.9 #	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D9-ETFOSE (S)	40.2 #	50-150			%	12/15/21	01/04/22

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: 1633\2022_01_0
Run #: 2022-01-0427
Instrument: Saphira
Sequence: 2022-01-04
Dilution Factor: 1
Initials: DG

Printed: 1/10/2022 11:05:33 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

PFAS IN WATER

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Danielle Bieber

Project: Truax PFAS Investigation

ARF: 98379

Sample ID: EB-01-20211202

APPL ID: BA47155

Sample Collection Date: 12/02/21

CGC: #PFASC-211215A-272307

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	11-CL-PF3OUDS	3.00 U	8.0	3.00	1.20	ng/L	12/15/21	01/04/22
B-15	9-CL-PF3ONS	3.00 U	8.0	3.00	1.18	ng/L	12/15/21	01/04/22
B-15	ADONA	3.00 U	8.0	3.00	1.30	ng/L	12/15/21	01/04/22
B-15	FTS 4:2	2.00 U	8.0	2.00	0.54	ng/L	12/15/21	01/04/22
B-15	FTS 6:2	1.00 U	8.0	1.00	0.45	ng/L	12/15/21	01/04/22
B-15	FTS 8:2	3.00 U	8.0	3.00	1.01	ng/L	12/15/21	01/04/22
B-15	HFPO-DA	5.00 U	8.0	5.00	2.45	ng/L	12/15/21	01/04/22
B-15	N-ETFOSA	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	N-ETFOSAA	1.00 U	8.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	N-ETFOSE	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	N-MEFOSA	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	N-MEFOSAA	1.00 U	8.0	1.00	0.36	ng/L	12/15/21	01/04/22
B-15	N-MEFOSE	6.00 U	8.0	6.00	3.00	ng/L	12/15/21	01/04/22
B-15	PFBA	1.00 U	8.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFBS	1.00 U	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFDA	1.00 U	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFDOA	1.00 U	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFDS	1.00 U	5.0	1.00	0.32	ng/L	12/15/21	01/04/22
B-15	PFHPA	1.00 U	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFHPS	1.00 U	5.0	1.00	0.28	ng/L	12/15/21	01/04/22
B-15	PFHXA	1.00 U	5.0	1.00	0.32	ng/L	12/15/21	01/04/22
B-15	PFHXS	1.00 U	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFNA	1.00 U	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFNS	1.00 U	8.0	1.00	0.40	ng/L	12/15/21	01/04/22
B-15	PFOA	1.0 J	5.0	1.00	0.41	ng/L	12/15/21	01/04/22
B-15	PFOS	1.00 U	5.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFOSA	1.00 U	8.0	1.00	0.25	ng/L	12/15/21	01/04/22
B-15	PFPEA	1.00 U	5.0	1.00	0.31	ng/L	12/15/21	01/04/22
B-15	PFPEs	1.00 U	5.0	1.00	0.29	ng/L	12/15/21	01/04/22
B-15	PFTEDA	1.00 U	8.0	1.00	0.43	ng/L	12/15/21	01/04/22
B-15	PFTRDA	1.00 U	5.0	1.00	0.29	ng/L	12/15/21	01/04/22
B-15	PFUDA	1.00 U	5.0	1.00	0.40	ng/L	12/15/21	01/04/22
B-15	SURROGATE: 13C2-4:2FTS (S)	68.9	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C2-6:2FTS (S)	83.4	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C2-8:2FTS (S)	105	50-150			%	12/15/21	01/04/22

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: 1633\2022_01_0
Run #: 2022-01-0428
Instrument: Saphira
Sequence: 2022-01-04
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

PFAS IN WATER

USACE-OMAHA
1616 Capitol Avenue, Suite 9000
Omaha, NE 68102

Attn: Danielle Bieber
Project: Truax PFAS Investigation

Sample ID: EB-01-20211202

Sample Collection Date: 12/02/21

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 98379

APPL ID: BA47155

QCG: #PFASC-211215A-272307

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
B-15	SURROGATE: 13C2-PFDOA (S)	91.9	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C2-PFTEDA (S)	107	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C3-HFPO-DA (S)	77.8	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C3-PFBS (S)	105	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C3-PFHXS (S)	103	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C4-PFBA (S)	98.5	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C4-PFHFA (S)	86.7	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C5-PFHXA (S)	86.9	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C5-PFPEA (S)	84.8	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C6-PFDA (S)	100	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C7-PFUDA (S)	96.8	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C8-PFOA (S)	87.1	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C8-PFOS (S)	103	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C8-PFOSA (S)	67.9	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: 13C9-PFNA (S)	96.6	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D3-MEFOSA (S)	45.9 #	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D3-NMEFOSAA (S)	73.4	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D5-ETFOSA (S)	55.0	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D5-NETFOSAA (S)	73.2	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D7-MEFOSE (S)	70.6	50-150			%	12/15/21	01/04/22
B-15	SURROGATE: D9-ETFOSE (S)	63.8	50-150			%	12/15/21	01/04/22

J = Estimated value.

= Recovery (or RPD) is outside QC limits.

Quant Method: 1633\2022_01_0
Run #: 2022-01-0428
Instrument: Saphira
Sequence: 2022-01-04
Dilution Factor: 1
Initials: DG

Printed: 1/7/2022 2:25:05 PM

PPL-F1-SC-MCRes/MCPQL-REG MDLs-DOI

