SITE CHARACTERIZATION REPORT

ADIRONDACK REGIONAL AIRPORT SITE
96 AIRPORT ROAD
TOWN OF HARRIETSTOWN, FRANKLIN COUNTY, NEW YORK

NYSDEC Site No. 517013
Work Assignment No. D007620-38

Submitted to:
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233

Prepared by:
TRC Engineers, Inc.
10 Maxwell Drive
Clifton Park, New York 12065
TRC Project No. 285483.0000.0000

MARCH 2019

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1.0 INTRODUCTION

This report presents the results of the Site Characterization (SC) for the Adirondack Regional Airport Site located at 96 Airport Road, in the Town of Harrietstown, Franklin County, New York (referred to as the "Site"). Refer to **Figure 1**, Site Location Map. The SC was completed in accordance with the New York State Department of Environmental Conservation (NYSDEC or the "Department") Division of Environmental Remediation (DER) Work Assignment (WA) No. D007620-38 Notice to Proceed dated July 28, 2017, the NYSDEC-approved Scope of Work dated January 30, 2018, and NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation (DER-10).

The Site has been assigned NYSDEC Site No. 517013 ("Adirondack Regional Airport Site") and encompasses the Adirondack Regional Airport property. Refer to **Figure 2** for the Project Limits and Pre-Existing Features. The SC was performed to further investigate known and potential contamination caused by the historic operations at the Site for the purposes of assisting the Department in determining whether the Site poses a significant threat to public health and/or the environment, warranting a Remedial Investigation (RI).

The Adirondack Regional Airport has been used as a public airport since approximately 1950 and is currently operating in that capacity. Past airport operations involved the use of firefighting foam containing per- and polyfluoroalkyl substances (PFAS). Groundwater from wells at and near the Site were sampled and found to contain concentrations of PFAS warranting additional investigation. As indicated above, in July 2017, the Department issued a SC WA to TRC Engineers, Inc. (TRC) to further investigate known and potential contamination on the Adirondack Regional Airport property. The scope of the SC included monitoring well installation, groundwater sampling, surface water sampling, and surveying. The SC field investigation activities were implemented in August 2018, as described in this report.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Location and Setting

The Adirondack Regional Airport Site is in a rural area in the north-central portion of the Adirondack Park, less than one mile from Lake Clear in the Town of Harrietstown (referred to as the "Town"), in southeastern Franklin County, New York (see **Figure 1**). The Site is an irregularly shaped 1,157.53-acre parcel of land identified on the Town of Harrietstown Tax Maps as parcel number 423.-1-41.100. The Site Property Class is "844 – Public Services Air". The property was originally donated by Paul Smith's College to the Town of Harrietstown in 1940 and was developed into an airfield in 1942. The terminal building and one hangar were constructed in 1950, and since that time the Site has been used, and is still currently used, as a public airport. The Site is currently owned by the Town, and access is via a gated access road at the end of Airport Road. The Site includes a parking lot, airport terminal, and various support buildings and hangars consisting of the Flying Sailor building, the Life Flight building, Town Hangar, Gosser Hangar, Indian Point Hangar, New York State Police Hangar, New Town Hangar, the Fixed Base Operator (FBO)/Aircraft Rescue and Fire Fighting (ARFF)/Snow Removal Equipment (SRE) building, and four unnamed hangars. The airport is enclosed by a chain-link fence which is located inside the property boundary.

The Site is bordered by undeveloped land and Fay Brook to the north; undeveloped land, commercial properties, and Fay Brook to the east; undeveloped land, residential properties, and Twobridge Brook to the south; and, undeveloped land and a utility right-of-way to the west. Significant portions of the undeveloped land immediately surrounding the Site are mapped wetlands and contain several small unnamed streams, tributaries, drainage ditches, ponds, etc. Wetlands are also present on the Site.

Fay Brook, a "protected stream" designated as Class C (T) waters, is located approximately 1,250 feet east of the Site. There are unnamed drainage ditches, beaver ponds, and tributaries to Fay Brook directly adjacent to the eastern boundary of the Site. Two branches of the Twobridge Brook are approximately 1,500 feet from the southwest corner of the Site. An unnamed drainage ditch on the southern border of the Site is a tributary to Twobridge Brook. Lake Clear, also a "protected stream" designated as Class AA (T) waters, is approximately 3,650 feet west of the Site. No direct tributaries to Lake Clear have been identified at the Site.

According to Site background information provided by the Department, there are four private water supply wells and three public water supply wells within a one-mile buffer of the Site, as shown on **Figure 2**. It should be noted that a formal well search was not part of the Site Characterization scope of work.

2.2 Site Features and Use

The Adirondack Regional Airport is an active public use airport, owned and operated by the Town of Harrietstown. The Site is approximately 1,157.53 acres and is identified on the Franklin County Tax Map as parcel number 423.-1-41.100. The Site is currently zoned for a combination of industrial, rural and resource management uses.

There are two asphalt paved runways (I-23 and I-27) and four taxiways (A, B, C and I-27) on the property. Runway I-23 is 6,573 feet long by 150 feet wide and runway I-27 is 3,998 feet long by 100 feet wide. The Site also includes a public parking lot, airport terminal, and various support buildings and hangars, as shown on **Figure 2**. Support buildings and hangars consist of the Flying Sailor building, the Life Flight building, Town Hangar, Gosser Hangar, Indian Point Hangar, New York State Police Hangar, New Town Hangar, the FBO/ARFF/SRE building, and four unnamed hangars.

According to the Zoning Administrator/Code Enforcement Officer for the Town of Harrietstown/Franklin County, New York, the airport terminal and FBO/ARFF/SRE building share a common water supply well but have individual septic systems. The Flying Sailor building is serviced by a separate, independent water supply well and septic system. The Life Flight building, Town Hangar, and Gosser Hangar share a common water supply well and septic system. The Indian Point Hangar and New York State Police Hangar share a common water supply well but have individual septic systems. Currently, the water supply to the Indian Point Hangar is turned off. The New Town Hangar has its own water supply well and septic system. The configuration of water supply and/or septic systems, if present, for the four unnamed hangars, is unknown.

2.3 Site History/Past Use

The property was originally donated by Paul Smith's College to the Town of Harrietstown in 1940, and later developed into an airfield in 1942. The terminal building and one hangar were constructed in 1950, and since that time, the Site has been used, and is still currently used, as a public airport. Based on background information provided by the Department, the Site is believed to have been undeveloped land prior to the Town of Harrietstown obtaining the property in the 1940s; however, it should be noted that a formal records search was not part of the Site Characterization scope of work.

Historical uses of the Site have included the storage and use of petroleum fuels associated with typical airport operations and firefighting foam containing PFAS.

2.4 Topography and Site Drainage

According to the United States Geological Survey (USGS) Topographic Map of Bloomingdale, New York (1999), ground surface elevations at the Site range from approximately 1,625 to 1,645 feet North American

Vertical Datum (NAVD) 1988. The developed portion of the Site area consisting of the Adirondack Regional Airport is relatively flat, with the adjacent topography sloping downward towards the east in the direction of Fay Brook, which is approximately 1,250 feet east of the Site. Various small unnamed streams, tributaries, drainage ditches, ponds, etc. associated with the wetland areas are located near the Site. There are unnamed drainage ditches, beaver ponds, and tributaries to Fay Brook directly adjacent to the eastern boundary of the Site. Two branches of the Twobridge Brook are approximately 1,500 feet from the southwest corner of the Site. An unnamed drainage ditch on the southern border of the Site is a tributary to Twobridge Brook. Lake Clear is located approximately 3,650 feet west of the Site. No direct tributaries to Lake Clear have been identified at the Site.

3.0 PREVIOUS INVESTIGATIONS

Presented in this section is a summary of the results of previous sampling activities completed at the Adirondack Regional Airport Site and nearby properties. The prior sampling activities were completed by the New York State Department of Health (NYSDOH).

3.1 Summary of Prior Sampling

3.1.1 *New York State Department of Health (NYSDOH) Water Sampling*

In November 2016 and January 2017, the NYSDOH collected 23 potable water samples from various on- and off-site locations for PFAS analysis. Of the 23 samples collected and submitted for analysis, PFAS were detected at 12 sampling locations; however, PFAS concentrations did not exceed the NYSDEC Screening Levels of 100 nanograms per liter (ng/L) for individual PFAS (except perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS)), 70 ng/L for combined PFOA and PFOS, and 500 ng/L for total PFAS (including PFOA and PFOS), which have been provided by NYSDEC for use at the Site. Based on the sampling results, the NYSDOH has recommended installation of a Point-of-Entry Treatment (POET) System at the Flying Sailor building due to the elevated total PFAS concentrations, which were detected during the November 2016 sampling event (96.03 ng/L) and the January 2017 sampling event (102.38 ng/L). The sampling information and PFAS results are presented in the table below.

Summary of Public and Private Potable Water Supply Well Sampling by NYSDOH					
Sample Location	**Approximate Water Supply Well Depth (feet bgs)**	**Sampling Location Details**	**Sample Date**	**PFOA + PFOS Concentration (ng/L)**	**Total PFAS Concentration (ng/L)**
Adirondack Airport Community	365	Well #2 – Raw Water Tap	11/7/2016	10.95	13.27
Adirondack Airport Community	500	Well #1 – Raw Water Tap	11/8/2016	9.64	11.58
Airport Café	65	Women's Bathroom NWT	11/7/2016	ND	4.12
Airport Café	65	Women's Bathroom NWT - Duplicate	11/7/2016	ND	4.29
Flying Sailors Hangar	NA	Utility Sink CWT – Finished Water	11/7/2016	41.30	96.03
Cape Air Hangar	NA	Bathroom CWT	11/7/2016	ND	ND
State Police Hangar	NA	Tap Before Water Softener – Raw Water	11/7/2016	9.44	23.89
Town Hangar 5	NA	Bathroom CWT	11/7/2016	ND	ND
FBO Hangar	NA	Hose in Garage	11/7/2016	ND	ND
[redacted]	NA	Kitchen CWT Finished Water	11/7/2016	2.14	7.14
ARC	NA	Bathroom CWT Finished Water	11/7/2016	2.24	7.91
[redacted] Residence	NA	Kitchen CWT Finished Water	11/7/2016	ND	ND
Adirondack Airport Community	500	Well #1 – Raw Water Tap	1/22/2017	9.47	11.69
Adirondack Airport Community	365	Well #2 – Raw Water Tap	1/25/2017	11.62	14.14
Airport Café	65	Women's Bathroom – Finished Water	1/23/2017	ND	ND
Airport Café	65	Women's Bathroom – Finished Water Duplicate	1/23/2017	ND	ND
ARC	NA	Bathroom CWT – Finished Water	1/23/2017	ND	ND
[redacted]	NA	Equipment Room – Raw Water	1/23/2017	ND	ND
Cape Air Hangar	NA	Bathroom CWT – Finished Water	1/23/2017	ND	ND
FBO Hangar	NA	Hose in Garage – Finished Water	1/23/2017	ND	ND
Flying Sailors Hangar	NA	Utility Sink CWT – Finished Water	1/23/2017	44.90	102.38
State Police Hangar	NA	Tap Before Water Softener – Raw Water	1/23/2017	9.91	26.74
Town Hangar 5	NA	Bathroom CWT	1/23/2017	ND	ND

Notes:
ND – Compound not detected above the laboratory quantitation limit.
bgs – Below ground surface.
ng/L – Nanograms per Liter.
PFOA – Perfluorooctanoic acid.
PFOS – Perfluorooctanesulfonic acid.
NA – No data available.
The NYSDEC has provided Screening Levels of 100 ng/L for individual PFAS (except PFOA and PFOS), 70 ng/L for combined PFOA and PFOS, and 500 ng/L for total PFAS (including PFOA and PFOS) concentrations for use at the Site.

4.0 SITE CHARACTERIZATION

The SC field activities described in this section were completed by TRC in August 2018. The SC was completed in general conformance with the NYSDEC DER WA No. D007620-38 Notice to Proceed dated July 28, 2017, the NYSDEC-approved Scope of Work dated January 30, 2018, and DER-10.

4.1 Site Characterization Scope of Work

The SC field activities consisted of:

- Filing of Federal Aviation Administration (FAA) Form 7460-1 to obtain authorization for temporary construction of investigation structures (e.g., drill rig) on airport property.
- Implementation of a Community Air Monitoring Plan (CAMP), which included real-time monitoring for volatile organic compounds (VOCs) and particulates at the downwind perimeter of each work area during intrusive work.
- A utility survey using geophysical investigation techniques at proposed monitoring well locations prior to the start of intrusive work.
- Installation of six groundwater monitoring wells (ADK-MW-101 through ADK-MW-106). Continuous soil sampling was performed during advancement of each monitoring well borehole, and the soil samples were screened via photoionization detector (PID), inspected for indication of impacts, and descriptions of the encountered soils were logged using the Unified Soil Classification System (USCS). No soil samples were submitted for laboratory analysis.
- Development of the six newly installed groundwater monitoring wells.
- Collection and analysis of one round of groundwater samples from the six newly installed monitoring wells.
- Collection of surface water samples from four locations (ADK-WS-10 through ADK-WS-104) from drainage ditches and ponded areas located along the eastern and southern extents of the Airport property.
- A survey of SC sampling locations, including the locations and elevations (ground surface, top of riser, and top of well casing) of the new monitoring wells and the locations and ground surface elevations of surface water sampling locations.
- Off-site disposal of investigation-derived waste (IDW) including development water, purge water, decontamination fluids, and drill cuttings.

A sampling location plan is presented as **Figure 3**. The scope of work for the SC and associated field methods are described in detail below. The methods implemented during the SC were in accordance with the NYSDEC-approved generic Health and Safety Plan (HASP), Field Activities Plan (FAP), and Quality Assurance Project Plan (QAPP), including modifications for sampling of emerging contaminants (i.e., PFAS). Equipment and materials (i.e., PFAS-free pumps, stainless steel, high density polyethylene (HDPE) and polypropylene) compatible with recommendations from NYSDEC for sampling of emerging contaminants were used at the Site. In addition, equipment blank samples were collected for PFAS analysis to confirm PFAS contamination was not introduced by the sampling methods, equipment or materials.

Standard chain-of-custody procedures were followed for all samples. Quality control samples, including matrix spike and matrix spike duplicates, were collected at a minimum frequency of one per 20 samples in accordance with the approved generic QAPP. Category B data deliverable packages were requested.

4.2 Federal Aviation Administration (FAA) Form 7460-1

Prior to mobilization, TRC filed the required FAA Form 7460-1 to obtain authorization of temporary construction of SC investigation equipment on Airport property, specifically the hollow-stem auger drill rig. Following filing of the Form 7460-1, Aeronautical Study Number (ASN) 2018-AEA-433-NRA was opened by the FAA. Upon determination that separate ASNs were required for each individual proposed monitoring well, ASNs 2018-AEA-919-NRA through 2018-AEA-924-NRA were opened, and a "Conditional No Objection" determination was provided by the FAA. Correspondence with the FAA and the FAA provided Airspace Case Review determination letter are provided in **Appendix A**.

4.3 Implementation of Community Air Monitoring Plan (CAMP)

TRC implemented a CAMP during intrusive investigation activities. The CAMP was implemented in accordance with NYSDEC DER-10, Appendix 1A - Generic Community Air Monitoring Plan. A DustTRAK™ II aerosol monitor and a PID were positioned at locations downwind of the work areas. The CAMP was implemented during monitoring well installation, but not during the utility survey, surface water sampling, monitoring well development and sampling, or surveying. The purpose of the CAMP was to monitor air downwind of the work area for potential impacts associated with the investigation activities. There were no exceedances of the CAMP action levels during the performance of the SC field activities.

4.4 Utility Identification and Protection

Prior to the commencement of ground-intrusive activities, TRC confirmed that the drilling subcontractor, SJB Services, Inc. (SJB), contacted the One-Call Center, received/reviewed confirmation receipts from each utility, and verified mark-outs prior to intrusive work.

In addition to the public utility mark-out, a geophysical survey was conducted by Ground Penetrating Radar Systems, Inc. (GPRS) on August 6, 2018 to identify any underground utilities in the areas of the six proposed monitoring well locations. The geophysical survey equipment consisted of a 400 MHz Ground Penetrating Radar (GPR) unit and RD 7000/8000 Radio Frequency detector. The geophysical survey encompassed an area extending in all directions at least 10 feet beyond each of the proposed monitoring well locations.

Any structure detected in the subsurface within 10 feet of the proposed monitoring well locations was identified on the ground surface with spray paint including the structure depth. Results of the private utility survey are summarized in a brief utility survey report, included in **Appendix B**. Based on results of the private utility survey, proposed monitoring well location ADK-MW-102 was moved (in consultation with the Department) to the southeast due to the presence of an energized power conduit. No other interferences from underground utilities were detected at the remaining proposed monitoring well locations.

4.5 Monitoring Well Installation

Six overburden groundwater monitoring wells (ADK-MW-101 through ADK-MW-106) were installed at the Site between August 7 and August 9, 2018 (refer to **Figure 3**). SJB was retained as a subcontractor by TRC to install the groundwater monitoring wells using 4.25-inch inside diameter hollow stem augers. A summary of the depth of each well, approximate screen interval depths, screen length and diameter, and maximum PID readings recorded during soil sampling are presented in the table below.

Summary of Depths of Monitoring Wells, Monitoring Well Screened Interval Depths and Diameters, and Maximum PID Screening Results

Monitoring Well Identification Number	Approximate Total Depth of Monitoring Well (feet bgs)	Approximate Depth of Screened Interval (feet bgs)	Monitoring Well Screen Length (feet)/Nominal Well Screen and Riser Diameter (inches)	Maximum PID Reading during Soil Sampling (ppm)
ADK-MW-101	8.74	4.74 – 8.74	4/2	0
ADK-MW-102	14.59	4.59 – 14.59	10/2	0
ADK-MW-103	13.71	3.71 – 13.71	10/2	0
ADK-MW-104	14.92	4.92 – 14.92	10/2	0
ADK-MW-105	13.19	3.19 – 13.19	10/2	0
ADK-MW-106	18.02	2.52 – 18.02	15.5/2	0

Notes:
bgs – Below ground surface.
PID – Photoionization detector.
ppm – Parts per million.

The six groundwater monitoring wells were completed at depths ranging from approximately 8.74 feet below ground surface (bgs) to 18.02 feet bgs. The monitoring wells were constructed with 2-inch diameter polyvinyl chloride (PVC) casing and 10-slot (0.010-inch) PVC well screen with vertical spans ranging from 4 feet to 15.5 feet. A clean silica sand pack was installed in the annular space around each groundwater monitoring well screen and extended approximately two feet above the top of each well screen. A two-foot thick hydrated bentonite seal was placed above the sand pack and the remaining annular space was filled with bentonite/cement grout to approximately one foot below the ground surface (to allow for placement of the concrete collar). Where necessary (i.e., ADK-MW-101, ADK-MW-103 and ADK-MW-105), monitoring well construction methods (e.g., thickness of bentonite seal) were modified as appropriate to accommodate the shallow depth to groundwater and depth of refusal. These modifications were made in consultation with the Department.

During groundwater monitoring well installation activities, soil samples were collected continuously from the ground surface to the well completion depth using 2-inch diameter split spoon samplers. The soil samples were inspected for physical evidence of impacts and screened for the presence of VOCs with a PID. In addition, a description of the soil was logged in a field book using the USCS. No odors, staining, or PID readings were detected in the samples recovered from the soil borings. Soil boring and monitoring well construction logs are provided in **Appendix C**.

Equipment blank samples were collected for PFAS analysis to assess if any PFAS contamination was introduced by the sampling methods, equipment or materials. A summary of equipment blank samples collected during monitoring well installation activities is presented in the table below.

Summary of Equipment Blank Samples Collected during Monitoring Well Installation Activities

Equipment Blank Sample Identification	Equipment/Material Sampled
ADK-EB-SS	Split spoon soil sampler
ADK-EB-PVC	2-inch PVC well riser
ADK-EB-SC	2-inch PVC well screen
ADK-EB-SP	Well screen sand pack
ADK-EB-AUG	4.25-inch hollow-stem auger
ADK-EB-DW	Decontamination water

No soil samples were submitted for laboratory analysis during monitoring well installation activities.

4.6 Monitoring Well Development

Following installation, the six newly installed groundwater monitoring wells were developed using standard surging and pumping techniques, using dedicated HDPE tubing and a submersible pump. Depth to groundwater was measured using an oil/water interface probe prior to well development activities. Temperature, conductivity, pH, dissolved oxygen concentration, turbidity, and oxidation reduction potential were monitored using a water quality meter during well development. The monitoring wells were considered developed once turbidity fell below 50 nephelometric turbidity units (NTUs) or 10 well volumes were removed, whichever occurred first. Non-aqueous phase liquid (NAPL) and evidence of contamination (sheens, odors, etc.) were not observed during development of the monitoring wells. Development water was containerized in 55-gallon drums for off-site disposal. The monitoring well development logs are included in **Appendix D**.

4.7 Groundwater Sampling and Gauging

Groundwater samples were collected from the six monitoring wells (ADK-MW-101 through ADK-MW-106) at the Site on August 21, 2018. Prior to the collection of samples, the groundwater monitoring wells were gauged for total well depth, depth to water, and although not expected, depth to NAPL. Groundwater surface elevations and inferred groundwater surface elevation contours, based on measurements in August 2018, are shown on **Figure 4**. Additionally, headspace readings were collected from each monitoring well using a PID. Monitoring wells were purged using a peristaltic pump and PFAS-free dedicated HDPE tubing connected to a flow-through cell for monitoring water quality parameters. Low-flow purging rates and techniques consistent with United States Environmental Protection Agency (USEPA) Low-Stress (Low-Flow) sampling procedures were used to minimize drawdown and suspension of particulate matter in the wells during purging. Water quality parameters, including temperature, pH, conductivity, dissolved oxygen concentration, oxidation reduction potential, and turbidity were recorded prior to and during purging. Groundwater samples were collected after field parameters stabilized within established ranges, generally within ±10 percent for three consecutive readings, 3 minutes to 5 minutes apart. Pumping rates were maintained between 100 milliliters per minute and 500 milliliters per minute so that little or no drawdown of the groundwater level occurred. Water quality readings collected during the sampling event were recorded on low-flow groundwater sampling logs by TRC and are included in **Appendix D**. No NAPL was encountered during the gauging or sampling activities.

Following stabilization of the water quality parameters, groundwater samples were collected, placed into laboratory supplied bottles, packaged in a cooler with ice, and submitted to TestAmerica Laboratories, Inc. (TestAmerica) under standard chain-of-custody procedures for the following analyses:

- PFAS by USEPA Method 537.1 (modified); and

- 1,4-Dioxane by USEPA Method 8270 with Selected Ion Monitoring (SIM).

The results of analysis for the current NYSDEC-approved list of 21 PFAS were reported by TestAmerica. Quality control samples, including matrix spike and matrix spike duplicates, were collected and analyzed in accordance with the generic QAPP. Additionally, one equipment blank sample (ADK-EB-TUB) was collected for PFAS analysis to assess if any PFAS contamination was introduced by the sampling methods, equipment or materials.

4.8 Surface Water Sampling

A total of four surface water samples (ADK-WS-101 through ADK-WS-104) were collected from drainage ditches and ponded areas located near the eastern and southern extents of the Airport on August 21, 2018 (refer to **Figure 3**). Surface water sample ADK-WS-101 was collected near the southern Airport fence line, from an unnamed tributary to Twobridge Brook. Surface water sample ADK-WS-102 was collected in the southeastern portion of the Airport, also near the fence line, from an unnamed tributary to Fay Brook. Surface water sample ADK-WS-103 was collected east of the Airport fence line, from a ponded area of an unnamed tributary to Fay Brook, upstream (north) of surface water sample ADK-WS-102. Surface water sample ADK-WS-104 was collected within the fence line, on the east side of the Airport, from an unnamed tributary to Fay Brook, upstream (north) of surface water sample ADK-WS-103. No visual evidence of contamination was observed during surface water sample collection.

Surface water samples were collected directly in laboratory supplied bottles, packaged in a cooler with ice, and submitted to TestAmerica under standard chain-of-custody procedures for the following analyses:

- PFAS by USEPA Method 537.1 (modified); and
- 1,4-Dioxane by USEPA Method 8270 and SIM.

The results of analysis for the current NYSDEC-approved list of 21 PFAS were reported by TestAmerica. Quality control samples, including matrix spike and matrix spike duplicates, were collected and analyzed in accordance with the generic QAPP.

4.9 Site Survey

Susan M. Anacker Professional Land Surveyor, PLLC (Anacker), a New York State licensed land surveyor, under contract with TRC, completed a survey of the locations and elevations (ground surface, top of riser, and top of well casing) of the newly installed groundwater monitoring wells and the locations and ground surface elevations of surface water samples. The physical features and property boundary survey specified

in the Site Characterization scope of work was not completed per NYSDEC's request. Site survey information provided by Anacker is included as **Appendix E**.

4.10 Investigation Derived Waste

IDW generated during the investigation included soil from drilling activities, and water from well development, well purging, and decontamination of sampling equipment. The IDW was placed in U.S. Department of Transportation (DOT) approved 55-gallon drums and transported as non-DOT regulated material by NRC Corporation for disposal off-Site. The waste was transported to the ENPRO Services of Vermont, Inc. facility located in Williston, Vermont for disposal. The waste disposal manifests are included in **Appendix F**.

5.0 DISCUSSION OF RESULTS

This section presents a discussion of the results of the SC. The results of laboratory analyses are summarized in **Table 1** and **Table 2**. The results of validation of the laboratory analytical data are summarized in the Data Usability Summary Reports (DUSRs) in **Appendix G**. The data validation was performed in accordance with NYSDEC requirements, including the requirements for development of DUSRs in Appendix 2B of DER-10. The complete Analytical Services Protocol (ASP) Laboratory Analytical Data Reports will be provided separately from this report as an electronic data summary. Additionally, electronic data deliverable packages have been uploaded to the NYSDEC EQuIS database.

5.1 Applicable Standards, Criteria and Guidance

This subsection identifies the regulatory standards and guidelines used to evaluate the results of the analyses of groundwater and surface water samples. The standards and guidelines used to evaluate the data associated with each specific media are described individually below.

5.1.1 *Groundwater*

No standards, criteria and guidance (SCG) values are currently available for PFAS or 1,4-dioxane in groundwater under the NYSDEC Inactive Hazardous Waste Disposal Site remedial program. In lieu of SCG values, the NYSDEC has provided Screening Levels of 100 ng/L for individual PFAS (except PFOA and PFOS), 70 ng/L for combined PFOA and PFOS, and 500 ng/L for total PFAS (including PFOA and PFOS) for use at the Site.

5.1.2 *Surface Water*

No SCG values are currently available for PFAS or 1,4-dioxane in surface water under the NYSDEC Inactive Hazardous Waste Disposal Site remedial program. In lieu of SCG values, the NYSDEC has provided Screening Levels of 100 ng/L for individual PFAS (except PFOA and PFOS), 70 ng/L for combined PFOA and PFOS, and 500 ng/L for total PFAS (including PFOA and PFOS) for use at the Site.

5.2 Groundwater Sampling

A summary of the results of the analyses of the groundwater samples is presented in **Table 1**. **Figure 5** shows the monitoring well locations and results of the PFAS analyses above NYSDEC Screening Levels. A review of the results of the analyses of the groundwater samples is presented below.

5.2.1 *1,4-Dioxane in Groundwater*

1,4-Dioxane was not detected at concentrations above the laboratory quantitation limit in any of the six groundwater samples submitted for analysis. The complete results of the analyses of groundwater samples for 1,4-dioxane are presented in **Table 1**.

5.2.2 *Per- and Polyfluoroalkyl Substances (PFAS) in Groundwater*

PFAS were detected above the Screening Levels in four of the six groundwater monitoring wells at the Site. One PFAS (perfluorohexanesulfonic acid (PFHxS)) was detected at a concentration exceeding the Screening Level of 100 ng/L in one groundwater monitoring well (ADK-MW-103, located in the southeastern part of the Airport) and six PFAS (perfluoropentanoic acid (PFPeA), perfluorohexanoic acid (PFHxA), perfluoroheptanoic acid (PFHpA), perfluorobutanesulfonic acid (PFBS), PFHxS and perfluoroheptanesulfonic acid (PFHpS) were detected at concentrations exceeding the Screening Level of 100 ng/L in one groundwater monitoring well (ADK-MW-104, located in the southeastern part of the Airport, north of the New York State Police Hangar). Combined concentrations of PFOA and PFOS were detected at concentrations exceeding the Screening Level of 70 ng/L in four of the six groundwater monitoring wells (ADK-MW-101, ADK-MW-103, ADK-MW-104, and ADK-MW-105), with concentrations ranging from 102 ng/L (ADK-MW-101, located in the southeastern part of the Airport) to 18,061 ng/L (ADK-MW-104). Total PFAS were detected at concentrations exceeding the Screening Level of 500 ng/L in two of the six groundwater monitoring wells (ADK-MW-103 and ADK-MW-104) at concentrations of 3,403.5 ng/L and 28,181 ng/L, respectively. A summary of PFAS detected at concentrations above the Screening Levels in groundwater is presented in the table below.

Summary of PFAS Concentrations Above Screening Levels in Groundwater					
	Sample Location:	**ADK-MW-101**	**ADK-MW-103**	**ADK-MW-104**	**ADK-MW-105**
	Sample Date:	**8/21/2018**	**8/21/2018**	**8/21/2018**	**8/21/2018**
Analytes	**NYSDEC Screening Level***	**Results**	**Results**	**Results**	**Results**
PFPeA	100	**49**	**37**	**270**	1.7 U
PFHxA	100	**57**	**70**	**530**	1.7 U
PFHpA	100	**17**	**16**	**120**	**1.6 J**
PFBS	100	**6.4**	**62**	**530**	**5.6**
PFHxS	100	**74**	**960**	**8,300**	**64**
PFHpS	100	**3.5**	**28**	**210**	**0.81 J**
PFOA + PFOS	70	**102**	**2,207.5**	**18,061**	**190**
Total PFAS	500	**394.24**	**3,403.5**	**28,181**	**265.71**

Notes:
All concentrations are in nanograms per liter (ng/L).
J: Estimated value.
U: Analyte was not detected at specified quantitation limit.
* - No SCG values are currently available for PFAS under the NYSDEC Inactive Hazardous Waste Disposal Site remedial program. In lieu of SCG values, the NYSDEC has provided Screening Levels for individual PFAS (except PFOA and PFOS), combined PFOA and PFOS, and total PFAS (including PFOA and PFOS) for use at the Site.
Values in **bold** indicate the analyte was detected.
Shading indicates result above Screening Level.

The complete results of the analyses of groundwater samples for PFAS are presented in **Table 1**.

5.3 Surface Water Sampling

A summary of the results of the analyses of the surface water samples is presented in **Table 2**. **Figure 6** shows the surface water sampling locations and the results of the PFAS analyses above Screening Levels. A review of the results of the analyses of the surface water samples is presented below.

5.3.1 *1,4-Dioxane in Surface Water*

1,4-Dioxane was not detected at concentrations above the laboratory quantitation limit in any of the four surface water samples submitted for analysis. The complete results of the analyses of surface water samples for 1,4-dioxane are presented in **Table 2**.

5.3.2 *Per- and Polyfluoroalkyl Substances (PFAS) in Surface Water*

PFAS were detected above the Screening Levels in three of the four surface water samples collected as part of the SC field activities. The PFAS PFHxS was detected at concentrations exceeding the Screening Level of 100 ng/L in surface water samples ADK-WA-102 and ADK-WS-103 at concentrations of 130 ng/L and 250 ng/L, respectively. Combined concentrations of PFOA and PFOS were detected at concentrations exceeding the Screening Level of 70 ug/L in surface water samples ADK-WS-101, ADK-WS-102, and ADK-

WS-103 at concentrations ranging from 84 ng/L (ADK-WS-101) to 998 ng/L (ADK-WS-103). Total PFAS were detected at concentrations exceeding the Screening Level of 500 ug/L in surface water sample ADK-WS-103 at a concentration of 1,332.4 ng/L. Surface water sample ADK-WS-103 was collected from a ponded area within a tributary to Fay Brook, north of the New Town Hangar. A summary of PFAS detected at concentrations above the Screening Levels in surface water is presented in the table below.

Summary of PFAS Concentrations Above NYSDEC Screening Levels in Surface Water Samples				
	Sample Location:	**ADK-WS-101**	**ADK-WS-102**	**ADK-WS-103**
	Sample Date:	**8/21/2018**	**8/21/2018**	**8/21/2018**
Analytes	**NYSDEC Screening Level***	**Results**	**Results**	**Results**
PFHxS	100	**56**	**130**	**250**
PFOA + PFOS	70	**84**	**129.3**	**998**
Total PFAS	500	**165.18**	**359.69**	**1,332.4**

Notes:
All concentrations are in nanograms per liter (ng/L).
* - No SCG values are currently available for PFAS under the NYSDEC Inactive Hazardous Waste Disposal Site remedial program. In lieu of SCG values, the NYSDEC has provided Screening Levels for individual PFAS (except PFOA and PFOS), combined PFOA and PFOS, and total PFAS (including PFOA and PFOS) for use at the Site.
Values in **bold** indicate the analyte was detected.
Shading indicates result above Screening Level.

The complete results of the analyses of surface water samples for PFAS are presented in **Table 2**.

5.4 Data Usability

The results of the data validation are summarized in the DUSRs. The DUSRs are provided in **Appendix G** and include a discussion on each qualified result, the potential bias and the effects on data usability. The overall findings of the DUSRs are summarized below.

- The positive results for PFBA, PFPeA, PFHxA, and PFOA in groundwater sample ADK-MW-105; and PFBS and PFOS in groundwater sample ADK-MW-102 were qualified as nondetects (U) due to equipment blank contamination.
- Potential uncertainty exists for select results that were below the lowest calibration standard and quantitation limit (QL). These results were qualified as estimated (J) in the associated samples.
- The positive results for PFHxS in equipment blank samples ADK-EB-AUG, ADK-EB-DW, ADK-EB-PVC, ADK-EB-SC, ADK-EB-SP, and ADK-EB-SS; for PFTeA in groundwater sample ADK-MW-104 and equipment blank sample ADK-EB-TUB were qualified as nondetects (U) due to method blank contamination.
- The positive result for PFOS in groundwater sample ADK-MW-106 was qualified as estimate (J) due to the ratio between the two precursor/product ion transitions being outside the acceptance limits.

- The positive result for PFOS in equipment blank sample ADK-EB-TUB was qualified as estimated (J) due to the ratio between the two precursor/product ion transitions being outside the acceptance limits and detection below the QL.

The results of the groundwater and surface water analyses were found to be valid and usable for decision-making purposes.

5.5 Site Geology and Hydrogeology

Based on the information gathered during the SC, the subsurface geology consists primarily of fine-grained sand. Refusal was encountered during installation of one monitoring well, ADK-MW-101, at approximately nine feet bgs. Boring logs and monitoring well construction logs are presented in **Appendix C**.

According to the Cadwell, D.H., and others, 1986 Surficial Geological Map of New York, New York State Museum – Geological Survey Map and Chart Series #40, the surficial geology of the Site is classified as a till with variable texture (boulders to silt), usually poorly sorted sand-rich diamict, deposition beneath glacier ice, permeability varies with compaction, thickness variable (1-50 meters). Specifically, the Adirondack till is generally sand-rich diamict, metamorphic provenance, best described as outwash sand and gravel; coarse to fine gravel with sand, proglacial fluvial deposition, well rounded and stratified, generally finer texture away from ice border, permeable, thickness variable (2-20 meters). Based on field observations, native surficial geology at the Site was found to coincide with the description above.

According to the Bedrock Geology Map of New York State – Adirondack Sheet (1970), the bedrock underlying the Site and surrounding area is classified as unknown glacial and alluvial deposits of Quaternary age. Bedrock was not cored during the SC; however, nearby bedrock geology is comprised of gneiss of varying composition, typical of the region. Depth to bedrock beneath the Site is unknown.

According to Edward F. Bugliosi, Ruth A. Trudell, and George D. Casey's Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York – Adirondack Sheet Map, the Site is located within an unconfined aquifer composed of sand and gravel with a saturated zone generally less than 10-feet thick, or thicker but with less permeable silty sand and gravel.

Depth to groundwater measured during the SC varied from approximately 4.21 feet bgs in monitoring well ADK-MW-101 to 9.00 feet bgs in monitoring well ADK-MW-102. The following table summarizes Site monitoring well survey coordinates, ground surface elevations, top of riser elevations, and depth to water measurements and associated groundwater surface elevations.

Groundwater Monitoring Well Survey and Gauging Information					
Monitoring Well	**Coordinates (Northing/Easting)**	**Ground Surface Elevation (feet)**	**Top of Riser Elevation (feet)**	**Depth to Water August 2018 (feet bgs)**	**Groundwater Surface Elevation April 2018 (feet)**
ADK-MW-101	2021326.7172/570857.9963	1634.76	1634.56	4.21	1630.35
ADK-MW-102	201059.3197/571236.8720	1632.05	1631.56	9.00	1622.56
ADK-MW-103	2021351.0129/571317.6871	1631.35	1631.22	8.68	1622.54
ADK-MW-104	2021727.3569/570966.0023	1635.25	1634.61	5.34	1629.27
ADK-MW-105	2022558.3923/570764.2769	1638.90	1638.46	6.42	1632.04
ADK-MW-106	2022872.7721/570244.9221	1641.72	1641.45	5.05	1636.40

Notes:
Horizontal Datum: North American Datum of 1983, 2011 adjustment (NAD83/2011) projected on the New York State Plane Coordinate System – East Zone.
Vertical Datum: North American Vertical Datum of 1988 (NAVD88).
Monitoring well information based on instrument survey completed on August 22, 2018.
bgs – below ground surface.

As shown in the table above, during the August 2018 sampling event, groundwater surface elevations in the Site monitoring wells ranged from approximately 1622.54 feet (NAVD88) in monitoring well ADK-MW-103 (located southeast of the Indian Point Hangar) to 1636.40 feet (NAVD88) in monitoring well ADK-MW-106 (located north of the New Town Hangar). The inferred predominant groundwater flow direction, based on water table elevation measurements recorded on August 21, 2018, was towards the southeast. Groundwater surface elevations and inferred groundwater surface elevation contours, based on measurements in August 2018, are shown on **Figure 4**.

6.0 FINDINGS AND RECOMMENDATIONS

The Site Characterization for the Adirondack Regional Airport Site was completed in general accordance with the NYSDEC DER Work Assignment No. D007620-38 Notice to Proceed dated July 28, 2017, the NYSDEC-approved Scope of Work dated January 30, 2018, and NYSDEC DER-10. The findings and recommendations, based on the results of the Site Characterization, are presented below.

6.1 Findings

The results of the SC indicate the following:

- There was no physical evidence of contamination observed in any of the groundwater or surface water samples collected. Additionally, no physical evidence of contamination was observed in any of the subsurface soil inspected during monitoring well installation activities.
- The subsurface geology within the Site investigation area consists primarily of a brown fine sand, consistent with an Adirondack till formation. Refusal was only encountered at one monitoring well location (ADK-MW-101) at a depth of approximately nine feet bgs. Depth to bedrock beneath the Site is unknown.
- Groundwater surface elevations were found to vary between 1622.54 feet (monitoring well ADK-MW-103) and 1636.40 feet (monitoring well ADK-MW-106) during the SC field activities. Based on groundwater surface elevation measurements, the predominant direction of overburden groundwater flow is southeast, towards the adjacent surface water body, Fay Brook.
- 1,4-Dioxane was not detected above the laboratory quantitation limits in any of the groundwater or surface water samples submitted for analysis.
- PFAS were detected in each groundwater sample submitted for analysis. PFAS (individual and/or combined concentrations) were detected at concentrations exceeding the Screening Levels in four of the six groundwater samples submitted for analysis (ADK-MW-101, ADK-MW-103, ADK-MW-104, and ADK-MW-105). Combined concentrations of PFOA and PFOS in groundwater samples ranged from 10.3 ng/L (ADK-MW-106) to 18,061 ng/L (ADK-MW-104). The groundwater sample exhibiting the highest concentrations of total PFAS was collected from groundwater monitoring well ADK-MW-104, which is located north of the New York State Police Hangar. PFOS is the PFAS that was generally detected at the highest concentrations in the groundwater samples submitted for analysis, followed by PFHxS.
- PFAS were detected in each surface water sample submitted for analysis. PFAS (individual and/or combined concentrations) were detected at concentrations exceeding the Screening Levels in three of the four surface water samples submitted for analysis (ADK-WS-101, ADK-WS-102, and ADK-WS-103). Combined concentrations of PFOA and PFOS in surface water samples ranged from 3.13 ng/L (ADK-WS-104) to 998 ng/L (ADK-WS-103). The surface water sample exhibiting the highest

concentrations of total PFAS (ADK-WS-103) was collected from the east of the Airport fence line, within a ponded area of an unnamed tributary to Fay Brook, north of the New Town Hangar and upstream (north) of surface water sample ADK-WS-102. The PFAS PFOS and PFHxS were generally detected at the highest concentrations in the surface water samples submitted for analysis.

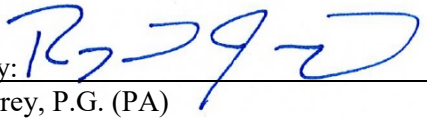
6.2 Recommendations

Additional investigation activities are recommended to delineate the horizontal limits of PFAS contamination in groundwater and surface water at the Site and to determine the extent of off-site impacts.

7.0 CERTIFICATION OF ENVIRONMENTAL PROFESSIONALS

I, Ryan Jorrey, certify that I am currently a NYS Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Site Characterization Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

TRC Engineers, Inc.

Prepared By: 
Ryan S. Jorrey, P.G. (PA)
Project Manager

Reviewed By: 
James J. Magda, P.G.
Senior Technical Reviewer

8.0 REFERENCES

- 6 NYCRR 375, Remedial Program Requirements.
- 6 NYCRR 703, Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations.
- Bedrock Geologic Map of New York, Adirondack Sheet, New York State Museum, 1970, reprinted 1995.
- Bugliosi, Edward F, et al. "Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York – Adirondack Sheet." Water-Resources Investigations Report, 1 Jan. 1994, pubs.er.usgs.gov/publication/wri874276.
- New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER)-10, Technical Guidance for Site Investigation and Remediation, May 2010.
- New York State Department of Environmental Conservation, Division of Environmental Remediation, Bureau of Program Management Work Assignment (WA) Notice to Proceed, July 28, 2017.
- New York State Department of Environmental Conservation, Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998, January 1999, April 2000 and June 2004.
- New York State Department of Environmental Conservation Environmental Remediation Database.
- New York State Department of Environment Conservation Environmental Resource Mapper.
- New York State Department of Environmental Conservation Draft Guidance Document, Sampling for PFAS, October 2017.
- Surficial Geologic Map of New York, Adirondack Sheet, New York State Museum, 1970.
- TRC Engineers, Inc. Standby Engineering Contract Work Assignment (WA) No. D007620-38, NYSDEC-approved Scope of Work dated January 30, 2018.
- TRC Engineers, Inc., "Data Usability Summary Reports (DUSRs) for the Adirondack Regional Airport Site, NYSDEC Site No. 517013", 2018.

TABLES

Table 1
New York State Department of Environmental Conservation
Adirondack Regional Airport - Town of Harrietstown, New York
Summary of Results of Analysis of Groundwater for Per- and Polyfluoroalkyl Substances and 1,4-Dioxane

		Sample Location:	ADK-MW-101		ADK-MW-102		ADK-MW-103		ADK-MW-104		ADK-MW-105		ADK-MW-106	
		Laboratory Sample Identification:	480-140739-1		480-140739-2		480-140739-3		480-140739-4		480-140739-5		480-140739-6	
		Sample Date:	08/21/2018		08/21/2018		08/21/2018		08/21/2018		08/21/2018		08/21/2018	
Analytes	**Units**	**NYSDEC Screening Level***	**Results**		**Results**		**Results**		**Results**		**Results**		**Results**	
Perfluorobutanoic acid (PFBA)	ng/L	100	**24**		**5.7**		**10**		**67**		1.7	U	**4.7**	
Perfluoropentanoic acid (PFPeA)	ng/L	100	**49**		**4.3**		**37**		**270**		1.7	U	**1.7**	
Perfluorohexanoic acid (PFHxA)	ng/L	100	**57**		**5.4**		**70**		**530**		1.7	U	**7**	
Perfluoroheptanoic acid (PFHpA)	ng/L	100	**17**		**13**		**16**		**120**		**1.6**	**J**	**4.3**	
Perfluorononanoic acid (PFNA)	ng/L	100	**28**		**5.5**		1.8	U	**2**		**1.8**		**0.35**	**J**
Perfluorodecanoic acid (PFDA)	ng/L	100	**0.34**	**J**	1.7	U	1.8	U	1.7	U	1.7	U	1.7	U
Perfluoroundecanoic acid (PFUnA)	ng/L	100	1.7	U	1.7	U	1.8	U	1.7	U	1.7	U	1.7	U
Perfluorododecanoic acid (PFDoA)	ng/L	100	1.7	U	1.7	U	1.8	U	1.7	U	1.7	U	1.7	U
Perfluorotridecanoic acid (PFTriA)	ng/L	100	1.7	U	1.7	U	1.8	U	1.7	U	1.7	U	1.7	U
Perfluorotetradecanoic acid (PFTeA)	ng/L	100	1.7	U	1.7	U	1.8	U	1.7	U	1.7	U	1.7	U
Perfluorobutanesulfonic acid (PFBS)	ng/L	100	**6.4**		1.7	U	**62**		**530**		**5.6**		**14**	
Perfluorohexanesulfonic acid (PFHxS)	ng/L	100	**74**		1.7	U	**960**		**8,300**		**64**		**49**	
Perfluoroheptanesulfonic acid (PFHpS)	ng/L	100	**3.5**		1.7	U	**28**		**210**		**0.81**	**J**	**0.9**	**J**
Perfluorooctanesulfonic acid (PFOS)	ng/L	NS	**66**		1.7	U	**2,200**		**18,000**		**190**		**4.5**	**J**
Perfluorodecanesulfonic acid (PFDS)	ng/L	100	1.7	U	1.7	U	1.8	U	1.7	U	1.7	U	1.7	U
Perfluorooctane Sulfonamide (FOSA)	ng/L	100	1.7	U	1.7	U	1.8	U	1.7	U	1.7	U	1.7	U
Perfluorooctanoic acid (PFOA)	ng/L	NS	**36**		**20**		**7.5**		**61**		1.7	U	**5.8**	
6:2 Perfluorooctane Sulfonate (6:2 FTS)	ng/L	100	**33**		**5.1**	**J**	**13**	**J**	**91**		**1.9**	**J**	17	U
8:2 Perfluorodecane Sulfonate (8:2 FTS)	ng/L	100	17	U	**13**	**J**	18	U	17	U	17	U	17	U
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine (N-EtFOSAA)	ng/L	100	17	U	17	U	18	U	17	U	17	U	17	U
2-(N-methyl perfluorooctanesulfonamido) acetic acid (N-MeFOSAA)	ng/L	100	17	U	17	U	18	U	17	U	17	U	17	U
PFOA + PFOS	ng/L	70	**102**		**20**		**2,207.5**		**18,061**		**190**		**10.3**	**J**
Total per- and polyfluoroalkyl substances (PFAS)	ng/L	500	**394.24**		**72**		**3,403.5**		**28,181**		**265.71**		**92.25**	
1,4-Dioxane	ug/L	NS	2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U

Notes:

ng/L - Nanograms per liter.

ug/L - Micrograms per liter.

J - Estimated value.

U - Analyte was not detected at the specified quantitation limit.

NS - No NYSDEC Screening Level.

* - No standards, criteria or guidance (SCG) values are currently available for PFAS or 1,4-Dioxane under the NYSDEC Inactive Hazardous Waste Disposal Site remedial program. In lieu of SCG values, the NYSDEC has provided Screening Levels for individual PFAS (except PFOA and PFOS), combined PFOA and PFOS, and total PFAS (including PFOA and PFOS) for use at the Site.

Values in **bold** indicate the analyte was detected.

Shading indicates result above NYSDEC Screening Level.

Table 2
New York State Department of Environmental Conservation
Adirondack Regional Airport - Town of Harrietstown, New York
Summary of Results of Analysis of Surface Water for Per- and Polyfluoroalkyl Substances and 1,4-Dioxane

		Sample Location:	ADK-WS-101		ADK-WS-102		ADK-WS-103		ADK-WS-104			
		Laboratory Sample Identification:	480-140739-7		480-140739-8		480-140739-9		480-140739-10			
		Sample Date:	08/21/2018		08/21/2018		08/21/2018		08/21/2018			
Analytes	**Units**	**NYSDEC Screening Level***	**Results**		**Results**		**Results**		**Results**			
Perfluorobutanoic acid (PFBA)	ng/L	100	**2.4**		**6.9**		**7**		**0.98**	**J**		
Perfluoropentanoic acid (PFPeA)	ng/L	100	**3.3**		**20**		**8.9**		**0.82**	**J**		
Perfluorohexanoic acid (PFHxA)	ng/L	100	**5.4**		**23**		**32**		**1.6**	**J**		
Perfluoroheptanoic acid (PFHpA)	ng/L	100	**1.8**		**7**		**3.5**		**0.55**	**J**		
Perfluorononanoic acid (PFNA)	ng/L	100	**0.38**	**J**	**0.69**	**J**	1.7	U	1.8	U		
Perfluorodecanoic acid (PFDA)	ng/L	100	1.7	U	1.7	U	1.7	U	1.8	U		
Perfluoroundecanoic acid (PFUnA)	ng/L	100	1.7	U	1.7	U	1.7	U	1.8	U		
Perfluorododecanoic acid (PFDoA)	ng/L	100	1.7	U	1.7	U	1.7	U	1.8	U		
Perfluorotridecanoic acid (PFTriA)	ng/L	100	1.7	U	1.7	U	1.7	U	1.8	U		
Perfluorotetradecanoic acid (PFTeA)	ng/L	100	1.7	U	1.7	U	1.7	U	1.8	U		
Perfluorobutanesulfonic acid (PFBS)	ng/L	100	**10**		**20**		**23**		**1.9**			
Perfluorohexanesulfonic acid (PFHxS)	ng/L	100	**56**		**130**		**250**		**7.5**			
Perfluoroheptanesulfonic acid (PFHpS)	ng/L	100	**1.9**		**5.8**		**10**		1.8	U		
Perfluorooctanesulfonic acid (PFOS)	ng/L	NS	**81**		**120**		**990**		**2.3**			
Perfluorodecanesulfonic acid (PFDS)	ng/L	100	1.7	U	1.7	U	1.7	U	1.8	U		
Perfluorooctane Sulfonamide (FOSA)	ng/L	100	1.7	U	1.7	U	1.7	U	1.8	U		
Perfluorooctanoic acid (PFOA)	ng/L	NS	**3**		**9.3**		**8**		**0.83**	**J**		
6:2 Perfluorooctane Sulfonate (6:2 FTS)	ng/L	100	17	U	**17**		17	U	18	U		
8:2 Perfluorodecane Sulfonate (8:2 FTS)	ng/L	100	17	U	17	U	17	U	18	U		
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine (N-EtFOSAA)	ng/L	100	17	U	17	U	17	U	18	U		
2-(N-methyl perfluorooctanesulfonamido) acetic acid (N-MeFOSAA)	ng/L	100	17	U	17	U	17	U	18	U		
PFOA + PFOS	ng/L	70	**84**		**129.3**		**998**		**3.13**	**J**		
Total per- and polyfluoroalkyl substances (PFAS)	ng/L	500	**165.18**		**359.69**		**1,332.4**		**16.48**			
1,4-Dioxane	ug/L	NS	0.2	U	1	U	4	U	0.2	U		

Notes:

ng/L - Nanograms per liter.

ug/L - Micrograms per liter.

J - Estimated value.

U - Analyte was not detected at the specified quantitation limit.

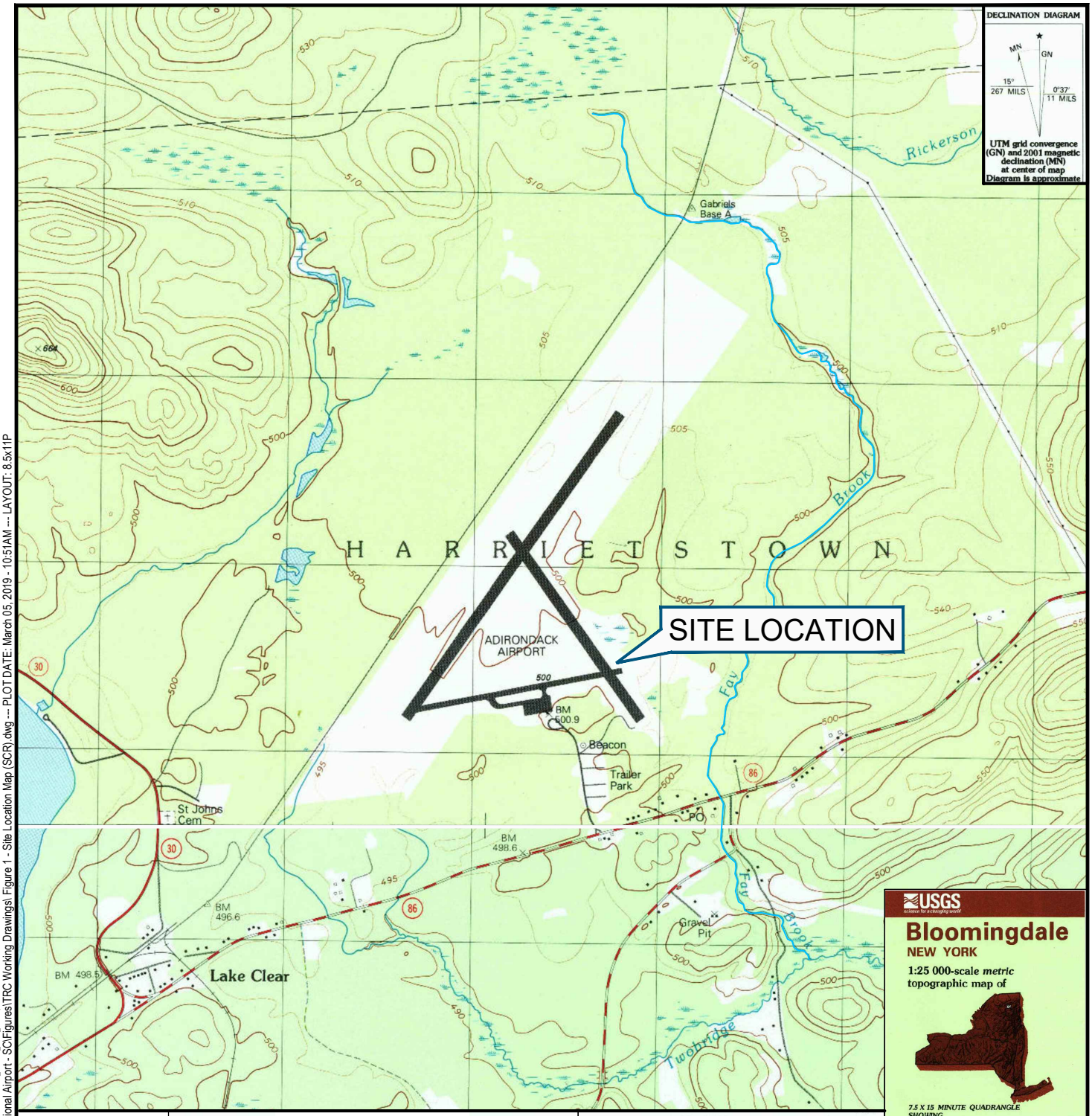
NS - No NYSDEC Screening level.

* - No standards, criteria or guidance (SCG) values are currently available for PFAS or 1,4-Dioxane under the NYSDEC Inactive Hazardous Waste Disposal Site remedial program. In lieu of SCG values, the NYSDEC has provided Screening levels for individual PFAS (except PFOA and PFOS), combined PFOA and PFOS, and total PFAS (including PFOA and PFOS) for use at the Site.

Values in **bold** indicate the analyte was detected.

Shading indicates result above NYSDEC Screening level.

FIGURES



SCALE: 1:2500

1 CENTIMETER ON THE MAP REPRESENTS 250 METERS ON THE GROUND

CONTOUR INTERVAL 10 METERS

SUPPLEMENTARY CONTOUR INTERVAL 5 METERS

BLOOMINGDALE, NEW YORK

1999

0 500 1000 2000 3000 4000

0 1000 2000 4000 6000 8000 10 000 12 000 14 000

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PROJECT:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADIRONDACK REGIONAL AIRPORT - SITE NO. 517013
TOWN OF HARRIETSTOWN, FRANKLIN COUNTY, NEW YORK

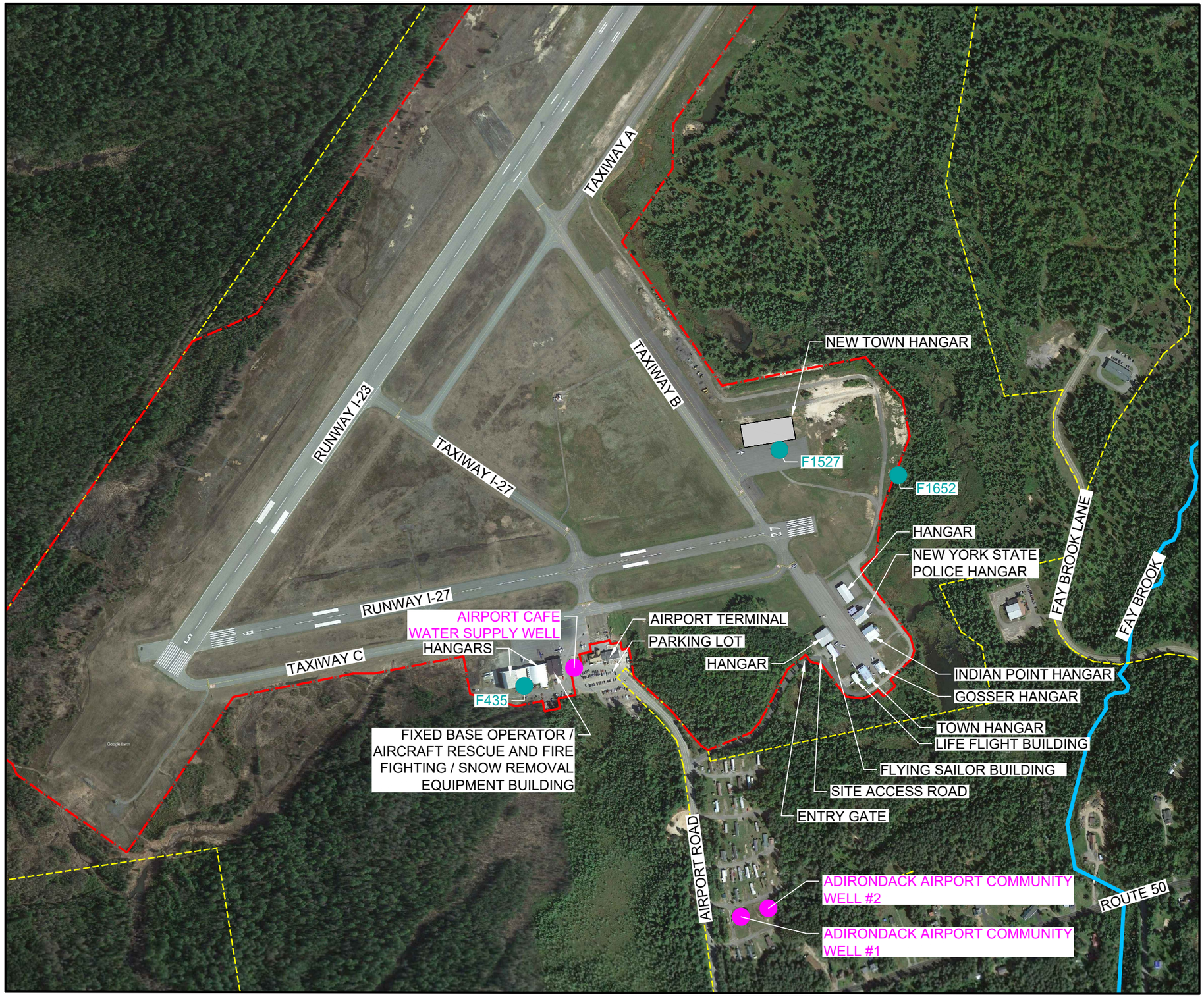
TITLE:

SITE LOCATION MAP

DRAWN BY:	H. DELGADO
CHECKED BY:	R. JORREY
APPROVED BY:	D. GLASS
DATE:	MARCH 2019
PROJ. NO.:	285483
FILE:	Figure 1 - Site Location Map (SCR).dwg

FIGURE 1

8.5x11 --- ATTACHED IMAGES: --- NY_Bloomingdale_137114_1999_25000_NY_Saranac Lake_136887_1999_25000;
DRAWING NAME: I:\Projects\NYSDEC\Assignments\WA #38 - ADK Regional Airport - SCI\Figures\TRC Working Drawings\ Figure 1 - Site Location Map (SCR).dwg --- PLOT DATE: March 05, 2019 - 10:51AM --- LAYOUT: 8.5x11P



LEGEND (SYMBOLS NOT TO SCALE):

- PUBLIC WATER SUPPLY WELL LOCATION AND IDENTIFICATION NUMBER
- PRIVATE WATER SUPPLY WELL LOCATION AND IDENTIFICATION NUMBER
- FENCE
- TAX PARCEL NUMBER 423-1-41.100 BOUNDARY

NOTES:

1. BASE MAP IMAGERY SOURCED FROM GOOGLE EARTH PRO, 2014.
2. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND BOUNDARIES ARE APPROXIMATE.
3. WATER SUPPLY WELL INFORMATION PROVIDED BY NYSDOH.
4. PARCEL BOUNDARY SOURCED FROM FRANKLIN COUNTY TAX ASSESSOR.

0 600' 1200'

SCALE: 1" = 600'
SHEET SIZE: 11" BY 17"

PROJECT:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADIRONDACK REGIONAL AIRPORT - SITE NO. 517013
TOWN OF HARRIETSTOWN, FRANKLIN COUNTY, NEW YORK

TITLE:

PROJECT LIMITS AND PRE-EXISTING SITE FEATURES

DRAWN BY:	H. DELGADO	PROJ NO.:	285483
CHECKED BY:	R. JORREY		**FIGURE 2**
APPROVED BY:	D. GLASS		
DATE:	MARCH 2019		

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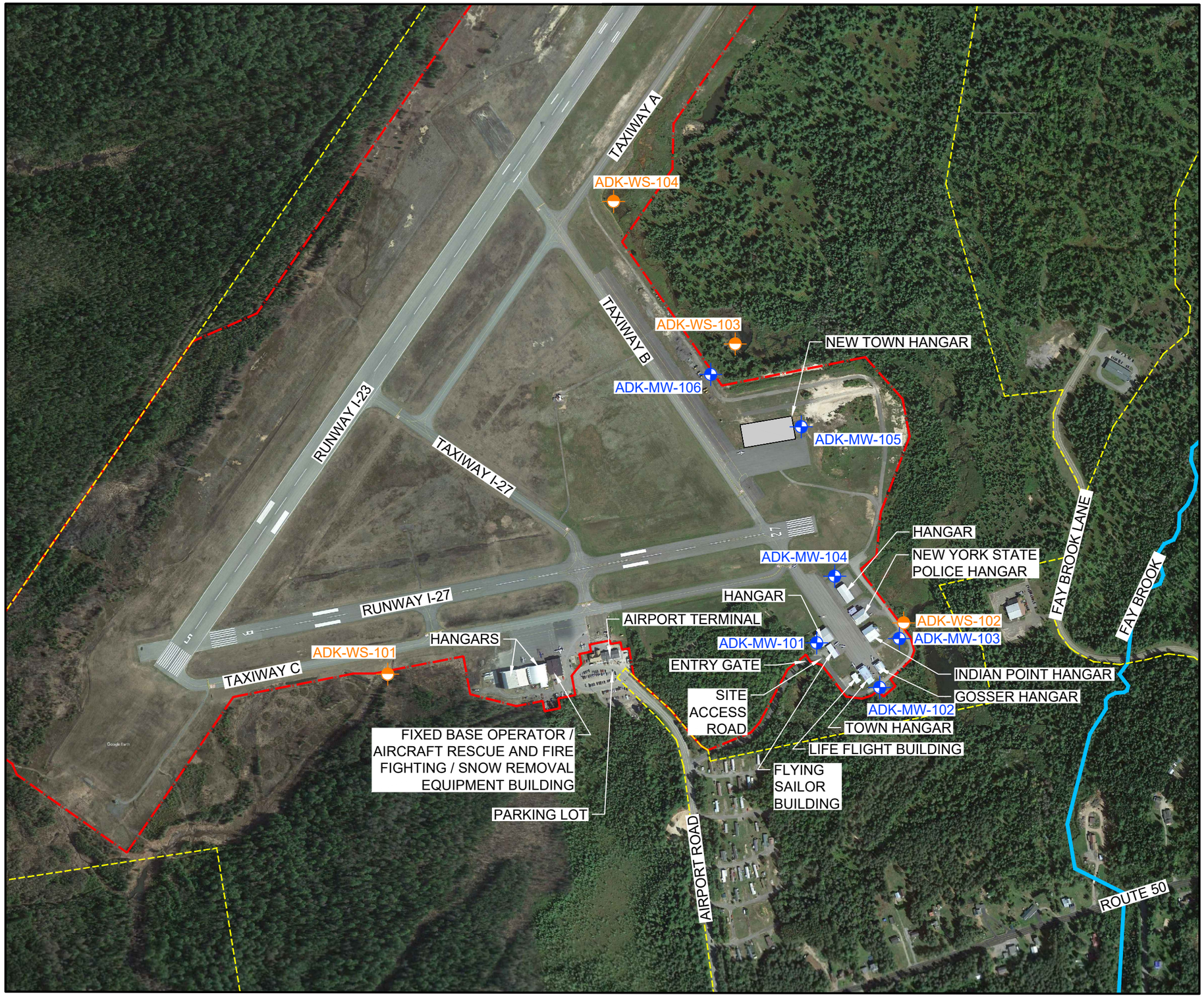
Clifton Park, NY 12065
Phone: 518.348.1190
www.trcsolutions.com

FILE NO.: Figure 2 - Proj. Lim. and Pre-Ex.Site Feat.(SCR).dwg



LEGEND (SYMBOLS NOT TO SCALE):

- ADK-MW-XXX — MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- ADK-WS-XXX — SURFACE WATER SAMPLE LOCATION AND IDENTIFICATION NUMBER
- FENCE
- TAX PARCEL NUMBER 423-1-41.100 BOUNDARY

NOTES:

1. BASE MAP IMAGERY SOURCED FROM GOOGLE EARTH PRO, 2014.
2. POINT LOCATION INFORMATION BASED ON SURVEY BY SUSAN M. ANACKER PROFESSIONAL LAND SURVEYOR, PLLC, ON AUGUST 22, 2018.
3. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND BOUNDARIES ARE APPROXIMATE.
4. PARCEL BOUNDARY SOURCED FROM FRANKLIN COUNTY TAX ASSESSOR.

0 600' 1200'

SCALE: 1" = 600'
SHEET SIZE: 11" BY 17"

PROJECT:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADIRONDACK REGIONAL AIRPORT - SITE NO. 517013
TOWN OF HARRIETSTOWN, FRANKLIN COUNTY, NEW YORK

TITLE:

SAMPLING LOCATION PLAN

DRAWN BY:	H. DELGADO	PROJ NO.:	285483
CHECKED BY:	R. JORREY		
APPROVED BY:	D. GLASS		**FIGURE 3**
DATE:	MARCH 2019		

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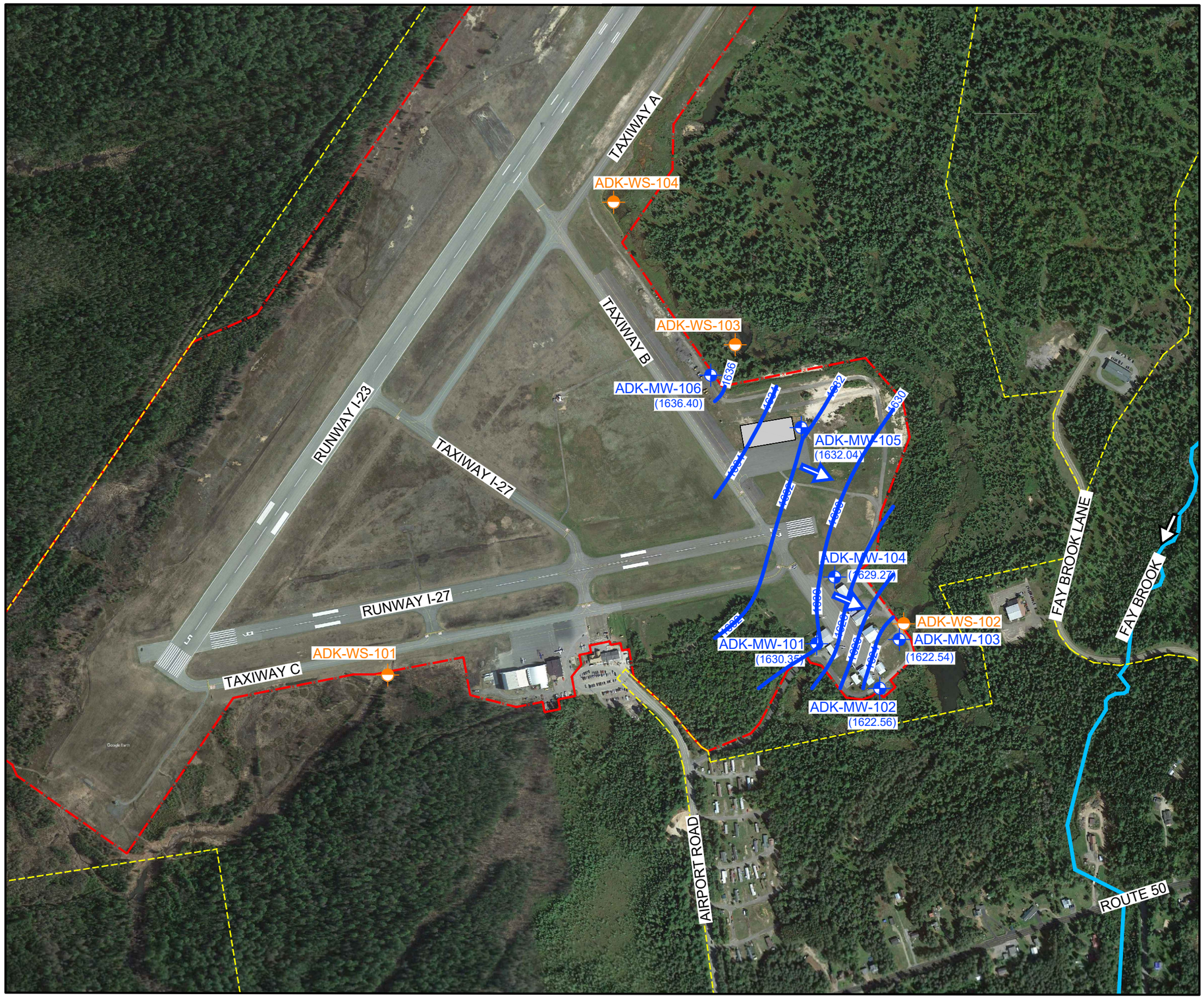
FILE NO.: Figure 3 - Sampling Location Plan (SCR).dwg



LEGEND (SYMBOLS NOT TO SCALE):

- ADK-MW-XXX — MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- ADK-WS-XXX — SURFACE WATER SAMPLE LOCATION AND IDENTIFICATION NUMBER
- FENCE
- TAX PARCEL NUMBER 423-1-41.100 BOUNDARY
- (1630.35) — GROUNDWATER SURFACE ELEVATION IN FEET (NAVD88) AUGUST 2018
- 1630 — INFERRED GROUNDWATER SURFACE ELEVATION CONTOUR IN FEET (2-FOOT INTERVALS)
- INFERRED GROUNDWATER FLOW DIRECTION
- GENERAL FLOW DIRECTION OF FAY BROOK

NOTES:

1. BASE MAP IMAGERY SOURCED FROM GOOGLE EARTH PRO, 2014.
2. POINT LOCATION INFORMATION BASED ON SURVEY BY SUSAN M. ANACKER PROFESSIONAL LAND SURVEYOR, PLLC, ON AUGUST 22, 2018.
3. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND BOUNDARIES ARE APPROXIMATE.
4. PARCEL BOUNDARY SOURCED FROM FRANKLIN COUNTY TAX ASSESSOR.
5. ELEVATIONS PROVIDED IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

0 600' 1200'

SCALE: 1" = 600'
SHEET SIZE: 11" BY 17"

PROJECT:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADIRONDACK REGIONAL AIRPORT - SITE NO. 517013
TOWN OF HARRIETSTOWN, FRANKLIN COUNTY, NEW YORK

TITLE:

GROUNDWATER SURFACE ELEVATION CONTOUR MAP - AUGUST 2018

DRAWN BY:	H. DELGADO	PROJ NO.:	285483
CHECKED BY:	R. JORREY		
APPROVED BY:	D. GLASS		**FIGURE 4**
DATE:	MARCH 2019		

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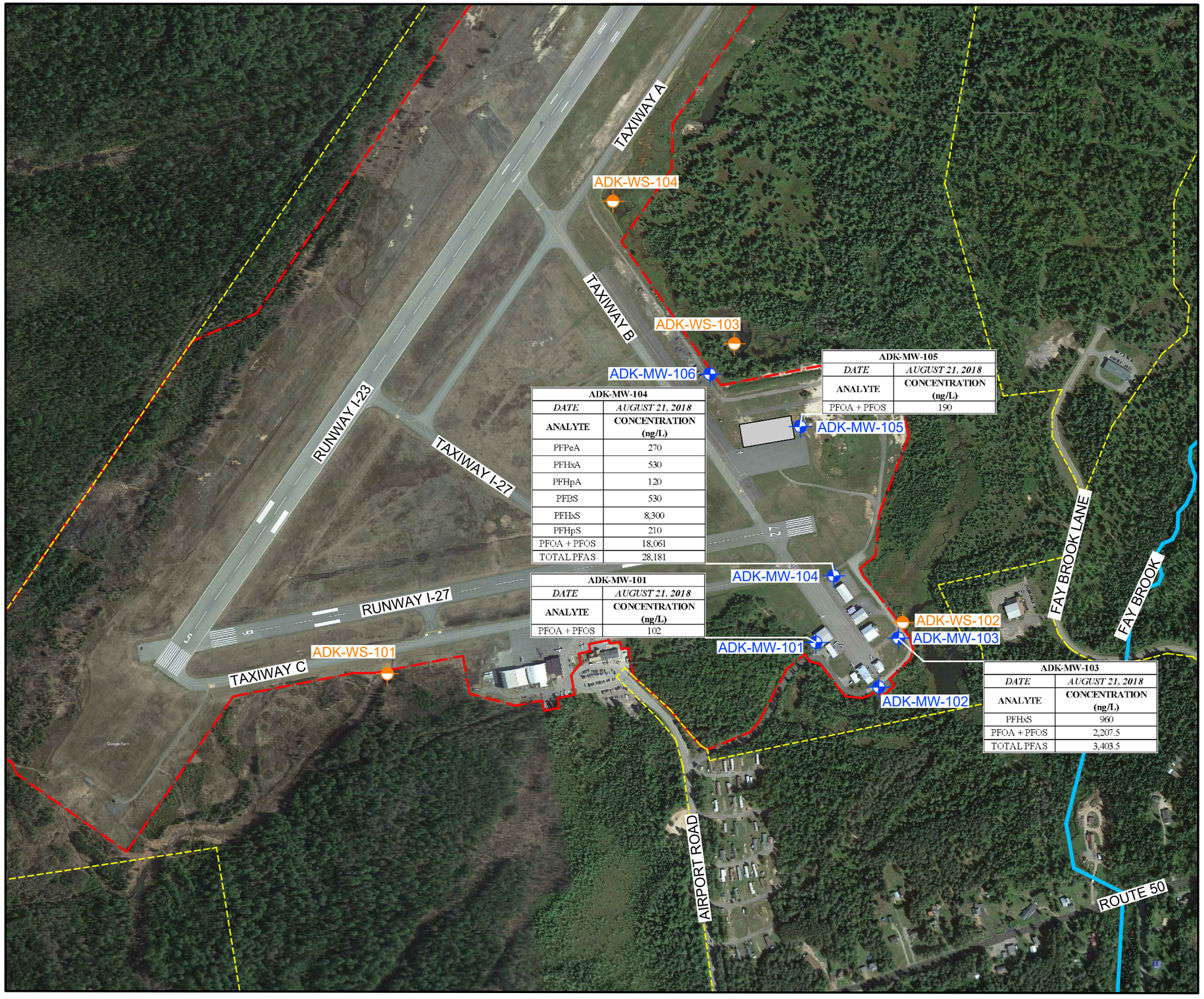
FILE NO.: Figure 4 - GW Surface El. Cont. Map - Aug. 2018 (SCR).dwg



ADK-MW-104	
DATE	*AUGUST 21, 2018*
ANALYTE	**CONCENTRATION (ng/L)**
PFPeA	270
PFHxA	530
PFHpA	120
PFBS	530
PFHxS	8,300
PFHpS	210
PFOA + PFOS	18,061
TOTAL PFAS	28,181

ADK-MW-105	
DATE	*AUGUST 21, 2018*
ANALYTE	**CONCENTRATION (ng/L)**
PFOA + PFOS	190

ADK-MW-101	
DATE	*AUGUST 21, 2018*
ANALYTE	**CONCENTRATION (ng/L)**
PFOA + PFOS	102

ADK-MW-103	
DATE	*AUGUST 21, 2018*
ANALYTE	**CONCENTRATION (ng/L)**
PFHxS	960
PFOA + PFOS	2,207.5
TOTAL PFAS	3,403.5

LEGEND (SYMBOLS NOT TO SCALE):

ADK-MW-XXX — MONITORING WELL LOCATION AND IDENTIFICATION NUMBER

ADK-WS-XXX — SURFACE WATER SAMPLE LOCATION AND IDENTIFICATION NUMBER

FENCE

TAX PARCEL NUMBER 423-1-41.100 BOUNDARY

LIST OF ACRONYMS:

ng/L - NANOGRAMS PER LITER
PFAS - PER- AND POLYFLUOROALKYL SUBSTANCES
PFBS - PERFLUOROBUTANESULFONIC ACID
PFHxA - PERFLUOROHEXANOIC ACID
PFHpA - PERFLUOROHEPTANOIC ACID
PFHpS - PERFLUOROHEPTANESULFONIC ACID
PFHxS - PERFLUOROHEXANESULFONIC ACID
PFOA - PERFLUOROOCTANOIC ACID
PFOS - PERFLUOROOCTANESULFONIC ACID
PFPeA PERFLUOROPENTANOIC ACID
SCG - STANDARDS, CRITERIA, OR GUIDANCE

NOTES:

1. BASE MAP IMAGERY SOURCED FROM GOOGLE EARTH PRO, 2014.
2. POINT LOCATION INFORMATION BASED ON SURVEY BY SUSAN M. ANACKER PROFESSIONAL LAND SURVEYOR, PLLC, ON AUGUST 22, 2018.
3. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND BOUNDARIES ARE APPROXIMATE.
4. PARCEL BOUNDARY SOURCED FROM FRANKLIN COUNTY TAX ASSESSOR.
5. SCG VALUES ARE NOT CURRENTLY AVAILABLE FOR PFAS UNDER THE NYSDEC INACTIVE HAZARDOUS WASTE DISPOSAL SITE REMEDIAL PROGRAM. IN LIEU OF SCG VALUES, THE NYSDEC HAS PROVIDED SCREENING LEVELS FOR INDIVIDUAL PFAS (EXCEPT PFOA AND PFOS), COMBINED PFOA AND PFOS, AND TOTAL PFAS (INCLUDING PFOA AND PFOS) CONCENTRATIONS FOR USE AT THE SITE.
6. ALL RESULTS SHOWN ARE ABOVE NYSDEC SCREENING LEVELS.

0 600' 1200'

SCALE: 1" = 600'
SHEET SIZE: 11" BY 17"

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADIRONDACK REGIONAL AIRPORT - SITE NO. 517013
TOWN OF HARRIETSTOWN, FRANKLIN COUNTY, NEW YORK

TITLE: **GROUNDWATER ANALYTICAL RESULTS FOR PER- AND POLYFLUOROALKYL SUBSTANCES ABOVE SCREENING LEVELS**

DRAWN BY:	H. DELGADO	PROJ NO.:	285483
CHECKED BY:	R. JORREY		
APPROVED BY:	D. GLASS		**FIGURE 5**
DATE:	MARCH 2019		

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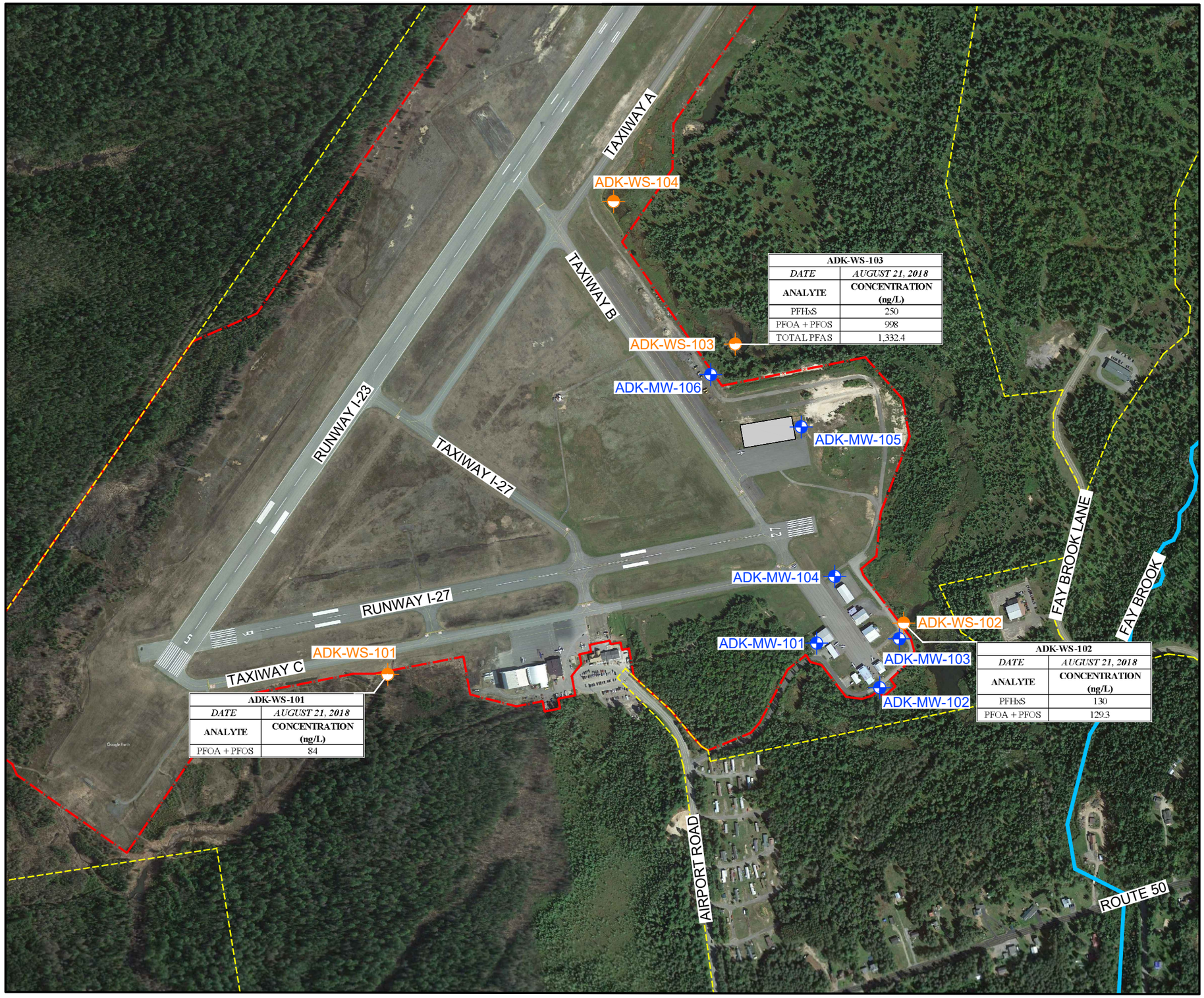
FILE NO.: Figure 5 - GW Anal. Res. for PER- and POLY Sub. ASL (SCR).dwg



ADK-WS-103	
DATE	*AUGUST 21, 2018*
ANALYTE	CONCENTRATION (ng/L)
PFHxS	250
PFOA + PFOS	998
TOTAL PFAS	1,332.4

ADK-WS-102	
DATE	*AUGUST 21, 2018*
ANALYTE	CONCENTRATION (ng/L)
PFHxS	130
PFOA + PFOS	129.3

ADK-WS-101	
DATE	*AUGUST 21, 2018*
ANALYTE	CONCENTRATION (ng/L)
PFOA + PFOS	84

LEGEND (SYMBOLS NOT TO SCALE):

- ADK-MW-XXX — MONITORING WELL LOCATION AND IDENTIFICATION NUMBER
- ADK-WS-XXX — SURFACE WATER SAMPLE LOCATION AND IDENTIFICATION NUMBER
- FENCE
- TAX PARCEL NUMBER 423-1-41.100 BOUNDARY

LIST OF ACRONYMS:

ng/L - NANOGRAMS PER LITER
PFAS - PER- AND POLYFLUOROALKYL SUBSTANCES
PFHxS - PERFLUOROHEXANESULFONIC ACID
PFOA - PERFLUOROOCTANOIC ACID
PFOS - PERFLUOROOCTANESULFONIC ACID
SCG - STANDARDS, CRITERIA, OR GUIDANCE

NOTES:

1. BASE MAP IMAGERY SOURCED FROM GOOGLE EARTH PRO, 2014.
2. POINT LOCATION INFORMATION BASED ON SURVEY BY SUSAN M. ANACKER PROFESSIONAL LAND SURVEYOR, PLLC, ON AUGUST 22, 2018.
3. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND BOUNDARIES ARE APPROXIMATE.
4. PARCEL BOUNDARY SOURCED FROM FRANKLIN COUNTY TAX ASSESSOR.
5. SCG VALUES ARE NOT CURRENTLY AVAILABLE FOR PFAS UNDER THE NYSDEC INACTIVE HAZARDOUS WASTE DISPOSAL SITE REMEDIAL PROGRAM. IN LIEU OF SCG VALUES, THE NYSDEC HAS PROVIDED SCREENING LEVELS FOR INDIVIDUAL PFAS (EXCEPT PFOA AND PFOS), COMBINED PFOA AND PFOS, AND TOTAL PFAS (INCLUDING PFOA AND PFOS) CONCENTRATIONS FOR USE AT THE SITE.
6. ALL RESULTS SHOWN ARE ABOVE NYSDEC SCREENING LEVELS.

0 600' 1200'

SCALE: 1" = 600'
SHEET SIZE: 11" BY 17"

PROJECT:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADIRONDACK REGIONAL AIRPORT - SITE NO. 517013
TOWN OF HARRIETSTOWN, FRANKLIN COUNTY, NEW YORK

TITLE: **SURFACE WATER ANALYTICAL RESULTS FOR PER- AND POLYFLUOROALKYL SUBSTANCES ABOVE SCREENING LEVELS**

DRAWN BY:	H. DELGADO	PROJ NO.:	285483
CHECKED BY:	R. JORREY		
APPROVED BY:	D. GLASS		**FIGURE 6**
DATE:	MARCH 2019		

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FILE NO.: Figure 6 - SW Anal. Res. for PER- and POLY Sub. ASL (SCR).dwg

APPENDIX A
FAA CORRESPONDENCE AND DETERMINATION LETTER

Federal Aviation Administration

March 09, 2018

TO:
NYSDEC
Attn: Samantha Salotto
P.O. Box 296
1115 State Route 86
Ray Brook, NY 12977
samantha.salotto@dec.ny.gov

CC:
TOWN OF HARRIETSTOWN
39 MAIN STREET
SARANAC LAKE, NY 12983
mkilroy@northnet.org

RE: *(See attached Table 1 for referenced case(s))*
THIS IS NOT A FINAL DETERMINATION LETTER

Additional information is required before we can complete an aeronautical study concerning:

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2018-AEA-433-NRA		SARANAC LAKE,NY	44-23-06.74N	74-12-04.94W	31	1675

Description: A total of three (3) monitoring wells will be drilled, installed, and developed on the eastern side of the tarmac at the Adirondack Regional Airport. Drill rig tower will be vertical during working hours of monitoring well installation events and lowered at the end of each work day.

Provide a complete description of the structure and/or proposal.

Submit separate information for each structure. Provide latitude, longitude, datum (e.g., NAD 83, NAD 27), ground level height, structure height, measurements from nearest runway, and a sketch or diagram of the project for each structure.

Note which runway you are measuring to (e.g., 06/24 or runway end 18) then measure a perpendicular line from the latitude/longitude point to the nearest runway centerline or centerline extended - see item A of the attached diagram. Measure the intersecting point on the centerline/centerline extended to the nearest runway end - see item B of the attached diagram. Use the closest point of the structure to the nearest runway centerline - see item C of the attached diagram. If NAD 83 is not available to you, please specify which datum you are using (e.g., NAD 27, WGS 84).

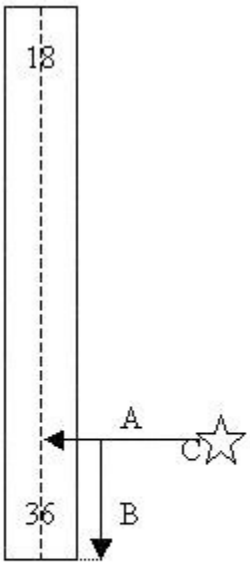
Clarify the scope of the work. Project description mentions three (3)monitoring wells to be installed at the airport. However, the attachments to the case depict six locations for this project ADK-MW 101 thru 106.

Please sign and date FAA 7460-1 form.

IF NO RESPONSE IS RECEIVED WITHIN 30 DAYS OF THE DATE OF THIS LETTER, ACTION WILL BE TAKEN TO TERMIINATE THIS AERONAUTICAL STUDY.

If you have any questions concerning this determination contact Jose Moreno (718) 995-5775 jose.moreno@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-AEA-433-NRA.

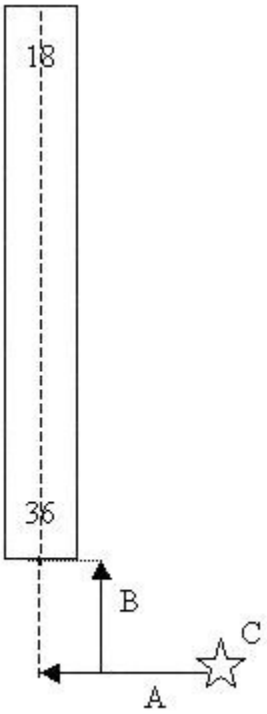
Jose Moreno
ADO
Signature Control No: 359169857-359237062



A = perpendicular distance to nearest runway centerline.

B= distance along centerline to nearest runway end.

C= closest point of structure to nearest runway centerline.



A = perpendicular distance to nearest runway centerline extended.

B= distance along centerline extended to the nearest runway end.

C= closest point of structure to nearest runway centerline extended.

10 Maxwell Drive
Suite 200
Clifton Park, NY 12065

518.348.1190 PHONE
518.348.1194 FAX

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March 30, 2018

VIA ELECTRONIC MAIL
Mr. Jose Moreno, Community Planner
U.S. Department of Transportation
Federal Aviation Administration
New York Airports District Office
FAA Eastern Region
1 Aviation Plaza, Room 111
Jamaica, New York 11434

Re: Notice of Proposed Construction or Alteration
Federal Aviation Administration Form 7460-1
Aeronautical Study Number 2018-AEA-433-NRA
Adirondack Regional Airport
Saranac Lake, New York

Dear Mr. Moreno:

Pursuant to the Federal Aviation Administration's request for additional information regarding Aeronautical Study Number 2018-AEA-433-NRA, TRC Engineers, Inc. (TRC) has prepared the following summary of proposed work to be conducted at the Adirondack Regional Airport in Saranac Lake, New York (see **Figure 1**). TRC is working on behalf of the New York State Department of Environmental Conservation (NYSDEC) on an environmental investigation of the Adirondack Regional Airport Site (herein referred to as the "Site"), which is a New York State Class P Inactive Hazardous Waste Disposal Site, Site Number 517013. Initial sampling of groundwater at the Site has indicated the presence of per- and polyfluoroalkyl substances (PFAS), which require additional investigation activities to assess the contamination.

As part of the investigation, six (6) groundwater monitoring wells (ADK-MW-101 through ADK-MW-106) will be installed at the locations shown on **Figure 2**. The wells will be installed during normal working hours (i.e., Monday through Friday, 7:00 a.m. to 5:00 p.m.) using an all-terrain vehicle mounted drill rig and hollow stem auger drilling techniques. Specifications for the drill rig, including drilling tower height, are presented in **Attachment A**.

One (1) drill rig will be present on the Site during the work. The drill rig will install one (1) monitoring well at a time. The drill rig's tower will be in the vertical position during working hours, while the monitoring wells are being installed. The tower will be lowered to the horizontal position at the end of each work day. The drill rig will be stored near monitoring well location ADK-MW-102 with the tower in the horizontal position during non-working hours.

The monitoring wells will be constructed using two-inch diameter well risers and ten (10) foot screen lengths. Each well will be completed at grade with a protective road box within a 2-foot by 2-foot concrete

pad. Monitoring wells will be completed at grade to match existing ground surface and will not extend vertically above existing ground surface elevation. Typical monitoring well construction details are presented in **Attachment B**. The location (longitude and latitude) of each monitoring well, adjacent ground surface elevation, top of road box protective cover elevation, measurements from the nearest runway, and coordinate system datums are provided on **Figure 2**. In addition, the top of the drilling tower elevation, while in the vertical position at each monitoring well location, is also shown on **Figure 2.**

The anticipated duration of the work is approximately five (5) working days. Please note that the start of work date is not known at this time, since it is dependent on weather and ground surface conditions, which is why a work period of four (4) months has been requested.

If you have any questions or comments, please do not hesitate to contact me via e-mail at rjorrey@trcsolutions.com or by phone at (315) 868-4440.

Sincerely,
TRC Engineers, Inc.

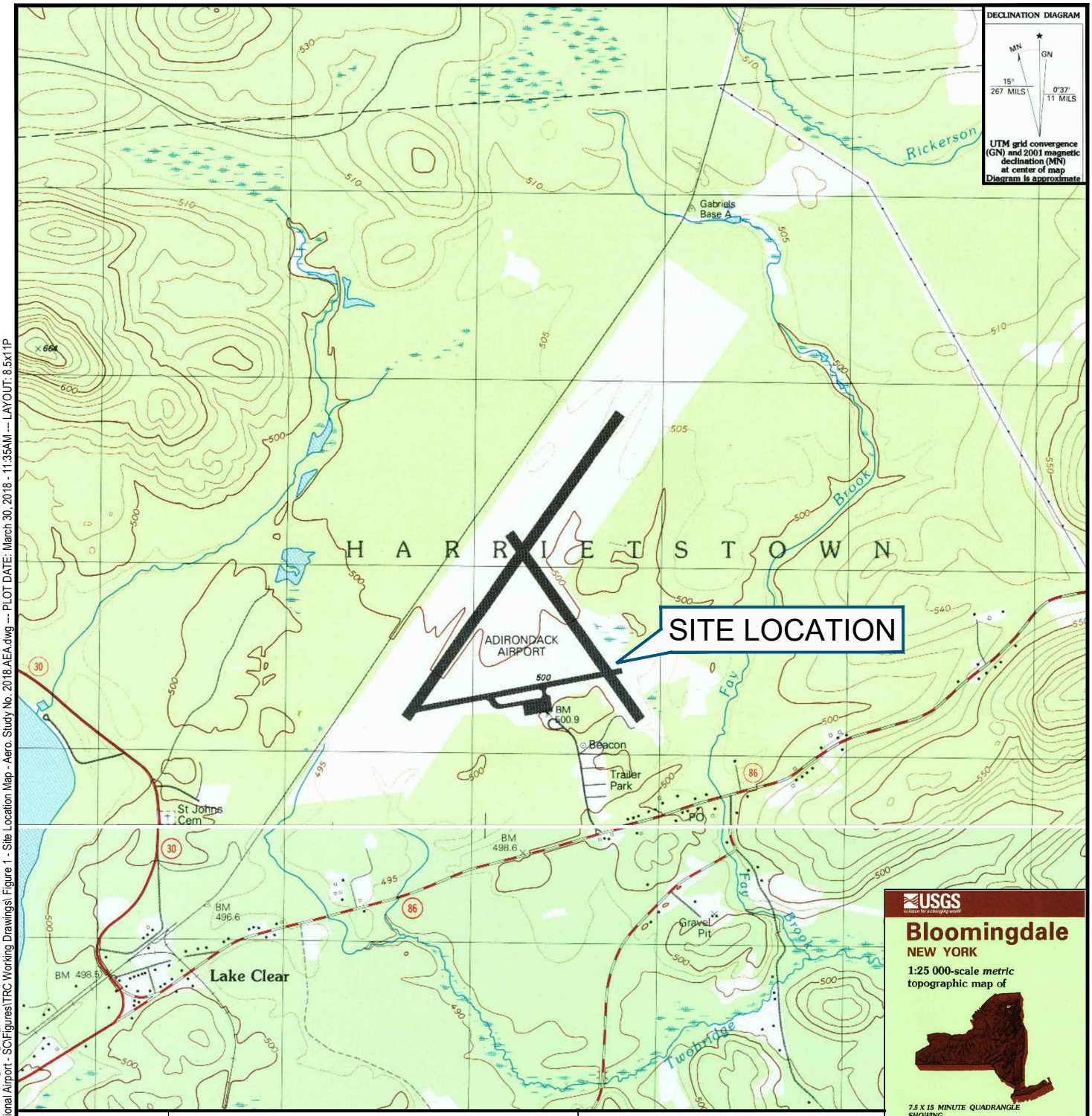
Ryan S. Jorrey, PG (PA)
Project Manager

Cc: S. Salotto (NYSDEC)
D. Glass (TRC)
J. Magda (TRC)

Enclosures:

Figure 1	Site Location Map
Figure 2	Proposed Monitoring Well Locations
Attachment A	Drill Rig Specification Sheet
Attachment B	Typical Monitoring Well Construction Details

FIGURES



SCALE: 1:2500

1 CENTIMETER ON THE MAP REPRESENTS 250 METERS ON THE GROUND

CONTOUR INTERVAL 10 METERS

SUPPLEMENTARY CONTOUR INTERVAL 5 METERS

BLOOMINGDALE, NEW YORK

1999

0 500 1000 2000 3000 4000

0 1000 2000 4000 6000 8000 10 000 12 000 14 000

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Phone: 518.348.1190
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PROJECT:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADIRONDACK REGIONAL AIRPORT - SITE NO. 517013
95 AIRPORT ROAD
SARANAC LAKE, NEW YORK

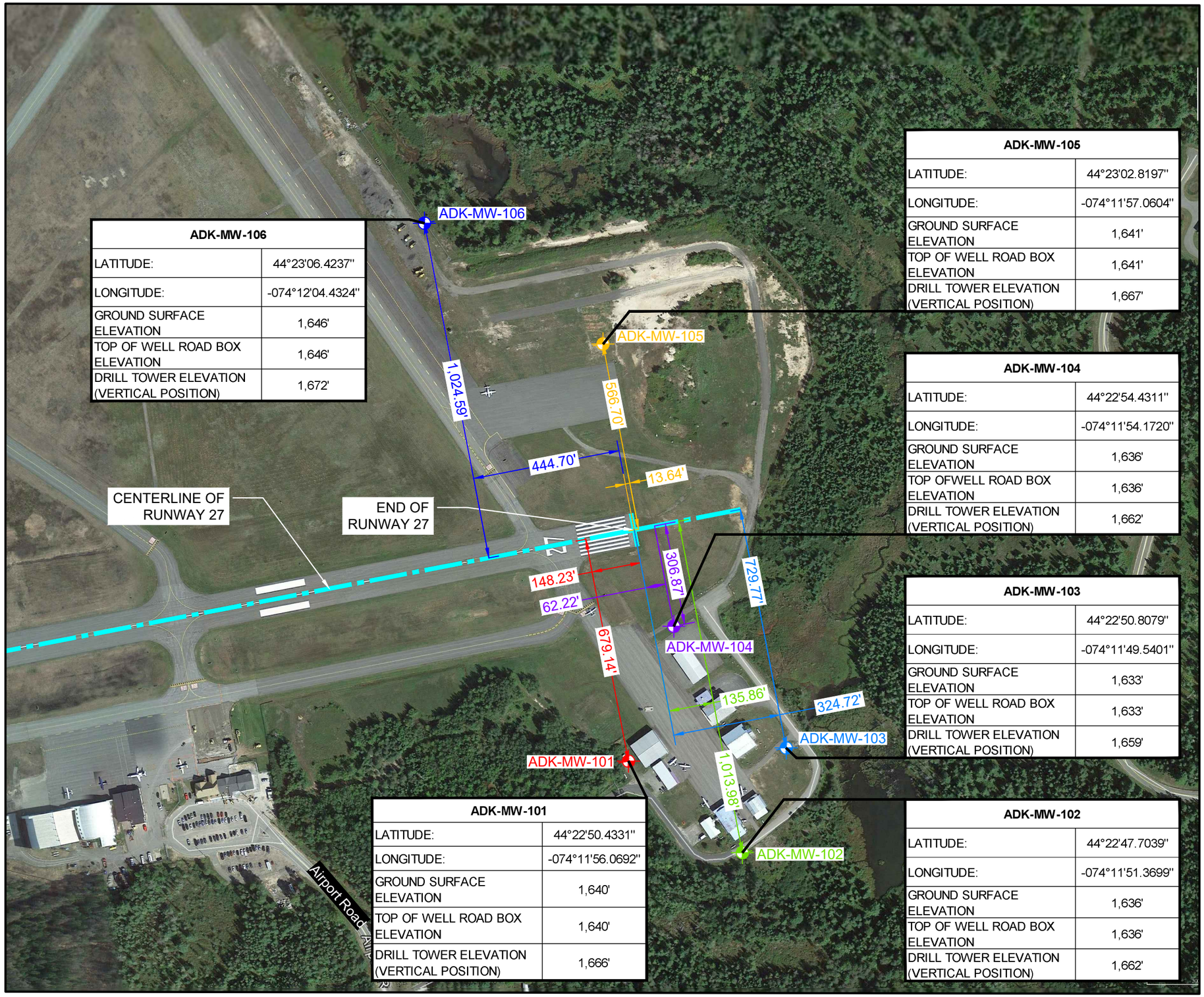
TITLE:

SITE LOCATION MAP
AERONAUTICAL STUDY NO. 2018.AEA.433.NRA

DRAWN BY:	H. DELGADO
CHECKED BY:	R. JORREY
APPROVED BY:	D. GLASS
DATE:	MARCH 2018
PROJ. NO.:	285483.0000.0000
FILE:	Figure 1 - Site Location Map - Aero. Study No. 2018.AEA.dwg

FIGURE 1

8.5x11 --- ATTACHED XREFS: --- ATTACHED IMAGES: NY_Bloomingdale_137114_1999_25000_NY_Saranac Lake_136887_1999_25000;
DRAWING NAME: I:\Projects\NYSDEC\Assignments\WA #38 - ADK Regional Airport - SCI\Figures\TRC Working Drawings\ Figure 1 - Site Location Map - Aero. Study No. 2018.AEA.dwg --- PLOT DATE: March 30, 2018 - 11:35AM --- LAYOUT: 8.5x11P



ADK-MW-106	
LATITUDE:	44°23'06.4237"
LONGITUDE:	-074°12'04.4324"
GROUND SURFACE ELEVATION	1,646'
TOP OF WELL ROAD BOX ELEVATION	1,646'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,672'

ADK-MW-105	
LATITUDE:	44°23'02.8197"
LONGITUDE:	-074°11'57.0604"
GROUND SURFACE ELEVATION	1,641'
TOP OF WELL ROAD BOX ELEVATION	1,641'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,667'

ADK-MW-104	
LATITUDE:	44°22'54.4311"
LONGITUDE:	-074°11'54.1720"
GROUND SURFACE ELEVATION	1,636'
TOP OFWELL ROAD BOX ELEVATION	1,636'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,662'

ADK-MW-103	
LATITUDE:	44°22'50.8079"
LONGITUDE:	-074°11'49.5401"
GROUND SURFACE ELEVATION	1,633'
TOP OF WELL ROAD BOX ELEVATION	1,633'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,659'

ADK-MW-101	
LATITUDE:	44°22'50.4331"
LONGITUDE:	-074°11'56.0692"
GROUND SURFACE ELEVATION	1,640'
TOP OF WELL ROAD BOX ELEVATION	1,640'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,666'

ADK-MW-102	
LATITUDE:	44°22'47.7039"
LONGITUDE:	-074°11'51.3699"
GROUND SURFACE ELEVATION	1,636'
TOP OF WELL ROAD BOX ELEVATION	1,636'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,662'

LEGEND (SYMBOLS NOT TO SCALE):

ADK-MW-XXX — PROPOSED MONITORING WELL LOCATION AND IDENTIFICATION NUMBER

NOTES:

1. SOURCE: AERIAL IMAGE FROM GOOGLE EARTH PRO, DATED SEPTEMBER 8, 2014.
2. HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83) NEW YORK STATE PLANE, EAST ZONE, U.S. SURVEY FEET.
3. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) (FEET)

0 300' 600'

SCALE: 1" = 300'
SHEET SIZE: 11" BY 17"

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADIRONDACK REGIONAL AIRPORT - SITE NO. 517013
95 AIRPORT ROAD
SARANAC LAKE, NEW YORK

TITLE:
PROPOSED MONITORING WELL LOCATIONS AERONAUTICAL STUDY NO. 2018.AEA.433.NRA

DRAWN BY:	H. DELGADO	PROJ NO.:	285483.0000.0000
CHECKED BY:	R. JORREY		
APPROVED BY:	D. GLASS		**FIGURE 2**
DATE:	MARCH 2018		

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Phone: 518.348.1190
www.trcsolutions.com

FILE NO.: Figure 2 - Prop. MW Locations - Aero. Study No. 2018.AEA.dwg

ATTACHMENT A
DRILL RIG SPECIFICATION SHEET

CME 550X
Approx. Wt. (w/o tools)
18,000 lbs
Pre-2006 Models
w/tools approx 21,000 lbs
to 22,000 lbs

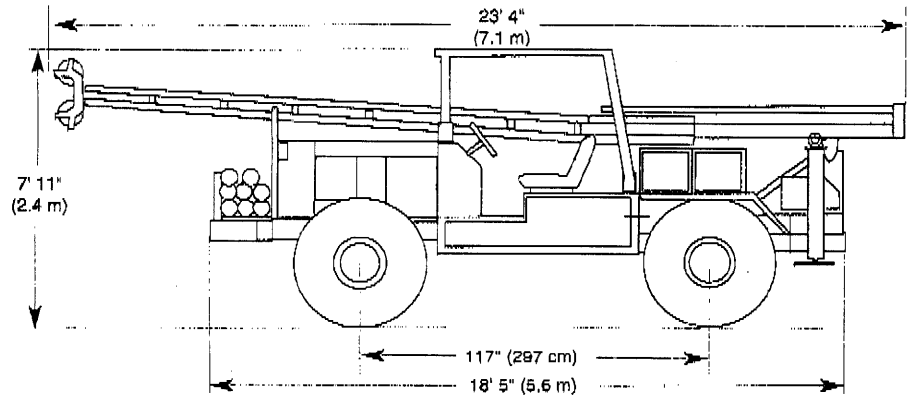
Power
Cummins 4BT, 239 cubic inch (3.9 L) 4 cylinder turbocharged diesel engine

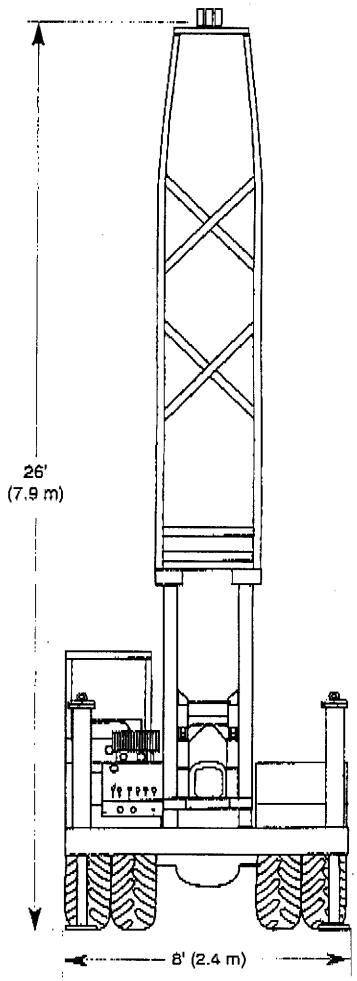
Carrier
Tire size, single front, dual rear ....44 inch (112 cm) diameter x 18.4 inch (47 cm) x 16.1 (41 cm) x 6-ply
Ground bearing pressure (without tools).....6.4 psi (.45 kgf/cm²)
Transmission.....5 speed forward, 1 speed reverse
Axles (front and rear).....planetary with no-spin differentials
Front axle disconnect.....standard
Steering .....hydraulic power
Hydraulic front winch .....12,000 pound (5,443 kg)

Rotary Drive
Standard :
Rotary torque .....8,515 foot pounds (11,545 Nm) max
Rotary speed .....up to 693 rpm max
High torque:
Rotary torque ..... 10,640 foot pounds (14,426 Nm) max
Rotary speed .....up to 554 rpm max
High speed:
Rotary torque .....6,385 foot pounds (8,657 Nm) max
Rotary speed .....up to 924 rpm max
Clutch, heavy duty .....13 inch (33 cm)
Transmission .....5 speed forward, 1 speed reverse
Hollow spindle I.D. .....2 3/4 inch (3 3/4 inch available)

Hydraulic Feed System
Retract force .....28,275 pounds (12,826 Kg)
Pulldown force .....18,650 pounds (8,460 Kg)
Retract rate (max) .....35 feet (10.7 m) per minute
Feed rate (max) .....53 feet (16.2 m) per minute
Stroke .....72 inch (183 cm)

Leveling System
Three jacks, inverted design with chrome-plated piston rods enclosed at all times
Stroke..... 36 inch (91.4 cm)





CME-550X BASIC UNIT AND PRIMARY EQUIPMENT OPTIONS

BASIC UNIT

Basic unit includes:

- 4-wheel drive
- Planetary front and rear axles with no-spin differentials front and rear
- Single front and dual rear tires - 18.4 x 16.1, 6-ply mud and snow tread (44" diameter x 18.5" wide)
- Extra heavy-duty air shift transfer case
- Hydraulic power steering
- Service brakes located at each wheel end
- Drive line disc parking brake
- Hydraulically-actuated folding upright drill frame
- Electronic throttle
- Angle drilling capability with telescoping stabilizers
- Mechanically-driven drill head
- Tandem hydraulic system with auxiliary system pump
- Hydraulic vertical drive with two double acting hydraulic cylinders
- Mast - 26 ft from the sheaves to the ground
- In-out hydraulic slide base
- Sideways slide base
- 170 gallon water tank capacity
- Three heavy-duty 36" stroke leveling jacks
- Body fabrication with underbody auger rack, partitioned tool box, drill rod rack and above deck tool box
- 12,000# front carrier winch
- ROPS
- Undercoating

CME-550X .. with a Cummins QSB 4.5 diesel engine

OPTIONAL EQUIPMENT

HIGH TORQUE ROTARY DRIVE

AUGER AND ROD GUIDES - for angle drilling

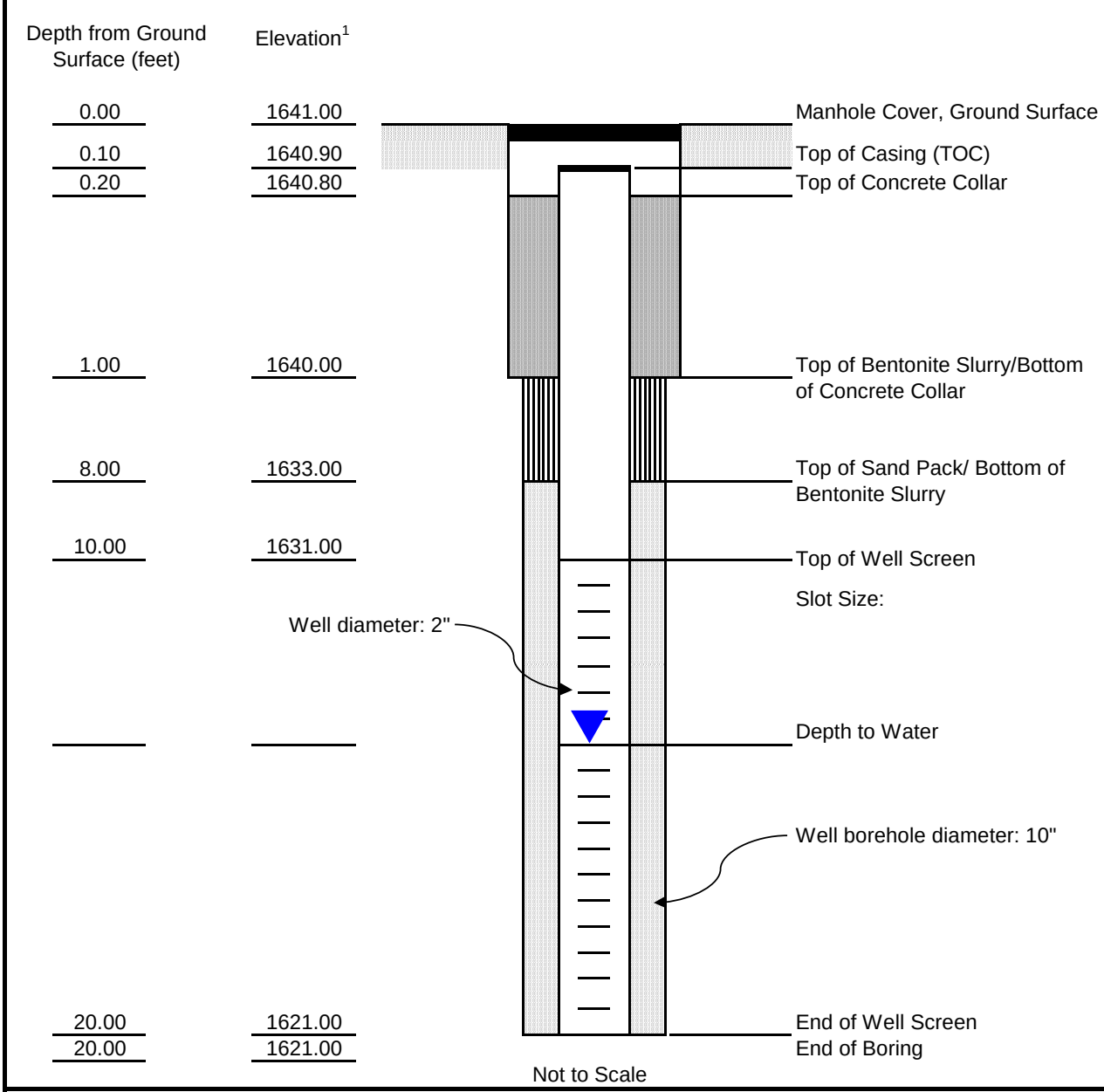
MAST - Quick mast disconnect
- Underside sheave
- Low clearance sheave assembly

CATHEAD - 8" diameter - hydraulic

ATTACHMENT B
TYPICAL MONITORING WELL CONSTRUCTION DETAILS

TYPICAL FLUSH-MOUNT WELL CONSTRUCTION DETAILS

SHEET 1 OF 1



Notes:

[1]Varies with well location, NAVD 1988.

NOT TO SCALE

From: jose.moreno@faa.gov
To: Jorrey, Ryan; samantha.salotto@dec.ny.gov
Cc: mkilroy@northnet.org; airportmanager@harrietstown.org
Subject: NYSDEC Monitoring Wells
Date: Tuesday, May 1, 2018 2:23:23 PM

Mr. Jorrey : Thanks for providing responses to the questions we had on ASN 2018-AEA-433-NRA. Couple of follow up clarifications include:

- The 433 case describes three (3) well will be drilled and installed. However your response letter indicates a total of six (6) well to be drilled. Please clarify if you are planning on submitting additional NRA cases to cover the additional three (3) cases? Also how many well be developed in total. Please confirm.
- On the current case (ASN 2018-AEA-433-NRA) which well corresponds to the filed coordinates. In other words, which well information is being provided on the case? In addition, please confirm the elevation information for the case.
- Please upload this information to the case before we release it for FAA review.

Any questions let me know. Thanks

José Moreno
Airport Planner
New York Airport District Office
718-995-5775
jose.moreno@faa.gov
https://www.faa.gov/airports/eastern/nyado bulletin/

10 Maxwell Drive
Suite 200
Clifton Park, NY 12065

518.348.1190 PHONE
518.348.1194 FAX

www.trcsolutions.com

May 7, 2018

VIA ELECTRONIC MAIL

Mr. Jose Moreno, Community Planner
U.S. Department of Transportation
Federal Aviation Administration
New York Airports District Office
FAA Eastern Region
1 Aviation Plaza, Room 111
Jamaica, New York 11434

Re: Notice of Proposed Construction or Alteration
Federal Aviation Administration Form 7460-1
Aeronautical Study Number 2018-AEA-433-NRA
Adirondack Regional Airport
Saranac Lake, New York

Dear Mr. Moreno:

Pursuant to the Federal Aviation Administration's (FAA's) request for additional information, dated May 1, 2018 regarding Aeronautical Study Number (ASN) 2018-AEA-433-NRA, TRC Engineers, Inc. (TRC) has prepared the following responses to comments on behalf of the New York State Department of Environmental Conservation (NYSDEC). For ease of review, the FAA's comments are presented below in *italics* followed by NYSDEC's responses in standard font.

FAA Comment No. 1:
The 433 case describes three (3) well will be drilled and installed. However your response letter indicates a total of six (6) well to be drilled. Please clarify if you are planning on submitting additional NRA cases to cover the additional three (3) cases? Also how many well be developed in total. Please confirm.

Response to FAA Comment No. 1:
A total of six (6) monitoring wells (ADK-MW-101 through ADK-MW-106) will be drilled, installed and developed on airport property at the Adirondack Regional Airport Site. Please refer to **Figure 2** in **Attachment A** for the proposed monitoring well locations. The NYSDEC does not plan on submitting additional airspace cases to cover the three (3) additional monitoring wells and requests that the wells be added to the existing case (ASN 2018-AEA-433-NRA) for this project.

FAA Comment No. 2:
On the current case (ASN 2018-AEA-433-NRA) which well corresponds to the filed coordinates. In other words, which well information is being provided on the case? In addition, please confirm the elevation information for the case.

Response to FAA Comment No. 2:
The initial latitude (44-23-6.74 N), longitude (74-12-4.95 W) and site elevation (1644 feet) information provided for this project does not correspond to any of the six (6) proposed well locations shown on **Figure 2** in **Attachment A**. Rather, the information represented a generalized work location since the wells will be installed at separate locations on airport property and FAA Form 7460-1 allows for one (1) entry of location and elevation information. Please use the longitude, latitude and elevation information provided on **Figure 2** in **Attachment A** for the six (6) proposed monitoring wells be amended to the existing case (ASN 2018-AEA-433-NRA) for this project.

FAA Comment No. 3:
Please upload this information to the case before we release it for FAA review.

Response to FAA Comment No. 3
As requested, this response to comment letter will be uploaded to the existing case (ASN 2018-AEA-433-NRA) file for this project.

If you have any questions, comments, or require any additional information, please do not hesitate to contact me via e-mail at rjorrey@trcsolutions.com or by phone at (315) 868-4440.

Sincerely,
TRC Engineers, Inc.

Ryan S. Jorrey, P.G. (PA)
Project Manager

CC: S. Salotto (NYSDEC)
D. Glass (TRC)
J. Magda (TRC)

Enclosures:

Attachment A Response to FAA's Request of Additional Information, dated March 30, 2018

ATTACHMENT A

Response to FAA's Request of Additional Information, dated March 30, 2018

10 Maxwell Drive
Suite 200
Clifton Park, NY 12065

518.348.1190 PHONE
518.348.1194 FAX

www.trcsolutions.com

March 30, 2018

VIA ELECTRONIC MAIL
Mr. Jose Moreno, Community Planner
U.S. Department of Transportation
Federal Aviation Administration
New York Airports District Office
FAA Eastern Region
1 Aviation Plaza, Room 111
Jamaica, New York 11434

Re: Notice of Proposed Construction or Alteration
Federal Aviation Administration Form 7460-1
Aeronautical Study Number 2018-AEA-433-NRA
Adirondack Regional Airport
Saranac Lake, New York

Dear Mr. Moreno:

Pursuant to the Federal Aviation Administration's request for additional information regarding Aeronautical Study Number 2018-AEA-433-NRA, TRC Engineers, Inc. (TRC) has prepared the following summary of proposed work to be conducted at the Adirondack Regional Airport in Saranac Lake, New York (see **Figure 1**). TRC is working on behalf of the New York State Department of Environmental Conservation (NYSDEC) on an environmental investigation of the Adirondack Regional Airport Site (herein referred to as the "Site"), which is a New York State Class P Inactive Hazardous Waste Disposal Site, Site Number 517013. Initial sampling of groundwater at the Site has indicated the presence of per- and polyfluoroalkyl substances (PFAS), which require additional investigation activities to assess the contamination.

As part of the investigation, six (6) groundwater monitoring wells (ADK-MW-101 through ADK-MW-106) will be installed at the locations shown on **Figure 2**. The wells will be installed during normal working hours (i.e., Monday through Friday, 7:00 a.m. to 5:00 p.m.) using an all-terrain vehicle mounted drill rig and hollow stem auger drilling techniques. Specifications for the drill rig, including drilling tower height, are presented in **Attachment A**.

One (1) drill rig will be present on the Site during the work. The drill rig will install one (1) monitoring well at a time. The drill rig's tower will be in the vertical position during working hours, while the monitoring wells are being installed. The tower will be lowered to the horizontal position at the end of each work day. The drill rig will be stored near monitoring well location ADK-MW-102 with the tower in the horizontal position during non-working hours.

The monitoring wells will be constructed using two-inch diameter well risers and ten (10) foot screen lengths. Each well will be completed at grade with a protective road box within a 2-foot by 2-foot concrete

pad. Monitoring wells will be completed at grade to match existing ground surface and will not extend vertically above existing ground surface elevation. Typical monitoring well construction details are presented in **Attachment B**. The location (longitude and latitude) of each monitoring well, adjacent ground surface elevation, top of road box protective cover elevation, measurements from the nearest runway, and coordinate system datums are provided on **Figure 2**. In addition, the top of the drilling tower elevation, while in the vertical position at each monitoring well location, is also shown on **Figure 2.**

The anticipated duration of the work is approximately five (5) working days. Please note that the start of work date is not known at this time, since it is dependent on weather and ground surface conditions, which is why a work period of four (4) months has been requested.

If you have any questions or comments, please do not hesitate to contact me via e-mail at rjorrey@trcsolutions.com or by phone at (315) 868-4440.

Sincerely,
TRC Engineers, Inc.

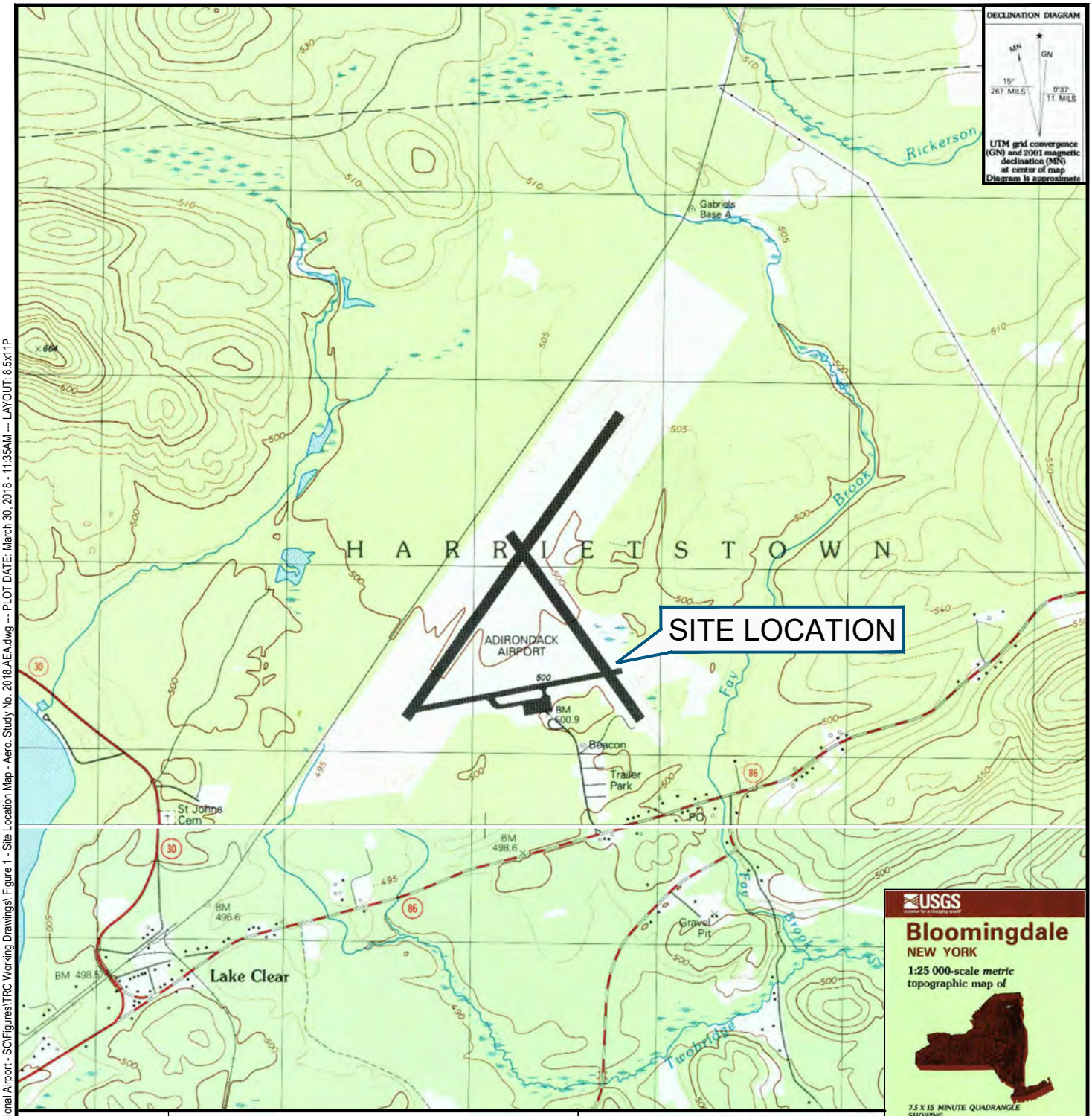
Ryan S. Jorrey, PG (PA)
Project Manager

Cc: S. Salotto (NYSDEC)
D. Glass (TRC)
J. Magda (TRC)

Enclosures:

Figure 1	Site Location Map
Figure 2	Proposed Monitoring Well Locations
Attachment A	Drill Rig Specification Sheet
Attachment B	Typical Monitoring Well Construction Details

FIGURES



TRC
10 Maxwell Drive, Suite 200
Clifton Park, NY 12065
Phone: 518.348.1190
www.trcsolutions.com

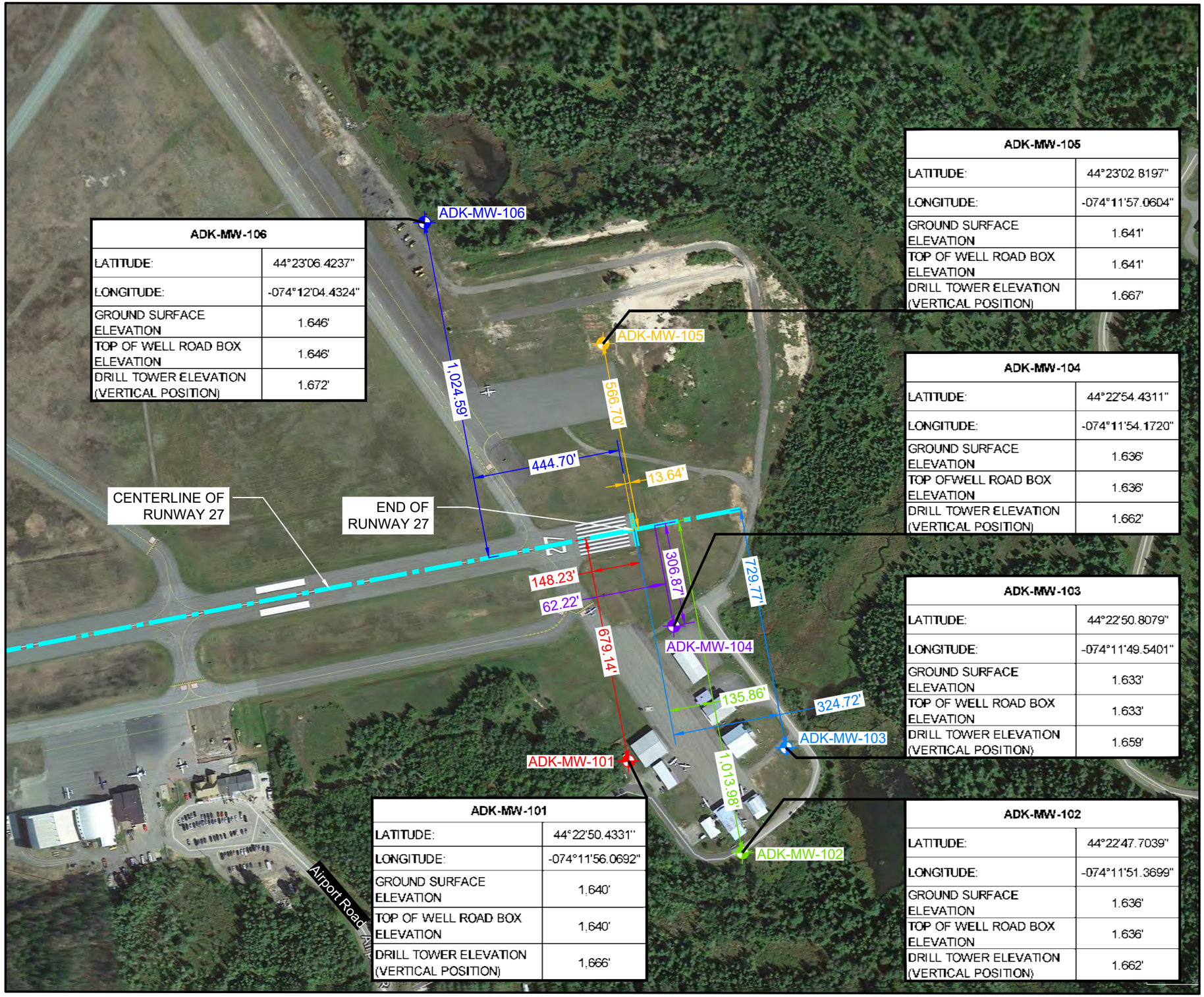
PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADIRONDACK REGIONAL AIRPORT - SITE NO. 517013
95 AIRPORT ROAD
SARANAC LAKE, NEW YORK

TITLE:
SITE LOCATION MAP
AERONAUTICAL STUDY NO. 2018.AEA.433.NRA

DRAWN BY:	H. DELGADO
CHECKED BY:	R. JORREY
APPROVED BY:	D. GLASS
DATE:	MARCH 2018
PROJ. NO.:	285483.0000.0000
FILE:	Figure 1 - Site Location Map - Aero. Study No. 2018.AEA.dwg

FIGURE 1

8.5x11 --- ATTACHED XREFS: --- ATTACHED IMAGES: NY\ Bloomingdale\ 137114\ 1999\ 25000\ NY\ Saranac Lake\ 136887\ 1999\ 25000\
DRAWING NAME: I:\Projects\NYSDEC\Assignments\WA #38 - ADK Regional Airport - SCI\Figures\TRC Working Drawings\ Figure 1 - Site Location Map - Aero. Study No. 2018.AEA.dwg --- PLOT DATE: March 30, 2018 - 11:35AM --- LAYOUT: 8.5x11P



ADK-MW-106	
LATITUDE:	44°23'06.4237"
LONGITUDE:	-074°12'04.4324"
GROUND SURFACE ELEVATION	1,646'
TOP OF WELL ROAD BOX ELEVATION	1,646'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,672'

ADK-MW-105	
LATITUDE:	44°23'02.8197"
LONGITUDE:	-074°11'57.0604"
GROUND SURFACE ELEVATION	1,641'
TOP OF WELL ROAD BOX ELEVATION	1,641'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,667'

ADK-MW-104	
LATITUDE:	44°22'54.4311"
LONGITUDE:	-074°11'54.1720"
GROUND SURFACE ELEVATION	1,636'
TOP OFWELL ROAD BOX ELEVATION	1,636'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,662'

ADK-MW-103	
LATITUDE:	44°22'50.8079"
LONGITUDE:	-074°11'49.5401"
GROUND SURFACE ELEVATION	1,633'
TOP OF WELL ROAD BOX ELEVATION	1,633'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,659'

ADK-MW-102	
LATITUDE:	44°22'47.7039"
LONGITUDE:	-074°11'51.3699"
GROUND SURFACE ELEVATION	1,636'
TOP OF WELL ROAD BOX ELEVATION	1,636'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,662'

ADK-MW-101	
LATITUDE:	44°22'50.4331"
LONGITUDE:	-074°11'56.0692"
GROUND SURFACE ELEVATION	1,640'
TOP OF WELL ROAD BOX ELEVATION	1,640'
DRILL TOWER ELEVATION (VERTICAL POSITION)	1,666'

LEGEND (SYMBOLS NOT TO SCALE):

ADK-MW-XXX — PROPOSED MONITORING WELL LOCATION AND IDENTIFICATION NUMBER

NOTES:

1. SOURCE: AERIAL IMAGE FROM GOOGLE EARTH PRO, DATED SEPTEMBER 8, 2014.
2. HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83) NEW YORK STATE PLANE, EAST ZONE, U.S. SURVEY FEET.
3. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) (FEET)

0 300' 600'

SCALE: 1" = 300'
SHEET SIZE: 11" BY 17"

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADIRONDACK REGIONAL AIRPORT - SITE NO. 517013
95 AIRPORT ROAD
SARANAC LAKE, NEW YORK

TITLE:
PROPOSED MONITORING WELL LOCATIONS AERONAUTICAL STUDY NO. 2018.AEA.433.NRA

DRAWN BY:	H. DELGADO	PROJ NO.:	285483.0000.0000
CHECKED BY:	R. JORREY		**FIGURE 2**
APPROVED BY:	D. GLASS		
DATE:	MARCH 2018		

TRC
10 Maxwell Drive, Suite 200
Clifton Park, NY 12065
Phone: 518.348.1190
www.trcsolutions.com

FILE NO.: Figure 2 - Prop. MW Locations - Aero. Study No. 2018.AEA.dwg

ATTACHMENT A
DRILL RIG SPECIFICATION SHEET

CME 550X
Approx. Wt. (w/o tools)
18,000 lbs
Pre-2006 Models
w/tools approx 21,000 ~~25,000~~ lbs
to 22,000 lbs

Power

Cummins 4BT, 239 cubic inch (3.9 L) 4 cylinder turbocharged diesel engine

Carrier

Tire size, single front, dual rear ....44 inch (112 cm) diameter x 18.4 inch (47 cm) x 16.1 (41 cm) x 6-ply
Ground bearing pressure (without tools).....6.4 psi (.45 kgf/cm²)
Transmission.....5 speed forward, 1 speed reverse
Axles (front and rear).....planetary with no-spin differentials
Front axle disconnect.....standard
Steering .....hydraulic power
Hydraulic front winch .....12,000 pound (5,443 kg)

Rotary Drive

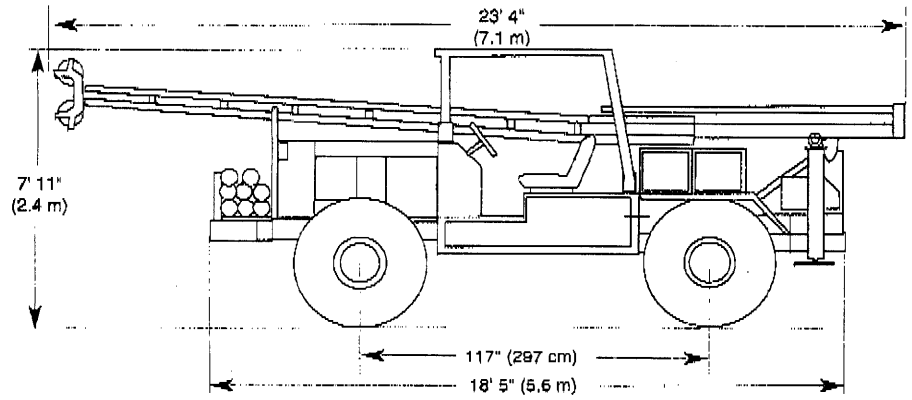
Standard :
Rotary torque .....8,515 foot pounds (11,545 Nm) max
Rotary speed .....up to 693 rpm max
High torque:
Rotary torque ..... 10,640 foot pounds (14,426 Nm) max
Rotary speed .....up to 554 rpm max
High speed:
Rotary torque .....6,385 foot pounds (8,657 Nm) max
Rotary speed .....up to 924 rpm max
Clutch, heavy duty .....13 inch (33 cm)
Transmission .....5 speed forward, 1 speed reverse
Hollow spindle I.D.....2 3/4 inch (3 3/4 inch available)

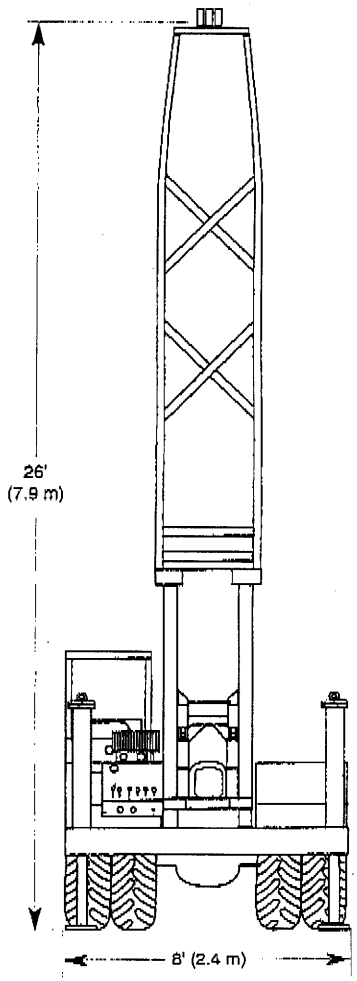
Hydraulic Feed System

Retract force .....28,275 pounds (12,826 Kg)
Pulldown force .....18,650 pounds (8,460 Kg)
Retract rate (max).....35 feet (10.7 m) per minute
Feed rate (max) .....53 feet (16.2 m) per minute
Stroke .....72 inch (183 cm)

Leveling System

Three jacks, inverted design with chrome-plated piston rods enclosed at all times
Stroke..... 36 inch (91.4 cm)





CME CENTRAL MINE EQUIPMENT COMPANY

CME-550X BASIC UNIT AND PRIMARY EQUIPMENT OPTIONS

BASIC UNIT

Basic unit includes:

- 4-wheel drive
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- Mechanically-driven drill head
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- Undercoating

CME-550X .. with a Cummins QSB 4.5 diesel engine

OPTIONAL EQUIPMENT

HIGH TORQUE ROTARY DRIVE

AUGER AND ROD GUIDES - for angle drilling

MAST - Quick mast disconnect
- Underside sheave
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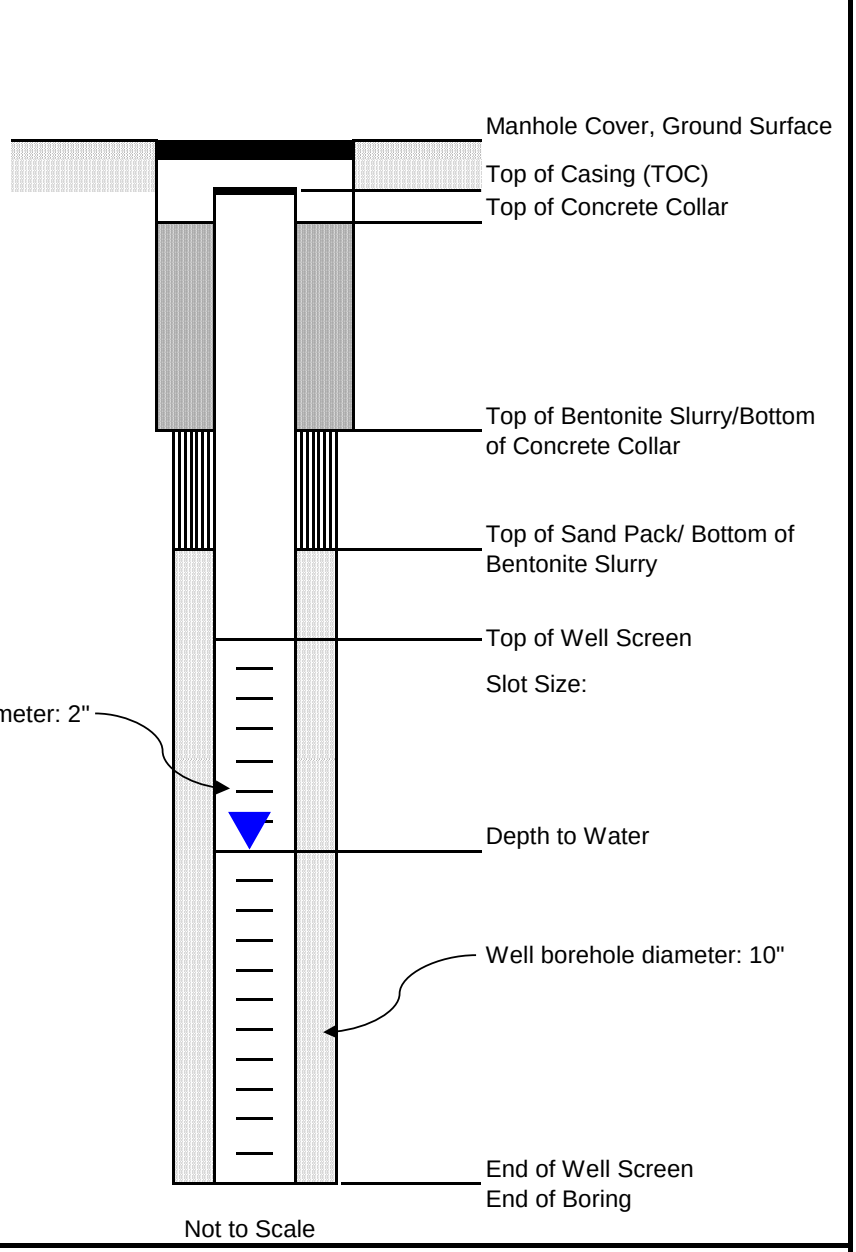
CATHEAD - 8" diameter - hydraulic

ATTACHMENT B
TYPICAL MONITORING WELL CONSTRUCTION DETAILS

TYPICAL FLUSH-MOUNT WELL CONSTRUCTION DETAILS

SHEET 1 OF 1



Notes:

[1]Varies with well location, NAVD 1988.

NOT TO SCALE

From: jose.moreno@faa.gov
To: Jorrey, Ryan; samantha.salotto@dec.ny.gov
Cc: mkilroy@northnet.org; airportmanager@harrietstown.org
Subject: RE: NYSDEC Monitoring Wells
Date: Thursday, May 10, 2018 2:26:06 PM

Good Afternoon Ryan: Thanks for providing the additional information on this case. Now, reviewing the case I noticed a couple of things that don't line up for the case to be review by the other FAA offices. These issues include:

1. Any airspace case needs to correlate the coordinates information with the actual location of the proposed structure. The case coordinates don't reflect any of the proposed six sites.
2. Give the six wells being proposed for this project, we need six distinct airspace cases to review each location and its potential airspace impacts on the airport.
3. Your letter dated March 30th, has all the required information to evaluate the six sites separately.
4. I took the liberty (my apologies) to create six different airspace cases using the data in the above mentioned letter and grouped them all in one project.
5. I had to delete case 2018-AEA-433-NRA which was the initial case for this project. I used all the information from this case to create the new cases.
6. The new six cases are grouped under project: " SLK Monitoring Wells" and the individual ASN numbers are:
   2018-AEA-919-NRA
   2018-AEA-920-NRA
   2018-AEA-921-NRA
   2018-AEA-922-NRA
   2018-AEA-923-NRA
   2018-AEA-924-NRA
7. The one difference with case 433 is that I selected Temporary Crane for the Development Type rather than Other Miscellaneous

Let me know if you are in agreement with this approach before I release the cases for FAA review.
Thanks

José Moreno
Airport Planner
New York Airport District Office
718-995-5775
jose.moreno@faa.gov
https://www.faa.gov/airports/eastern/nyado bulletin/

From: Jorrey, Ryan [mailto:RJorrey@trcsolutions.com]
Sent: Monday, May 07, 2018 10:53 AM
To: Moreno, Jose (FAA) <jose.moreno@faa.gov>; samantha.salotto@dec.ny.gov
Cc: mkilroy@northnet.org; airportmanager@harrietstown.org
Subject: RE: NYSDEC Monitoring Wells

Mr. Moreno

TRC has prepared the attached letter in response to your follow up clarifications described below. This letter has also been uploaded electronically to ASN 2018-AEA-433-NRA. Please feel free to reach out with any additional questions or comments.

Thank you,

Ryan S. Jorrey, P.G.
Project Manager

10 Maxwell Drive, Suite 200, Clifton Park, NY 12065
T: 518.688.3102 | F: 518.348.1194 | C: 315.868.4440
LinkedIn | Twitter | Blog | www.trcsolutions.com

From: jose.moreno@faa.gov [mailto:jose.moreno@faa.gov]
Sent: Tuesday, May 01, 2018 2:23 PM
To: Jorrey, Ryan <RJorrey@trcsolutions.com>; samantha.salotto@dec.ny.gov
Cc: mkilroy@northnet.org; airportmanager@harrietstown.org
Subject: NYSDEC Monitoring Wells

Mr. Jorrey : Thanks for providing responses to the questions we had on ASN 2018-AEA-433-NRA. Couple of follow up clarifications include:

- The 433 case describes three (3) well will be drilled and installed. However your response letter indicates a total of six (6) well to be drilled. Please clarify if you are planning on submitting additional NRA cases to cover the additional three (3) cases? Also how many well be developed in total. Please confirm.
- On the current case (ASN 2018-AEA-433-NRA) which well corresponds to the filed coordinates. In other words, which well information is being provided on the case? In addition, please confirm the elevation information for the case.
- Please upload this information to the case before we release it for FAA review.

Any questions let me know. Thanks

José Moreno
Airport Planner
New York Airport District Office
718-995-5775
jose.moreno@faa.gov
https://www.faa.gov/airports/eastern/nyado bulletin/

Federal Aviation Administration

May 15, 2018

TO:
NYSDEC
Attn: Samantha Salotto
P.O. Box 296
1115 State Route 86
Ray Brook, NY 12977
samantha.salotto@dec.ny.gov

CC:
TOWN OF HARRIETSTOWN
39 MAIN STREET
SARANAC LAKE, NY 12983
airportmanager@harrietstown.org

RE: *(See attached Table 1 for referenced case(s))*
TERMINATION

The aeronautical study concerning the following project is terminated:

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2018-AEA-433-NRA		SARANAC LAKE,NY	44-23-06.74N	74-12-04.94W	31	1675

Description: A total of three (3) monitoring wells will be drilled, installed, and developed on the eastern side of the tarmac at the Adirondack Regional Airport. Drill rig tower will be vertical during working hours of monitoring well installation events and lowered at the end of each work day.

This aeronautical study is terminated because:

This case has been superseded by six new airspaces cases, one for each monitoring well. The new cases are: 2018-AEA-919 thru 924-NRA. They all have been verified and released for FAA review.

If you desire to reactivate the study, it will be necessary for you to re-file notice using the enclosed FAA Form 7460-1, Notice of Proposed Construction or Alteration.

For further assistance, please contact Jose Moreno, (718) 995-5775, jose.moreno@faa.gov.

Jose Moreno
ADO
Signature Control No: 359169857-365305123

U. S. Department
of Transportation
Federal Aviation Administration

New York Airports District Office
159-30 Rockaway Blvd
Jamaica, NY. 11434
Telephone: 718-995-5770
Fax: 718-995-5790

June 8, 2018

Mr. Corey Hurwitch
Airport Manager
Adirondack Airport
96 Airport Road
Saranac Lake, New York, 12982

Re: Adirondack Airport (SLK) Saranac, New York
2018-AEA-919 to 924-NRA. Airspace case review of six (6) Monitoring Wells, as part of a NYSDEC environmental investigation.

Dear Mr. Hurwitch:

Airspace Review:

This office has completed the review of the subject FAA Form 7460-1 Noticed of Proposed Construction or Alteration, with all interested parties within the Federal Aviation Administration (FAA) Eastern Region.

Based on this review we have "Conditional No Objection" to the proposed installation of a six temporary monitoring wells, providing the following conditions are met:

1. The cases was filed at the following location:

ASN	Latitude	Longitude	Site Elevation (AMSL)	Ht. (AMSL)	Overall Ht.
2018-AEA-919-NRA	N 44° 22'50.43"	W 74° 11' 56.06"	1644 ft.	31 ft.	1675 ft.
2018-AEA-920-NRA	N 44° 22'47.70"	W 74° 11' 51.36"	1636 ft.	31 ft.	1667 ft.
2018-AEA-921-NRA	N 44° 22'50.80"	W 74° 11' 49.54"	1633 ft.	26 ft.	1675 ft.
2018-AEA-922-NRA	N 44° 22'54.43"	W 74° 11' 54.17"	1636 ft.	26 ft.	1662 ft.
2018-AEA-923-NRA	N 44° 23'02.81"	W 74° 11' 57.06"	1641 ft.	26 ft.	1667 ft.
2018-AEA-924-NRA	N 44° 23'06.42"	W 74° 12' 04.43"	1646 ft.	26 ft.	1672 ft.

2. Prior to construction, airspace cases must be submitted to evaluate the use of temporary construction objects (TCO) used to support the installation of the monitoring wells.
3. Proponent to keep disruptions to airport activities to a minimum and have the necessary NOTAMs issued.
4. This determination expires November 7, 2019. Please contact this office in case an extension is needed.

Environmental Review:

Based on the information provided an environmental review for this action is not required.

Airport Layout Plan (ALP):

The proposed action is of temporary nature, therefore it is not required to be depicted on the ALP.

If you have any questions or need additional information please call at 718-995-5775

Sincerely,

José Moreno
Airport Planner
FAA NYADO

Cc: Ryan S. Jorrey TRC Engineers, Inc.
Samantha, Salotto, NYDEC
OS, DF, JAM, PW, NYADO
J. Moreno/SLK-2018-AEA-919-to-924-NRA-monitoring wells.

APPENDIX B
UTILITY SURVEY REPORT

Job Date : **06-Aug-18**

Customer	TRC Solutions	**Phone Number**	(518)603-8996

Billing Address	**City**	**State**	**Zip**
10 Maxwell Drive	Clifton Park	NY	12065

Job Details

Jobsite Location	96 Airport Rd
City	Saranac Lake, NY 12983
	Saranac Lake
State	NY

WA Number	83623
Job Num	285483
PO Num	

Lead Technician	FEDERICO, JOE	**Phone**	**Email**	joe.federico@gp-radar.com

Thank you for using Ground Penetrating Radar Systems on your project. We appreciate the opportunity to work with you. If you have questions regarding the results of this scanning, please contact the lead GPRS technician on this project.

Equipment Used:

The following equipment was used on this project:

- 400 MHz GPR antenna. Typically capable of detecting objects several feet deep. Maximum effective depth depends on site and soil conditions.
- At this site, the maximum effective depth of the GPR was 5'.
- RD 7000/8000 Radio Frequency detector. Detects electromagnetic fields. Used to actively trace metallic pipes and tracer wires, or passively detect electric,communications and other lines.

Work Performed

Ground Penetrating Radar Systems performed the following work on this project:

Scanning the specified area to locate underground utilities and other significant anomalies. A tracer signal was sent along any accessible metallic utility or tracer wire, and the area was scanned with GPR to locate any additional targets. The locations of any detected utilities and anomalies were marked directly at the site with paint, flags, stakes, or other appropriate means, and results were reviewed with onsite personnel.

- Scanning the areas around proposed soil borings. Typically a 10' radius around each proposed soil boring will be scanned. A total of 6 boring locations were scanned.
- Cleared 6 boring locations. 2nd one was move due to a live power conduit running alongside road. The rest did not have any utilities detected by gpr or rd within a 15' radius.

TERMS & CONDITIONS

https://m.gp-radar.com/terms-conditions

SIGNATURE

Contact Name	Contact Phone	Contact Email
Marnie Chancey	(518)603-8996	rjorrey@trcsolutions.com

APPENDIX C
SOIL BORING AND MONITORING WELL CONSTRUCTION LOGS

TRC
Results you can rely on
10 Maxwell Drive, Suite 200
Clifton Park, NY 12180
Telephone: (518) 688-3102

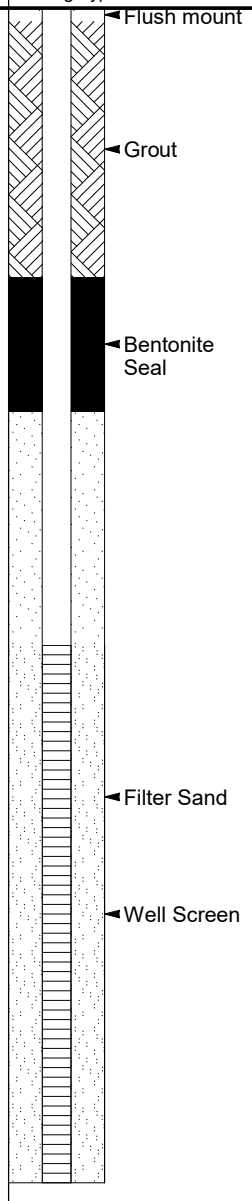
WELL NUMBER ADK-MW-101

CLIENT New York State Department of Environmental Conservation
PROJECT NAME Site No. 517013 - Adirondack Regional Airport
PROJECT NUMBER 285483.0000.0000
PROJECT LOCATION Town of Harrietstown, New York
DATE STARTED 8/9/18 **COMPLETED** 8/9/18
GROUND ELEVATION 1634.76 ft **HOLE SIZE** 4.25
DRILLING CONTRACTOR SJB
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 5.00 ft / Elev 1629.76 ft
LOGGED BY Marnie Chancey **CHECKED BY** Ryan Jorrey
AT END OF DRILLING 4.82 ft / Elev 1629.94 ft
NOTES Elevation Datum: NAVD 88
AFTER DRILLING 4.41 ft / Elev 1630.35 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data
0.0				OL		0'- 0.5' (OL) Brown, topsoil with organics, dry. 1634.3	PID = 0
0.5	SS	75	6-4-5-6 (9)	SP		0.5'- 2' (SP) Brown-orange, sand and gravel, poorly sorted, dry. 1632.8	PID = 0
2.5	SS	75	8-6-10-10 (16)	SP-SM		2'- 4' (SP-SM) Light gray/brown, fine sand with silt, dry. 1630.8	PID = 0
5.0	SS	75	8-8-9-10 (17)	CL-ML		4'- 6' (CL-ML) Light gray/brown, silt and clay, trace sand, wet at 5'. 1628.8	PID = 0
7.5	SS	75	8-12-14-11 (26)	CL-ML		6'- 7.5' (CL-ML) Light gray/brown, silt and clay, trace of sand, hard, wet. 1627.3	PID = 0
				SM		7.5'- 8.5' (SM) Brown/gray, medium sand, some silt, wet. 1626.3	PID = 0
	SS	100	12-15-50/0"			8.5'- 9' Bedrock/cobbles. 1625.8	PID = 0
9.0						Bottom of borehole at 9.0 feet.	

WELL DIAGRAM

Casing Top Elev: 1634.56 (ft)
Casing Type: 2" PVC



TRC
Results you can rely on
10 Maxwell Drive, Suite 200
Clifton Park, NY 12180
Telephone: (518) 688-3102

WELL NUMBER ADK-MW-102

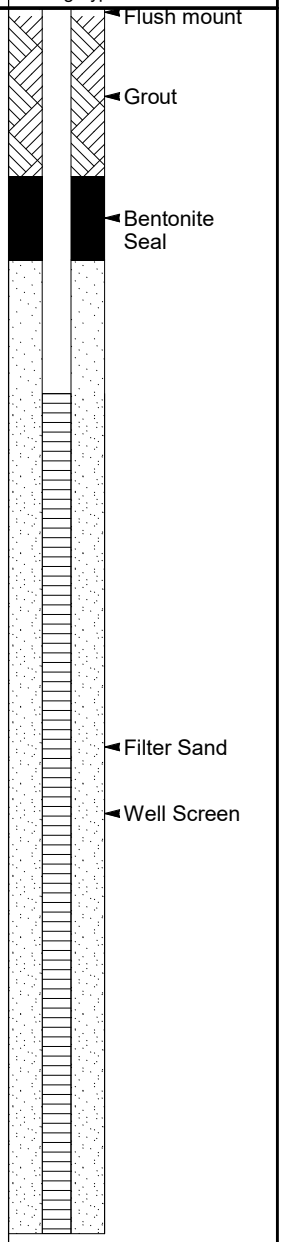
CLIENT New York State Department of Environmental Conservation
PROJECT NAME Site No. 517013 - Adirondack Regional Airport
PROJECT NUMBER 285483.0000.0000
PROJECT LOCATION Town of Harrietstown, New York
DATE STARTED 8/8/18 **COMPLETED** 8/8/18
GROUND ELEVATION 1632.05 ft **HOLE SIZE** 4.25
DRILLING CONTRACTOR SJB
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 8.50 ft / Elev 1623.55 ft
LOGGED BY Marnie Chancey **CHECKED BY** Ryan Jorrey
AT END OF DRILLING 9.79 ft / Elev 1622.26 ft
NOTES Elevation Datum: NAVD 88
AFTER DRILLING 9.49 ft / Elev 1622.56 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data
0.0							
	SS	75	16-24-22-10 (46)	OL		0'- 0.5' (OL) Brown, topsoil with organics, dry. 0.5 / 1631.6	
				GP		0.5'- 2' (GP) Brown, sand and gravel, loose, dry. 2.0 / 1630.1	PID = 0
2.5	SS	38	10-12-8-6 (20)	SP		2'- 4' (SP) Light brown/gray, sand and gravel, poorly sorted, dry. 4.0 / 1628.1	PID = 0
5.0	SS	75	14-17-16-9 (33)	SP-SM		4'- 6' (SP-SM) Brown-red, sand, some silt, moist. 6.0 / 1626.1	PID = 0
7.5	SS	100	10-11-13-12 (24)	SP-SM		6'- 8' (SP-SM) Light gray/brown, fine sand and silt, moist. 8.0 / 1624.1	PID = 0
10.0	SS	75	4-7-5-6 (12)	SP-SM		8'- 12' (SP-SM) Light brown/gray, fine sand, some silt, wet.	PID = 0
	SS	75	3-3-4-5 (7)			12.0 / 1620.1	PID = 0
12.5	SS	88	3-6-8-9 (14)	SP-SM		12'- 15' (SP-SM) Brown/gray, fine sand and silt, wet.	PID = 0
15.0						15.0 / 1617.1	

Bottom of borehole at 15.0 feet.

WELL DIAGRAM

Casing Top Elev: 1631.56 (ft)
Casing Type: 2" PVC



TRC
Results you can rely on
10 Maxwell Drive, Suite 200
Clifton Park, NY 12180
Telephone: (518) 688-3102

WELL NUMBER ADK-MW-103

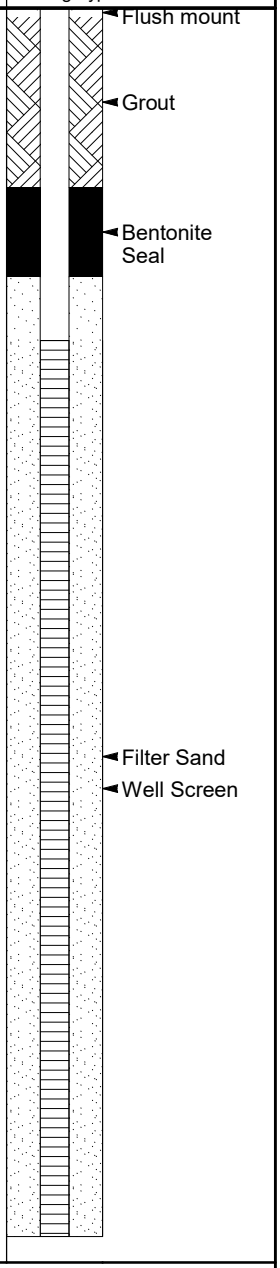
CLIENT New York State Department of Environmental Conservation
PROJECT NAME Site No. 517013 - Adirondack Regional Airport
PROJECT NUMBER 285483.0000.0000
PROJECT LOCATION Town of Harrietstown, New York
DATE STARTED 8/8/18 **COMPLETED** 8/8/18
GROUND ELEVATION 1631.35 ft **HOLE SIZE** 4.25
DRILLING CONTRACTOR SJB
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 9.50 ft / Elev 1621.85 ft
LOGGED BY Marnie Chancey **CHECKED BY** Ryan Jorrey
AT END OF DRILLING 9.48 ft / Elev 1621.87 ft
NOTES Elevation Datum: NAVD 88
AFTER DRILLING 8.81 ft / Elev 1622.54 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data
0.0							
	SS	75	3-4-6-5 (10)	OH		0'- 1' (OH) Dark brown, topsoil with organics, moist.	PID = 0
1.0						1630.4	
				SP		1'- 4' (SP) Light brown/gray, fine sand, dry.	PID = 0
2.5	SS	63	7-7-10-11 (17)				PID = 0
4.0						1627.4	
	SS	88	3-4-5-6 (9)	SP		4'- 5' (SP) Brown/gray, fine sand, trace orange clay, dry.	PID = 0
5.0						1626.4	
				SP-SM		5'- 6' (SP-SM) Gray, fine sand, some silt, moist.	PID = 0
6.0						1625.4	
	SS	100	10-11-8-7 (19)	SP-SM		6'- 7' (SP-SM) Gray/brown, fine sand, some silt, moist.	PID = 0
7.0						1624.4	
7.5				SP		7'- 8' (SP) Light brown-red, fine sand, moist.	PID = 0
8.0						1623.4	
	SS	75	8-9-9-9 (18)	SP		8'- 12' (SP) Dark brown-red, fine sand, wet at 9.5'.	PID = 0
10.0							
	SS	63	3-4-6-6 (10)				PID = 0
12.0						1619.4	
12.5						12'- 14' (SP) Dark brown/gray, fine sand, trace red clay, wet.	
	SS	100	2-2-4-4 (6)	SP			PID = 0.4
14.0						1617.4	

Bottom of borehole at 14.0 feet.

WELL DIAGRAM

Casing Top Elev: 1631.22 (ft)
Casing Type: 2" PVC



TRC
Results you can rely on
10 Maxwell Drive, Suite 200
Clifton Park, NY 12180
Telephone: (518) 688-3102

WELL NUMBER ADK-MW-104

CLIENT New York State Department of Environmental Conservation
PROJECT NAME Site No. 517013 - Adirondack Regional Airport
PROJECT NUMBER 285483.0000.0000
PROJECT LOCATION Town of Harrietstown, New York
DATE STARTED 8/8/18 **COMPLETED** 8/8/18
GROUND ELEVATION 1635.25 ft **HOLE SIZE** 4.25
DRILLING CONTRACTOR SJB
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 6.00 ft / Elev 1629.25 ft
LOGGED BY Marnie Chancey **CHECKED BY** Ryan Jorrey
AT END OF DRILLING 6.33 ft / Elev 1628.92 ft
NOTES Elevation Datum: NAVD 88
AFTER DRILLING 5.98 ft / Elev 1629.27 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data	WELL DIAGRAM
0.0								Casing Top Elev: 1634.61 (ft) Casing Type: 2" PVC
	SS	88	2-3-5-6 (8)	OH		0'- 1.25' (OH) Dark brown, topsoil with organics, loose, dry.	PID = 0	Flush mount
						1.3 1634.0		Grout
				SP		1.25'- 2' (SP) Light brown, fine sand, moist.		
						2.0 1633.3	PID = 0	
2.5	SS	75	6-6-8-10 (14)	SP		2'- 4' (SP) Brown/gray, fine sand, trace red clay, moist.	PID = 0	Bentonite Seal
						4.0 1631.3		
5.0	SS	75	8-7-8-10 (15)	SP		4'- 7' (SP) Brown/gray, fine sand, wet at 6'.	PID = 0	
	SS	88	8-10-10-9 (20)				PID = 0	
7.5				SP		7'- 8' (SP) Dark brown, fine sand, wet.	PID = 0	
						8.0 1627.3		
	SS	50	6-5-5-4 (10)	SP		8'- 10' (SP) Brown, fine sand, wet.	PID = 0	Filter Sand
10.0						10.0 1625.3		Well Screen
	SS	50	3-4-3-4 (7)	SP-SM		10'- 12' (SP-SM) Brown/gray, fine sand, some silt, wet.	PID = 0	
						12.0 1623.3		
12.5	SS	100	7-4-4-3 (8)	SP-SM		12'- 15' (SP-SM) Brown/gray, fine sand and silt, trace orange clay, wet.	PID = 0.4	
15.0						15.0 1620.3		

Bottom of borehole at 15.0 feet.

TRC
Results you can rely on
10 Maxwell Drive, Suite 200
Clifton Park, NY 12180
Telephone: (518) 688-3102

WELL NUMBER ADK-MW-105

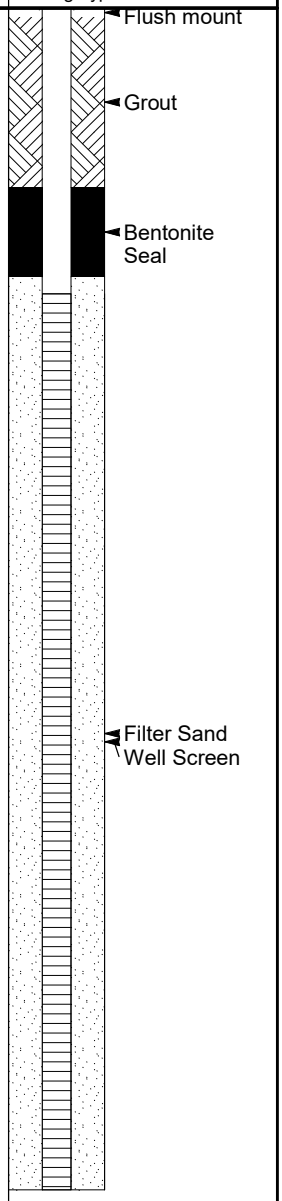
CLIENT New York State Department of Environmental Conservation
PROJECT NAME Site No. 517013 - Adirondack Regional Airport
PROJECT NUMBER 285483.0000.0000
PROJECT LOCATION Town of Harrietstown, New York
DATE STARTED 8/8/18 **COMPLETED** 8/8/18
GROUND ELEVATION 1638.9 ft **HOLE SIZE** 4.25
DRILLING CONTRACTOR SJB
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 6.00 ft / Elev 1632.90 ft
LOGGED BY Marnie Chancey **CHECKED BY** Ryan Jorrey
AT END OF DRILLING 6.95 ft / Elev 1631.95 ft
NOTES Elevation Datum: NAVD 88
AFTER DRILLING 6.86 ft / Elev 1632.04 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data
0.0							
	SS	63	3-3-4-5 (7)	OH		0'- 0.5' (OH) Dark brown, topsoil with organics, loose, moist. 1638.4	PID = 0
0.5						0.5'- 4' (SP) Light brown, fine sand, dry.	
	SS	88	3-4-3-3 (7)	SP			PID = 0
2.5							
							PID = 0
4.0						1634.9	
	SS	88	3-3-4-5 (7)			4'- 14' (SP) Light brown, fine sand, moist, wet at 6'.	PID = 0
5.0							
	SS	63	4-2-2-4 (4)				PID = 0
7.5							
	SS	75	1-1-0-0 (1)	SP			PID = 0
10.0							
	SS	50	2-1-0-0 (1)				PID = 0
12.5							
	SS	100	2-2-5-6 (7)				PID = 0.1
14.0						1624.9	

Bottom of borehole at 14.0 feet.

WELL DIAGRAM

Casing Top Elev: 1638.46 (ft)
Casing Type: 2" PVC



TRC
Results you can rely on
10 Maxwell Drive, Suite 200
Clifton Park, NY 12180
Telephone: (518) 688-3102

WELL NUMBER ADK-MW-106

CLIENT New York State Department of Environmental Conservation
PROJECT NAME Site No. 517013 - Adirondack Regional Airport
PROJECT NUMBER 285483.0000.0000
PROJECT LOCATION Town of Harrietstown, New York
DATE STARTED 8/7/18 **COMPLETED** 8/7/18
GROUND ELEVATION 1641.72 ft **HOLE SIZE** 4.25
DRILLING CONTRACTOR SJB
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING 5.50 ft / Elev 1636.22 ft
LOGGED BY Marnie Chancey **CHECKED BY** Ryan Jorrey
AT END OF DRILLING 5.27 ft / Elev 1636.45 ft
NOTES Elevation Datum: NAVD 88
AFTER DRILLING 5.32 ft / Elev 1636.40 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	Environmental Data	WELL DIAGRAM
0								Casing Top Elev: 1641.45 (ft) Casing Type: 2" PVC
	SS	88	2-2-5-6 (7)	OH		0.5 — 1641.2 0'- 0.5' (OH) Dark brown, topsoil with organics, loose, moist.	PID = 0	Flush mount Grout
				SP		0.5'- 2' (SP) Light brown, fine sand, dry.	PID = 0	Bentonite Seal
	SS	100	7-7-10-7 (17)	SP		2.0 — 1639.7 2'- 4' (SP) Light brown/gray, fine sand, dry.	PID = 0	
5	SS	88	3-3-3-4 (6)	SP		4.0 — 1637.7 4'- 6' (SP) Dark brown, fine sand, wet at 5.5'.	PID = 0	
	SS	75	4-4-5-6 (9)	SP		6.0 — 1635.7 6'- 16' (SP) Light brown/gray, fine sand, wet.	PID = 0	
10	SS	63	4-2-3-3 (5)				PID = 0	Filter Sand Well Screen
	SS	100	1-2-2-3 (4)				PID = 0.1	
	SS	100	3-5-6-8 (11)				PID = 0.1	
15	SS	88	1-1-0-0 (1)				PID = 0.1	
	SS	63	2-2-3-3 (5)	SP		16.0 — 1625.7 16'- 18' (SP) Dark brown, fine sand, wet, very loose.	PID = 0.1	
	SS	63	1-1-0-0 (1)	SP		18.0 — 1623.7 18'- 20' (SP) Dark brown, fine sand, wet, very loose.	PID = 0.2	
20						20.0 — 1621.7		

Bottom of borehole at 20.0 feet.

APPENDIX D
MONITORING WELL DEVELOPMENT AND SAMPLING LOGS

Monitoring Well Development Log

WELL NUMBER	WELL INFORMATION					Date: 08/13/2018
	Well Diameter (inches)	Total Depth[1] (ft)	Depth to Water TOC (ft)	Depth to Product TOC (ft)	PID (ppm)	Personnel: MEC
ADK-MW-101						Site Name: NYSDEC Adirondack Regional Airport
SITE NUMBER						Site Location: Town of Harrietstown, Franklin County, New York
517013	2	8.56	4.62	-	0	Job Number: 285483.0000.0000

[1] Use a previously determined total depth. Confirm the total depth of well after developing.

TOC = top of casing

PURGING INFORMATION							WATER QUALITY METER CALIBRATION READINGS		
Pump Type	Tubing Type	Pump Intake Depth[2] (ft)	Purge Start Time	Purge Stop Time	Flow Rate (ml/min)	Total Purge Vol. (US Gal)	Temp:	pH: 4.0/7.0	Cond: 1.413
							D.O.: 99%	ORP: 240	Turbidity: 0.1 / 126
Whale Pump	HDPE	8.5	9:32	11:42	1400	7.5	Rental Meter Name: YSI 650 MDS		
							Rental Meter Serial No.: 12621		

[2] Below TOC

PURGING PARAMETERS (measurements are to be taken approximately every 5 minutes												
	Criteria:	<0.3 ft	± 3%	± 0.1 su	± 3%	± 10%	± 10 mv	± 10%[3]				
Time	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (su)	Cond (mS/cm)	D.O. (mg/L)	ORP (mv)	Turbidity (NTU)	Initials	Water Conditions/Comments		
9:40	1800	8.1	17.2	6.32	0.377	8.07	102.4	1455.7				
10:00	pumped dry, wait to recharge											
10:20	1800	6.7	17.08	6.57	0.194	8.07	92.2	1354.9				
10:25	pumped dry, wait to recharge											
10:35	1400	6.7	16.7	6.35	0.343	7.74	67.3	567.6				
10:40	pumped dry, wait to recharge											
10:50	1400	8.1	17.06	6.97	0.362	8.37	71.4	775.4				
10:55	pumped dry, wait to recharge											
11:00	1400	8.1	16.29	6.71	0.355	9.26	55.2	1453.6				
11:05	pumped dry, wait to recharge											
11:10	1400	8.1	15.64	6.88	0.357	9.76	58.7	1438.1				
11:15	pumped dry, wait to recharge											
11:20	1400	8.1	15.59	6.71	0.359	10.18	64.4	1436.2				
11:25	pumped dry, wait to recharge											
11:30	1400	8.1	15.64	6.65	0.359	10.11	72.4	1435.5				
11:35	pumped dry, wait to recharge											
11:40	1400	8.1	15.52	6.52	0.361	9.57	62.6	1437.2				
Stop pumping, 10 well volumes removed.												

Weather Conditions:

[3] For values greater than 10.

Note: Indicator parameters have stabilized when 3 consecutive readings taken every 5 min are within criteria listed above.

Monitoring Well Development Log

WELL NUMBER	WELL INFORMATION					
	Well Diameter (inches)	Total Depth[1] (ft)	Depth to Water TOC (ft)	Depth to Product TOC (ft)	PID (ppm)	**Date:** 08/13/2018
ADK-MW-102						**Personnel:** MEC
SITE NUMBER						**Site Name:** NYSDEC Adirondack Regional Airport
						Site Location: Town of Harrietstown, Franklin County, New York
517013	**2**	14.05	9.3	-	0	**Job Number:** 285483.0000.0000

[1] Use a previously determined total depth. Confirm the total depth of well after developing.

TOC = top of casing

PURGING INFORMATION						
Pump Type	**Tubing Type**	**Pump Intake Depth[2] (ft)**	**Purge Start Time**	**Purge Stop Time**	**Flow Rate (ml/min)**	**Total Purge Vol. (US Gal)**
Whale Pump	HDPE	14	9:35	9:50	1800	10

WATER QUALITY METER CALIBRATION READINGS		
Temp:	**pH:** 4.0/7.0	**Cond:** 1.413
D.O.: 99%	**ORP:** 240	**Turbidity:** 0.1 / 126
Rental Meter Name: YSI 650 MDS		
Rental Meter Serial No.: 12621		

[2] Below TOC

PURGING PARAMETERS (measurements are to be taken approximately every 5 minutes

	Criteria:	<0.3 ft	± 3%	± 0.1 su	± 3%	± 10%	± 10 mv	± 10%[3]				
Time	**Flow Rate (ml/min)**	**Depth to Water (ft)**	**Temp (°C)**	**pH (su)**	**Cond (mS/cm)**	**D.O. (mg/L)**	**ORP (mv)**	**Turbidity (NTU)**	**Initials**	**Water Conditions/Comments**		
9:45	1800	9.39	11.18	7.1	0.372	8.28	-12.8	98.6				
9:50	1800	9.42	11.16	7.1	0.371	6.86	-14.7	86.9				
Stop pumping, 10 well volumes removed.												

Weather Conditions:

[3] For values greater than 10.

Note: Indicator parameters have stabilized when 3 consecutive readings taken every 5 min are within criteria listed above.

Monitoring Well Development Log

WELL NUMBER	WELL INFORMATION					
	Well Diameter (inches)	Total Depth[1] (ft)	Depth to Water TOC (ft)	Depth to Product TOC (ft)	PID (ppm)	**Date:** 08/13/2018
ADK-MW-103						**Personnel:** MEC
SITE NUMBER						**Site Name:** NYSDEC Adirondack Regional Airport
517013	**2**	14.05	9.35	-	0	**Site Location:** Town of Harrietstown, Franklin County, New York
						Job Number: 285483.0000.0000

[1] Use a previously determined total depth. Confirm the total depth of well after developing.

TOC = top of casing

PURGING INFORMATION							WATER QUALITY METER CALIBRATION READINGS		
Pump Type	Tubing Type	Pump Intake Depth[2] (ft)	Purge Start Time	Purge Stop Time	Flow Rate (ml/min)	Total Purge Vol. (US Gal)	**Temp:**	**pH:** 4.0/7.0	**Cond:** 1.413
							D.O.: 99%	**ORP:** 240	**Turbidity:** 0.1 / 126
							Rental Meter Name: YSI 650 MDS		
Whale Pump	HDPE	9.3	11:58	12:25	1600	8.5	**Rental Meter Serial No.:** 12621		

[2] Below TOC

PURGING PARAMETERS (measurements are to be taken approximately every 5 minutes

	Criteria:	<0.3 ft	± 3%	± 0.1 su	± 3%	± 10%	± 10 mv	± 10%[3]				
Time	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (su)	Cond (mS/cm)	D.O. (mg/L)	ORP (mv)	Turbidity (NTU)	Initials	Water Conditions/Comments		
12:00	1800	9.41	15.1	7.39	0.039	9.14	48.6	874.7				
12:05	1400	13.6	14.47	6.94	0.047	8.72	42.3	1082.6				
pumped dry, wait to recharge												
12:10	1800	13.2	14.54	6.68	0.047	9.14	53.7	460.5				
12:15	1400	13.6	13.59	6.47	0.04	8.45	53.1	1273.5				
pumped dry, wait to recharge												
12:20	1800	13.2	14.48	6.34	0.047	8.47	68.1	202.6				
Stop pumping, 10 well volumes removed.												

Weather Conditions:

[3] For values greater than 10.

Note: Indicator parameters have stabilized when 3 consecutive readings taken every 5 min are within criteria listed above.

Monitoring Well Development Log

WELL NUMBER	WELL INFORMATION					
	Well Diameter (inches)	Total Depth[1] (ft)	Depth to Water TOC (ft)	Depth to Product TOC (ft)	PID (ppm)	**Date:** 08/13/2018
ADK-MW-104						**Personnel:** MEC
SITE NUMBER						**Site Name:** NYSDEC Adirondack Regional Airport
						Site Location: Town of Harrietstown, Franklin County, New York
517013	2	14	5.69	-	0	**Job Number:** 285483.0000.0000

[1] Use a previously determined total depth. Confirm the total depth of well after developing.

TOC = top of casing

PURGING INFORMATION						
Pump Type	Tubing Type	Pump Intake Depth[2] (ft)	Purge Start Time	Purge Stop Time	Flow Rate (ml/min)	Total Purge Vol. (US Gal)
Whale Pump	HDPE	13.5	12:33	13:00	1800	15

WATER QUALITY METER CALIBRATION READINGS		
Temp:	**pH:** 4.0/7.0	**Cond:** 1.413
D.O.: 99%	**ORP:** 240	**Turbidity:** 0.1 / 126
Rental Meter Name: YSI 650 MDS		
Rental Meter Serial No.: 12621		

[2] Below TOC

PURGING PARAMETERS (measurements are to be taken approximately every 5 minutes												
	Criteria:	**<0.3 ft**	**± 3%**	**± 0.1 su**	**± 3%**	**± 10%**	**± 10 mv**	**± 10%[3]**				
Time	**Flow Rate (ml/min)**	**Depth to Water (ft)**	**Temp (°C)**	**pH (su)**	**Cond (mS/cm)**	**D.O. (mg/L)**	**ORP (mv)**	**Turbidity (NTU)**	**Initials**	**Water Conditions/Comments**		
12:35	1800	5.697	16.82	6.09	0.084	4.47	64.7	1119.3				
12:40	1800	10.13	15.01	6.04	0.065	4.86	65.2	1420.3				
12:45	1800	-	14.27	6.29	0.066	9.22	76.2	1420.6				
12:50	1800	-	13.87	6.02	0.067	7.53	78.8	372.1				
12:55	1800	13.6	13.96	6.11	0.072	10.31	75.9	306.4				
12:58	1800	13.6	14.22	5.97	0.072	8.39	72.6	90.1				
Stop pumping, 10 well volumes removed.												

Weather Conditions:

[3] **For values greater than 10.**

Note: Indicator parameters have stabilized when 3 consecutive readings taken every 5 min are within criteria listed above.

Monitoring Well Development Log

WELL NUMBER	WELL INFORMATION					
ADK-MW-105	Well Diameter (inches)	Total Depth[1] (ft)	Depth to Water TOC (ft)	Depth to Product TOC (ft)	PID (ppm)	
SITE NUMBER						
517013	2	12.58	6.51	-	0	

Date: 08/13/2018
Personnel: MEC
Site Name: NYSDEC Adirondack Regional Airport
Site Location: Town of Harrietstown, Franklin County, New York
Job Number: 285483.0000.0000

[1] Use a previously determined total depth. Confirm the total depth of well after developing.
TOC = top of casing

PURGING INFORMATION						
Pump Type	Tubing Type	Pump Intake Depth[2] (ft)	Purge Start Time	Purge Stop Time	Flow Rate (ml/min)	Total Purge Vol. (US Gal)
Whale Pump	HDPE	12.5	13:10	13:23	1800	10

[2] Below TOC

WATER QUALITY METER CALIBRATION READINGS		
Temp:	**pH:** 4.0/7.0	**Cond:** 1.413
D.O.: 99%	**ORP:** 240	**Turbidity:** 0.1 / 126
Rental Meter Name: YSI 650 MDS		
Rental Meter Serial No.: 12621		

PURGING PARAMETERS (measurements are to be taken approximately every 5 minutes

	Criteria:	<0.3 ft	± 3%	± 0.1 su	± 3%	± 10%	± 10 mv	± 10%[3]		
Time	Flow Rate (ml/min)	Depth to Water (ft)	Temp (°C)	pH (su)	Cond (mS/cm)	D.O. (mg/L)	ORP (mv)	Turbidity (NTU)	Initials	Water Conditions/Comments
13:13	1800	8.04	13.67	6.54	0.103	12.64	88.7	519.2		
13:16	1800	8.43	12.61	6.23	0.125	12.35	102.3	287.2		
13:19	1800	6.51	12.54	6.8	0.135	11.68	114.6	261		
13:22	1800	-	12.08	6.15	0.133	11.37	113.2	87.1		
Stop pumping, 10 well volumes removed.										

Weather Conditions:

[3] For values greater than 10.

Note: Indicator parameters have stabilized when 3 consecutive readings taken every 5 min are within criteria listed above.

Monitoring Well Development Log

WELL NUMBER	WELL INFORMATION					
	Well Diameter (inches)	Total Depth[1] (ft)	Depth to Water TOC (ft)	Depth to Product TOC (ft)	PID (ppm)	**Date:** 08/13/2018
ADK-MW-106						**Personnel:** MEC
SITE NUMBER						**Site Name:** NYSDEC Adirondack Regional Airport
						Site Location: Town of Harrietstown, Franklin County, New York
517013	2	17.75	5	-	0	**Job Number:** 285483.0000.0000

[1] Use a previously determined total depth. Confirm the total depth of well after developing.

TOC = top of casing

PURGING INFORMATION						
Pump Type	Tubing Type	Pump Intake Depth[2] (ft)	Purge Start Time	Purge Stop Time	Flow Rate (ml/min)	Total Purge Vol. (US Gal)
Whale Pump	HDPE	17.5	13.:33	13:53	1800	15.5

WATER QUALITY METER CALIBRATION READINGS		
Temp:	**pH:** 4.0/7.0	**Cond:** 1.413
D.O.: 99%	**ORP:** 240	**Turbidity:** 0.1 / 126
Rental Meter Name: YSI 650 MDS		
Rental Meter Serial No.: 12621		

[2] Below TOC

PURGING PARAMETERS (measurements are to be taken approximately every 5 minutes												
	Criteria:	**<0.3 ft**	**± 3%**	**± 0.1 su**	**± 3%**	**± 10%**	**± 10 mv**	**± 10%[3]**				
Time	**Flow Rate (ml/min)**	**Depth to Water (ft)**	**Temp (°C)**	**pH (su)**	**Cond (mS/cm)**	**D.O. (mg/L)**	**ORP (mv)**	**Turbidity (NTU)**	**Initials**	**Water Conditions/Comments**		
13:35	1800	5.42	13.26	6.93	0.063	11.42	107	120.1				
13:40	1800	5.41	12.6	6.52	0.061	10.81	120.6	200.1				
13:45	1800	5.45	12.89	6.57	0.062	10.86	121.9	26.1				
13:50	1800	5.41	13.12	6.59	0.063	12.14	12.9	16.2				
Stop pumping, turbidity below 50 NTU.												

Weather Conditions:

[3] **For values greater than 10.**

Note: Indicator parameters have stabilized when 3 consecutive readings taken every 5 min are within criteria listed above.

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME		LOCATION ID	DATE
NYSDEC Adirondack Regional Airport		ADK-MW-101	8/21/2018
PROJECT NUMBER		**START TIME**	**END TIME**
285483.0000.0000		9:10	10:15
SAMPLE ID	**SAMPLE TIME**	**SITE NAME/NUMBER**	**PAGE**
ADK-MW-101	10:05	517013	1 OF 1

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	4.21 FT	**FINAL DTW (BMP)**	6.61 FT	**PROT. CASING STICKUP (AGS)**	- FT	**TOC/TOR DIFFERENCE**	0.34 FT
WELL DEPTH (BMP)	8.54 FT	**SCREEN LENGTH**	5 FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	4.33 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.3936 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0.71 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	3.38 GAL	**DRAWDOWN/ TOTAL PURGED**	0.12	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
9:10	**BEGIN PURGING**									
9:15	4.51	150	16.31	0.591	6.61	1.18	13.4	22.6	8	
9:20	4.90	150	16.8	0.476	6.63	0.96	14.6	28.4	8	
9:25	5.25	225	16.81	0.463	6.63	0.91	21.2	23.2	8	
9:30	5.46	200	16.99	0.441	6.67	0.93	12.4	23.8	8	
9:35	5.59	200	17.32	0.431	6.67	0.87	11.3	21.7	8	
9:40	5.79	200	16.88	0.424	6.67	0.86	10.1	22.4	8	
9:45	5.96	200	16.54	0.432	6.69	0.89	10	22.1	8	
9:50	6.16	200	16.45	0.438	6.69	0.81	9.6	23.3	8	
9:55	6.46	200	16.23	0.429	6.69	0.72	8.4	23	8	
10:00	6.61	200	16.24	0.421	6.69	0.6	9.1	23.7	8	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

16	**0.421**	**6.7**	**0.6**	**9.1**	**24**	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED
[X] PERISTALTIC	[X] LIQUINOX	[X] SILICON TUBING	[ ] S. STEEL PUMP MATERIAL	[X] WL METER
[ ] SUBMERSIBLE	[ ] DEIONIZED WATER	[ ] TEFLON TUBING	[ ] PVC PUMP MATERIAL	[X] PID
[ ] BLADDER	[ ] POTABLE WATER	[ ] TEFLON LINED TUBING	[ ] GEOPROBE SCREEN	[X] WQ METER
	[ ] NITRIC ACID	[X] HDPE TUBING	[ ] TEFLON BLADDER	[X] TURB. METER
[ ] WATTERA	[ ] HEXANE	[ ] LDPE TUBING	[ ] OTHER	[X] PUMP
[ ] OTHER	[ ] METHANOL	[ ] OTHER	[ ] OTHER	[ ] OTHER
[ ] OTHER	[X] PFAS FREE WATER	[ ] OTHER	[ ] OTHER	[ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	PFAS	537.100	No	Ice	500 mL	Yes	No	
X	1,4-dioxane	8270-SIM	No	Ice	2 L	Yes	No	

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES [X] NO [ ]

NO-PURGE METHOD UTILIZED: YES [ ] NO [X]

NUMBER OF GALLONS GENERATED: 3.4

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Marnie Chancey Print Name: Marnie Chancey

Checked By: Ryan Jorrey Date: 8/21/2018

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC Adirondack Regional Airport
PROJECT NUMBER	285483.0000.0000
SAMPLE ID	ADK-MW-102
SAMPLE TIME	11:05

LOCATION ID	ADK-MW-102
DATE	8/21/2018
START TIME	10:25
END TIME	11:35
SITE NAME/NUMBER	517013
PAGE	1 OF 1

WELL DIAMETER (INCHES): [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP): [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	9 FT	**FINAL DTW (BMP)**	9.09 FT	**PROT. CASING STICKUP (AGS)**	- FT	**TOC/TOR DIFFERENCE**	0.1 FT
WELL DEPTH (BMP)	14.1 FT	**SCREEN LENGTH**	10 FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	5.1 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.015 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0.84 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	5.46 GAL	**DRAWDOWN/ TOTAL PURGED**	0.003	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
	BEGIN PURGING									
10:30	9.03	150	13.17	0.328	6.67	7.03	4.1	91.6	14	
10:35	9.03	150	13.07	0.334	6.45	7.04	19.1	104.8	14	
10:40	9.08	200	12.24	0.347	6.29	7.19	83.7	119.6	14	
10:45	9.07	300	11.96	0.356	6.17	7.04	70.6	131.6	14	
10:50	9.11	300	11.82	0.361	6.11	7.12	30.1	140	14	
10:55	9.09	300	11.75	0.363	6.07	6.97	14.2	146.4	14	
11:00	9.09	300	12.03	0.363	6.06	6.9	0	148.9	14	
11:05	9.09	300	12.15	0.365	6.07	6.79	0	151.6	14	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

12	**0.365**	**6.1**	**6.8**	**0**	**150**	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	DECON FLUIDS USED	TUBING/PUMP/BLADDER MATERIALS		EQUIPMENT USED
[X] PERISTALTIC	[X] LIQUINOX	[X] SILICON TUBING	[ ] S. STEEL PUMP MATERIAL	[X] WL METER
[ ] SUBMERSIBLE	[ ] DEIONIZED WATER	[ ] TEFLON TUBING	[ ] PVC PUMP MATERIAL	[X] PID
[ ] BLADDER	[ ] POTABLE WATER	[ ] TEFLON LINED TUBING	[ ] GEOPROBE SCREEN	[X] WQ METER
	[ ] NITRIC ACID	[X] HDPE TUBING	[ ] TEFLON BLADDER	[X] TURB. METER
[ ] WATTERA	[ ] HEXANE	[ ] LDPE TUBING	[ ] OTHER	[X] PUMP
[ ] OTHER	[ ] METHANOL	[ ] OTHER	[ ] OTHER	[ ] OTHER
[ ] OTHER	[X] PFAS FREE WATER	[ ] OTHER	[ ] OTHER	[ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	PFAS	537.100	No	Ice	1.5 L	Yes	Yes	
X	1,4-dioxane	8270-SIM	No	Ice	6 L	Yes	Yes	

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	X	
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: 5.46

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Marnie Chancey Print Name: Marnie Chancey

Checked By: Ryan Jorrey Date: 8/21/2018

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC Adirondack Regional Airport	**LOCATION ID**	ADK-MW-103
PROJECT NUMBER	285483.0000.0000	**DATE**	8/21/2018
		START TIME	12:00
		END TIME	12:45
SAMPLE ID	ADK-MW-103	**SITE NAME/NUMBER**	517013
SAMPLE TIME	12:35	**PAGE**	1 OF 1

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	8.79 FT	**FINAL DTW (BMP)**	9.04 FT	**PROT. CASING STICKUP (AGS)**	- FT	**TOC/TOR DIFFERENCE**	0.32 FT
WELL DEPTH (BMP)	13.58 FT	**SCREEN LENGTH**	10 FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	4.79 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.041 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0.79 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	3.51 GAL	**DRAWDOWN/ TOTAL PURGED**	0.012	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
12:00	**BEGIN PURGING**									
12:05	8.95	300	15.47	0.03	6.25	2.64	7.2	86.7	11	
12:10	9.02	300	15.8	0.032	5.88	3.02	0	103.4	11	
12:15	9.04	300	15.98	0.031	5.67	3.21	0	125.8	11	
12:20	9.04	300	15.9	0.031	5.53	3.8	0	136.6	11	
12:25	9.04	300	15.89	0.031	5.41	3.81	0	147.4	11	
12:30	9.04	300	15.93	0.031	5.36	3.83	0	149.5	11	
12:35	9.04	300	15.97	0.031	5.44	3.78	0	152.5	11	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

16	**0.031**	**5.4**	**3.8**	**0**	**150**	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [X] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [X] PFAS FREE WATER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [X] PID
- [X] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	PFAS	537.100	No	Ice	500 mL	Yes	No	
X	1,4-dioxane	8270-SIM	No	Ice	2 L	Yes	No	

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	X	
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: 3.51

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Marnie Chancey Print Name: Marnie Chancey

Checked By: Ryan Jorrey Date: 8/21/2018

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC Adirondack Regional Airport	**LOCATION ID**	ADK-MW-104
PROJECT NUMBER	285483.0000.0000	**DATE**	8/21/2018
SAMPLE ID	ADK-MW-104	**START TIME**	12:55
SAMPLE TIME	13:35	**END TIME**	13:45
		SITE NAME/NUMBER	517013
		PAGE	1 OF 1

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	5.34 FT	**FINAL DTW (BMP)**	6.34 FT	**PROT. CASING STICKUP (AGS)**	- FT	**TOC/TOR DIFFERENCE**	0.07 FT
WELL DEPTH (BMP)	14.28 FT	**SCREEN LENGTH**	10 FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	8.94 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.164 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.47 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	3.9 GAL	**DRAWDOWN/ TOTAL PURGED**	0.04	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
12:55	**BEGIN PURGING**									
13:00	5.75	300	17.13	0.079	5.71	0.43	16	71.2	14	
13:05	6.02	300	16.92	0.078	5.75	0.14	10.8	55.3	14	
13:10	6.04	300	16.67	0.084	5.79	0.11	4.3	45	14	
13:15	6.16	300	16.51	0.091	5.84	0.07	11.4	30.7	14	
13:20	6.40	300	16.37	0.092	5.87	0.08	4.6	26.9	14	
13:25	6.40	300	16.48	0.093	5.96	0.07	0	18.2	14	
13:30	6.38	300	16.38	0.094	5.94	0.08	0	15.3	14	
13:35	6.34	300	16.43	0.094	5.96	0.07	0	11.8	14	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

16	**0.094**	**6.0**	**0.1**	**0**	**12**	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER _____
- [ ] OTHER _____

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [X] PFAS FREE WATER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER _____
- [ ] OTHER _____

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER _____
- [ ] OTHER _____
- [ ] OTHER _____

EQUIPMENT USED
- [X] WL METER _____
- [X] PID _____
- [X] WQ METER _____
- [X] TURB. METER _____
- [X] PUMP _____
- [ ] OTHER _____
- [ ] FILTERS NO. ____ TYPE _____

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	PFAS	537.100	No	Ice	500 mL	Yes	No	
X	1,4-dioxane	8270-SIM	No	Ice	2 L	Yes	No	

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	X	
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: 3.9

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Marnie Chancey Print Name: Marnie Chancey

Checked By: Ryan Jorrey Date: 8/21/2018

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC Adirondack Regional Airport
PROJECT NUMBER	285483.0000.0000
SAMPLE ID	ADK-MW-105
SAMPLE TIME	14:35
LOCATION ID	ADK-MW-105
DATE	8/21/2018
START TIME	14:00
END TIME	14:45
SITE NAME/NUMBER	517013
PAGE	1 OF 1

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	6.42 FT	**FINAL DTW (BMP)**	6.5 FT	**PROT. CASING STICKUP (AGS)**	- FT	**TOC/TOR DIFFERENCE**	0.02 FT
WELL DEPTH (BMP)	2.75 FT	**SCREEN LENGTH**	10 FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	3.67 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.01 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	0.60 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	3.5 GAL	**DRAWDOWN/ TOTAL PURGED**	0.004	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
1400	**BEGIN PURGING**									
14:05	6.50	300	14.92	0.062	5.53	0.61	16.9	145.5	12.5	
14:10	6.50	300	14.69	0.064	5.47	0.58	8.1	174.2	12.5	
14:15	6.50	300	14.79	0.065	5.42	0.55	0	188.5	12.5	
14:20	6.52	300	15.45	0.065	5.47	0.54	0	195.3	12.5	
14:25	6.50	300	15.35	0.065	5.48	0.5	0	199.5	12.5	
14:30	6.50	300	14.82	0.065	5.42	0.45	0.7	205.1	12.5	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

15	**0.065**	**5.4**	**0.5**	**0.7**	**210**	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER _____
- [ ] OTHER _____

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [X] PFAS FREE WATER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER _____
- [ ] OTHER _____

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER _____
- [ ] OTHER _____
- [ ] OTHER _____

EQUIPMENT USED
- [X] WL METER _____
- [X] PID _____
- [X] WQ METER _____
- [X] TURB. METER _____
- [X] PUMP _____
- [ ] OTHER _____
- [ ] FILTERS NO. ___ TYPE _____

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	PFAS	537.100	No	Ice	500 mL	Yes	No	
X	1,4-dioxane	8270-SIM	No	Ice	2 L	Yes	No	

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	X	
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: 3.5

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Marnie Chancey Print Name: Marnie Chancey

Checked By: Ryan Jorrey Date: 8/21/2018

LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME	NYSDEC Adirondack Regional Airport	**LOCATION ID**	ADK-MW-106
PROJECT NUMBER	285483.0000.0000	**DATE**	8/21/2018
SAMPLE ID	ADK-MW-106	**START TIME**	15:00
SAMPLE TIME	15:35	**END TIME**	15:45
		SITE NAME/NUMBER	517013
		PAGE	1 OF 1

WELL DIAMETER (INCHES) [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES) [ ] 1/8 [ ] 1/4 [X] 3/8 [ ] 1/2 [ ] 5/8 [ ] OTHER

MEASUREMENT POINT (MP) [X] TOP OF RISER (TOR) [ ] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	5.05 FT	**FINAL DTW (BMP)**	5.12 FT	**PROT. CASING STICKUP (AGS)**	- FT	**TOC/TOR DIFFERENCE**	0.27 FT
WELL DEPTH (BMP)	18.16 FT	**SCREEN LENGTH**	10 FT	**PID AMBIENT AIR**	0 PPM	**REFILL TIMER SETTING**	- SEC
WATER COLUMN	13.11 FT	**DRAWDOWN VOLUME** (final DTW - initial DTW X well diam. squared X 0.041)	0.01 GAL	**PID WELL MOUTH**	0 PPM	**DISCHARGE TIMER SETTING**	- SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.15 GAL	**TOTAL VOL. PURGED** (mL per minute X total minutes X 0.00026 gal/mL)	3.5 GAL	**DRAWDOWN/ TOTAL PURGED**	0.003	**PRESSURE TO PUMP**	- PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft Drawdown	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 degrees)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10%)	TURBIDITY (ntu) (+/- 10% <10 ntu)	REDOX (mv) (+/- 10 mv)	PUMP INTAKE DEPTH (ft)	COMMENTS
15:00	**BEGIN PURGING**									
15:05	5.12	100	14.69	0.072	5.99	0.1	34.2	163.8	18	
15:10	5.12	150	14.28	0.072	5.95	0.11	14.8	166.4	18	
15:15	5.12	150	14.02	0.069	5.96	0.13	22.5	163	18	
15:20	5.12	300	13.72	0.062	5.92	0.16	8.2	166.5	18	
15:25	5.12	300	13.8	0.062	5.9	0.18	3.2	168.5	18	
15:30	5.12	300	14.13	0.062	5.96	0.19	2	168.9	18	
15:35	5.12	300	14.07	0.062	5.95	0.19	1.4	165.8	18	

FINAL STABILIZED FIELD PARAMETERS (to appropriate significant figures[SF])

14	**0.062**	**6.0**	**0.2**	**1.4**	**170**	

TEMP.: nearest degree (ex. 10.1 = 10)
COND.: 3 SF max (ex. 3333 = 3330, 0.696 = 0.696)
pH: nearest tenth (ex. 5.53 = 5.5)
DO: nearest tenth (ex. 3.51 = 3.5)
TURB: 3 SF max, nearest tenth (6.19 = 6.2, 101 = 101)
ORP: 2 SF (44.1 = 44, 191 = 190)

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER _____
- [ ] OTHER _____

DECON FLUIDS USED
- [X] LIQUINOX
- [X] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [X] PFAS FREE WATER

TUBING/PUMP/BLADDER MATERIALS
- [X] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER _____
- [ ] OTHER _____

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER _____
- [ ] OTHER _____
- [ ] OTHER _____

EQUIPMENT USED
- [X] WL METER _____
- [X] PID _____
- [X] WQ METER _____
- [X] TURB. METER _____
- [X] PUMP _____
- [ ] OTHER _____
- [ ] FILTERS NO. ____ TYPE _____

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
X	PFAS	537.100	No	Ice	500 mL	Yes	No	
X	1,4-dioxane	8270-SIM	No	Ice	2 L	Yes	No	

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	X	
NO-PURGE METHOD UTILIZED		X

NUMBER OF GALLONS GENERATED: 3.5

If yes, purged approximately 1 standing volume prior to sampling or _____mL for this sample location.

SKETCH/NOTES

Sampler Signature: Marnie Chancey Print Name: Marnie Chancey

Checked By: Ryan Jorrey Date: 8/21/2018

APPENDIX E
SITE SURVEY INFORMATION

New York State Department of Environmental Conservation
Adirondack Regional Airport Site- Site No. 517013
96 Airport Road
Harrietstown, New York 12983
Site Characterization Sample Location Survey Information

Monitoring Wells

Northing	Easting	Elevation	Description
2021326.7172	570857.9963	1634.77	ADK-MW-101
		1634.76	Adjacent Ground Surface
		1634.22	Top of Road-box Protective Casing
		1634.56	Top of PVC Riser
2021059.3197	571236.8720	1632.06	ADK-MW-102
		1632.05	Adjacent Ground Surface
		1631.46	Top of Road-box Protective Casing
		1631.56	Top of PVC Riser
2021351.0129	571317.6871	1631.37	ADK-MW-103
		1631.35	Adjacent Ground Surface
		1630.90	Top of Road-box Protective Casing
		1631.22	Top of PVC Riser
2021727.3569	570966.0023	1635.23	ADK-MW-104
		1635.25	Adjacent Ground Surface
		1634.54	Top of Road-box Protective Casing
		1634.61	Top of PVC Riser
2022558.3923	570764.2769	1638.91	ADK-MW-105
		1638.90	Adjacent Ground Surface
		1638.44	Top of Road-box Protective Casing
		1638.46	Top of PVC Riser
2022872.7721	570244.9221	1641.68	ADK-MW-106
		1641.72	Adjacent Ground Surface
		1641.18	Top of Road-box Protective Casing
		1641.45	Top of PVC Riser

Surface Water Sample Locations

Northing	Easting	Elevation	Description
2021163.8505	568405.4358	1631.67	ADK-WS-101
2021446.6584	571380.4423	1619.77	ADK-WS-102

2023040.2666	570382.6964	1633.09	ADK-WS-103
2023854.4548	569680.9177	1637.72	ADK-WS-104

1.) Survey information referenced horizontally to the North American Datum of 1983 (NAD83), projected on the New York State Plane Coordinate System (East Zone).
2.) Elevations provided in North American Vertical Datum of 1988 (NAVD 88)
3.) Reference horizontal/vertical control station Designation P 359.
4.) Survey information is based in an instrument survey completed on August 22, 2018.

APPENDIX F
WASTE MANIFESTS

LI-014270

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

2. Page 1 of 1

3. Emergency Response Phone 800 899-4672

4. Waste Tracking Number 133112

5. Generator's Name and Mailing Address
NYSDEC
~~1130 N WESTGOTT ROAD~~ PO Box 296 State Rt 86
~~SCHENECTADY NY 12306~~ Ray Brook, NY 12977

Generator's Site Address (if different than mailing address)
NYSDEC ADIRONDACK REGIONAL AIRPORT Site No. 517013
95 AIRPORT ROAD
SARANAC LAKE NY 12983

Generator's Phone:

U.S. EPA ID Number
MAC300098399

6. Transporter 1 Company Name
NRC East Environmental Services, Inc.

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
ENPRO SERVICES OF VERMONT, INC.
54 AVENUE D
WILLISTON VT 05495

U.S. EPA ID Number
VTR000517052

Facility's Phone:
802 860-1200

	9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	
GENERATOR	1) NON DOT, NON RCRA REGULATED MATERIAL(PPE) Profile # 80486	1	D	300	P	~~VT99~~
	2) NON DOT, NON RCRA REGULATED MATERIAL(IDW SOILS) Profile # 80485	3	D	1800	P	~~VT99~~
	3) NON DOT, NON RCRA REGULATED MATERIAL(IDW WATER) 80484	2	D	1000	P	~~VT99~~ CS
	4.					

13. Special Handling Instructions and Additional Information ~~1)(L) 2)(L) 3)(L)~~
1) 80486 2) 80485 3) 80484

NRC JOB# 133112

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: AS AN AGENT FOR NYSDEC MARNIE CHANCEY
Signature: Marnie Chancey
Month 11 Day 28 Year 18

INT'L
15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER
16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Nate Mitchell
Signature: Nate Mitchell
Month 11 Day 28 Year 2018
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY
17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) Month Day

H141 H141 H141

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Jeff Frederick
Signature
Month 12 Day 10/18

169-BLC-O 5 11977 (Rev. 9/09) DESIGNATED FACILITY TO GENER

APPENDIX G
DATA USABILITY SUMMARY REPORTS (DUSRs)

Data Usability Summary Report

Site: Adirondack Regional Airport
Laboratory: TestAmerica– Buffalo, NY
SDGs: 320-42033-1, 480-140739-1
Parameter: Per- and Poly-fluoroalkyl Substances, 1,4-Dioxane
Data Reviewer: Lisa Krowitz/TRC
Peer Reviewer: Elizabeth Denly/TRC
Date: October 1, 2018

Samples Reviewed and Evaluation Summary

6 Groundwater samples: ADK-MW-101, ADK-MW-102, ADK-MW-103, ADK-MW-104, ADK-MW-105, ADK-MW-106

4 Surface water samples: ADK-WS-101, ADK-WS-102, ADK-WS-103, ADK-WS-104

7 Equipment Blanks: ADK-EB-AVG, ADK-EB-DW, ADK-EB-PVC, ADK-EB-SC, ADK-EB-SP, ADK-EB-SS, ADK-EB-TUB

The above-listed groundwater, surface water, and equipment blank samples were collected on August 7 and 21, 2018 and were analyzed for one or more of the following parameters:

- 1,4-Dioxane by SW-846 8270D with Selective Ion Monitoring (SIM)
- Per- and Poly-fluoroalkyl substances (PFAS) (21 target analytes) based on EPA Method 537.1 (modified) using Test America – Sacramento, CA standard operating procedure (SOP) WS-LC-0025, revision 3.0, effective date 04/13/18.

The samples were analyzed for 1,4-dioxane by TestAmerica – Buffalo, NY and for PFAS by TestAmerica – Sacramento, CA. The data validation was performed in accordance with the following USEPA guidance, modified for the methodologies utilized:

- USEPA National Functional Guidelines for Organic Superfund Methods Data Review (EPA-540-R-2017-002), January 2017

- USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA-542-B-16-001), April 2016

The data were evaluated based on the following parameters:

- Overall Evaluation of Data and Potential Usability Issues
- Data Completeness
* • Holding Times and Sample Preservation

*	•	GC/MS Tunes (1,4-Dioxane only)
*	•	Initial and Continuing Calibrations
	•	Blanks
*	•	Surrogate Recoveries (1,4-Dioxane only)
*	•	Isotopically Labeled Surrogate Results (PFAS only)
*	•	Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
*	•	Laboratory Control Sample (LCS)/LCS Duplicate (LCSD) Results
*	•	Internal Standards
NA	•	Field Duplicate Results
	•	Sample Results and Reported Quantitation Limits
	•	Target Compound Identification

*	-	All criteria were met.
NA	-	Field duplicates were not associated with this sample set.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives. Qualifications applied to the data as a result of sampling error are discussed below.

- The positive results for PFBA, PFPeA, PFHxA, and PFOA in sample ADK-MW-105; and PFBS and PFOS in sample ADK-MW-102 were qualified as nondetects (U) due to equipment blank contamination. These results can be used for project objectives as nondetects, which may have a minor impact on the data usability.

Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select results that were below the lowest calibration standard and quantitation limit (QL). These results were qualified as estimated (J) in the associated samples. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

- The positive results for PFHxS in samples ADK-EB-AVG, ADK-EB-DW, ADK-EB-PVC, ADK-EB-SC, ADK-EB-SP, and ADK-EB-SS; for PFTeA in samples ADK-MW-104, ADK-MW-106, and ADK-WS-102; and for PFHxS in samples ADK-MW-102 and ADK-EB-TUB were qualified as nondetects (U) due to method blank contamination. These results can be used for project objectives as nondetects, which may have a minor impact on the data usability.

- The positive result for PFOS in sample ADK-MW-106 was qualified as estimated (J) due to the ratio between the two precursor/product ion transitions being outside the acceptance limits. This result can be used for project objectives as an estimated value, which may have a minor impact on the data usability.

- The positive result for PFOS in sample ADK-EB-TUB was qualified as estimated (J) due to the ratio between the two precursor/product ion transitions being outside the acceptance limits and detection below the QL. This result can be used for project objectives as an estimated value, which may have a minor impact on the data usability.

Data Completeness

The data package was a complete Level IV data deliverable. It should be noted that according to the chain-of-custody, sample ADK-EB-TUB should have been analyzed for 1,4-dioxane. However, the laboratory did not receive the required sample containers; thus, sample ADK-EB-TUB was not analyzed for 1,4-dioxane.

A revised data package was requested and received for SDG 320-42033-1 from the laboratory to correct the integration for PFOS in samples ADK-EB-AVG and ADK-EB-SP since the branched isomers were not included in the integration. In addition, the laboratory verified that carryover was not an issue for samples ADK-MW-105 and ADK-WS-104 based on reanalysis of the samples or MS/MSD results.

Holding Times and Sample Preservation

All holding time and sample preservation criteria were met for the 1,4-dioxane and PFAS analyses.

GC/MS Tunes (1,4-Dioxane only)

All criteria were met in the 1,4-dioxane analyses.

Initial and Continuing Calibrations

1,4-Dioxane

The correlation coefficient was within the method acceptance criteria in the initial calibration (IC). All percent drifts met the method acceptance criteria in the continuing calibration (CC) standards associated with the samples in this data set.

PFAS

All percent relative standard deviations (%RSDs) in the ICs were within the method acceptance criteria. All percent differences met the laboratory acceptance criteria in the CC standards associated with the samples in this data set.

Blanks

1,4-Dioxane

There were no detections of 1,4-dioxane in the method blank.

PFAS

The following table summarizes the contaminants detected in the method blanks and equipment blanks, the concentrations detected, and the resulting validation actions.

<table>
<tr><th>Blank ID</th><th>Compound</th><th>Blank Concentration (ng/L)</th><th>Validation Actions</th></tr>
<tr><td>MB 320-240811/1-A</td><td>PFHxS</td><td>0.447</td><td>The positive results for PFHxS in samples ADK-EB-AVG, ADK-EB-DW, ADK-EB-PVC, ADK-EB-SC, ADK-EB-SP, and ADK-EB-SS were qualified as nondetects (U) at the QLs since the concentrations were <QLs.</td></tr>
<tr><td colspan="4">Associated samples: ADK-EB-AVG, ADK-EB-DW, ADK-EB-PVC, ADK-EB-SC, ADK-EB-SP, ADK-EB-SS</td></tr>
<tr><td rowspan="2">MB 320-243677/1-A</td><td>PFTeA</td><td>0.764 J</td><td>The positive results for PFTeA in samples ADK-MW-104, ADK-MW-106, and ADK-WS-102 were qualified as nondetects (U) at the QLs since the concentrations were <QLs.

Qualification of the data was not required for the remaining associated samples since PFTeA was nondetect.</td></tr>
<tr><td>PFHxS</td><td>0.321 J</td><td>The positive results for PFHxS in samples ADK-MW-102 and ADK-EB-TUB were qualified as nondetects (U) at the QLs since the concentrations were <QLs.

Qualification of the data was not required for the remaining associated samples since PFHxS was detected at concentrations >2x the blank concentration.</td></tr>
<tr><td colspan="4">Associated samples: ADK-MW-101, ADK-MW-102, ADK-MW-103, ADK-MW-104, ADK-MW-105, ADK-MW-106, ADK-WS-101, ADK-WS-102, ADK-WS-103, ADK-WS-104, ADK-EB-TUB</td></tr>
<tr><td rowspan="2">ADK-EB-AVG</td><td>PFBA</td><td>0.35 J</td><td rowspan="10">The positive results for PFBA, PFPeA, PFHxA, and PFOA in sample ADK-MW-105; and PFBS and PFOS in sample ADK-MW-102 were qualified as nondetects (U) at the QLs since the concentrations were <QLs.

Qualification of the data was not required for the remaining associated samples since these PFAS were either nondetect or detected at concentrations >2x the blank concentrations.</td></tr>
<tr><td>PFTeA</td><td>0.27 J</td></tr>
<tr><td rowspan="6">ADK-EB-DW</td><td>PFBA</td><td>0.37 J</td></tr>
<tr><td>PFPeA</td><td>0.52 J</td></tr>
<tr><td>PFHxA</td><td>0.53 J</td></tr>
<tr><td>PFOA</td><td>0.90 J</td></tr>
<tr><td>PFBS</td><td>0.51 J</td></tr>
<tr><td>PFOS</td><td>0.66 J</td></tr>
<tr><td>ADK-EB-SC</td><td>PFTeA</td><td>0.23 J</td></tr>
<tr><td>ADK-EB-SP</td><td>PFBA</td><td>2.3</td></tr>
<tr><td>ADK-EB-TUB</td><td>PFOS</td><td>0.65 J</td></tr>
<tr><td colspan="4">Associated samples: ADK-MW-101, ADK-MW-102, ADK-MW-103, ADK-MW-104, ADK-MW-105, ADK-MW-106</td></tr>
</table>

Surrogate Recoveries (1,4-Dioxane only)

The surrogate percent recoveries (%Rs) met the laboratory acceptance criteria in the 1,4-dioxane analyses.

Isotopically Labeled Surrogate Results (PFAS only)

Isotopically labeled surrogates were spiked into the samples prior to extraction. The %Rs met the laboratory limits of 25-150% in the PFAS analyses.

MS/MSD Results

MS/MSD analyses were performed on samples ADK-MW-102 and ADK-WS-104 for 1,4-dioxane, and PFAS analyses. The %Rs and relative percent differences (RPDs) were within the laboratory acceptance criteria.

LCS/LCSD Results

The LCS/LCSD %Rs and/or RPDs were within the laboratory acceptance criteria for the 1,4-dioxane and PFAS analyses.

Internal Standards

1,4-Dioxane

All criteria were met in the 1,4-dioxane analyses.

PFAS

The isotopically labeled internal standard 13C2-PFOA was added to each sample prior to injection to monitor for ion suppression/enhancement at the instrument level. The %Rs met the laboratory limits of 50-150% in the PFAS analyses.

Field Duplicate Results

There were no field duplicates associated with this data set.

Sample Results and Reported Quantitation Limits

Sample calculations were spot-checked; there were no errors noted. Select results were below the lowest calibration standard level and QL. These results were qualified as estimated (J) by the laboratory.

For the 1,4-dioxane analysis on sample ADK-MW-101, a lower initial extraction volume (100 mL) was used rather than the standard volume (1000 mL) due to a cloudy matrix; the QL was elevated accordingly.

The following table summarizes dilutions performed on samples in this data set; QLs were elevated accordingly.

Parameter	Sample ID	Dilution	Reason for Dilution
1,4-Dioxane	ADK-WS-102	5-fold	A 5-fold dilution was performed due to the color of the sample.
	ADK-WS-103	20-fold	A 20-fold dilution was performed due to the color of the sample.
PFAS	ADK-MW-103	Undiluted, 20-fold	A 20-fold dilution was performed due to the concentrations of PFHxS and PFOS that exceeded the calibration range in the undiluted analysis. All other PFAS were reported from the undiluted analysis.
	ADK-MW-104	Undiluted, 10-fold, 100-fold	A 10-fold dilution was performed due to the concentrations of target PFAS that exceeded the calibration range in the undiluted analysis. PFHxA, PFBS, and PFHpS were reported from the 10-fold dilution. A 100-fold dilution was performed due to the concentrations of PFHxS and PFOS that exceeded the calibration range in the 10-fold diluted analysis. All other PFAS were reported from the undiluted analysis.
	ADK-WS-103	Undiluted, 10-fold	A 10-fold dilution was performed due to the concentration of PFOS that exceeded the calibration range in the undiluted analysis. All other PFAS were reported from the undiluted analysis.

Samples ADK-MW-104, ADK-WS-101, and ADK-WS-103 had particulate matter which plugged the solid-phase extraction column; thus, the entire sample was not processed. The weight remaining in the sample bottles for samples ADK-MW-104, ADK-WS-101, and ADK-WS-103 were 116.35 g, 60.46 g, and 25.38 g, respectively. There should be no adverse impact to the data as TestAmerica's PFAS determination uses isotope dilution for quantitation; thus, target analyte losses in the extraction process are compensated for in the quantitation process since target analyte results are recovery corrected.

Target Compound Identification

1,4-Dioxane

All criteria were met for 1,4-dioxane.

PFAS

Extracted ion chromatograms were reviewed to verify the target compound identifications. The laboratory manually integrated several peaks to ensure the inclusion of linear and branched isomers for PFOA, PFOS, NEtFOSAA, NMeFOSAA, and/or PFHxS and/or to ensure proper integration.

Two precursor/product ion transitions were used for identification for all compounds except for PFBA, PFPeA, FOSA, NMeFOSAA, NEtFOSAA, 6:2 FTS, and 8:2 FTS which only used one precursor/product ion transition for identification.

The following table summarizes the ratios between the two precursor/product ion transitions that did not meet the laboratory acceptance criteria and the validation actions.

Sample ID	Compound	Ratio	Ratio QC Limits	Validation Actions
ADK-MW-106	PFOS	6.17	2.04-6.12	The positive result for PFOS in sample ADK-MW-106 was qualified the result as estimated (J).
ADK-EB-TUB	PFOS	12.70	2.04-6.12	The positive result for PFOS in sample ADK-EB-TUB was below the QL and the laboratory qualified the result as estimated (J); therefore no further action was required.

QUALIFIED FORM 1s

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-101 | Lab Sample ID: 480-140739-1

Matrix: Water | Lab File ID: 2018.09.05LLAA_021.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 10:05

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 287(mL) | Date Analyzed: 09/05/2018 14:34

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	24		1.7	0.30
2706-90-3	Perfluoropentanoic acid (PFPeA)	49		1.7	0.43
307-24-4	Perfluorohexanoic acid (PFHxA)	57		1.7	0.51
375-85-9	Perfluoroheptanoic acid (PFHpA)	17		1.7	0.22
335-67-1	Perfluorooctanoic acid (PFOA)	36		1.7	0.74
375-95-1	Perfluorononanoic acid (PFNA)	28		1.7	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	0.34	J	1.7	0.27
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.96
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.7	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.25
375-73-5	Perfluorobutanesulfonic acid (PFBS)	6.4		1.7	0.17
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	74	B	1.7	0.15
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	3.5		1.7	0.17
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	66		1.7	0.47
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.28
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.7	0.30
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		17	2.7
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		17	1.7
27619-97-2	6:2 FTS	33		17	1.7
39108-34-4	8:2 FTS	ND		17	1.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-102 Lab Sample ID: 480-140739-2

Matrix: Water Lab File ID: 2018.09.05LLAA_022.d

Analysis Method: 537 (modified) Date Collected: 08/21/2018 11:05

Extraction Method: 3535 Date Extracted: 09/04/2018 10:12

Sample wt/vol: 300.2(mL) Date Analyzed: 09/05/2018 14:41

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	5.7		1.7	0.29
2706-90-3	Perfluoropentanoic acid (PFPeA)	4.3		1.7	0.41
307-24-4	Perfluorohexanoic acid (PFHxA)	5.4		1.7	0.48
375-85-9	Perfluoroheptanoic acid (PFHpA)	13		1.7	0.21
335-67-1	Perfluorooctanoic acid (PFOA)	20		1.7	0.71
375-95-1	Perfluorononanoic acid (PFNA)	5.5		1.7	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.26
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.7	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.24
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.7J ~~0.21 J~~ ✓		1.7	0.17
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.7J ~~0.68 J B~~	✓	1.7	0.14
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.16
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.7J ~~0.83 J~~ ✓		1.7	0.45
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.7	0.29
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		17	2.6
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		17	1.6
27619-97-2	6:2 FTS	5.1	J	17	1.7
39108-34-4	8:2 FTS	13	J	17	1.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-103 | Lab Sample ID: 480-140739-3

Matrix: Water | Lab File ID: 2018.09.05LLAA_025.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 12:35

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 283.5(mL) | Date Analyzed: 09/05/2018 15:04

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	10		1.8	0.31
2706-90-3	Perfluoropentanoic acid (PFPeA)	37		1.8	0.43
307-24-4	Perfluorohexanoic acid (PFHxA)	70		1.8	0.51
375-85-9	Perfluoroheptanoic acid (PFHpA)	16		1.8	0.22
335-67-1	Perfluorooctanoic acid (PFOA)	7.5		1.8	0.75
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.8	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.8	0.27
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.8	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.26
375-73-5	Perfluorobutanesulfonic acid (PFBS)	62		1.8	0.18
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	28		1.8	0.17
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.8	0.31
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		18	2.7
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		18	1.7
27619-97-2	6:2 FTS	13	J	18	1.8
39108-34-4	8:2 FTS	ND		18	1.8

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-103 DL | Lab Sample ID: 480-140739-3 DL

Matrix: Water | Lab File ID: 2018.09.06LLA_023.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 12:35

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 283.5(mL) | Date Analyzed: 09/06/2018 22:41

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 20

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 244284 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	960	✔	35	3.0
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2200		35	9.5

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	92		25-150
STL00991	13C4 PFOS	99		25-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-104 | Lab Sample ID: 480-140739-4

Matrix: Water | Lab File ID: 2018.09.05LLAA_026.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 13:35

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 291.3(mL) | Date Analyzed: 09/05/2018 15:11

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	67		1.7	0.30
2706-90-3	Perfluoropentanoic acid (PFPeA)	270		1.7	0.42
375-85-9	Perfluoroheptanoic acid (PFHpA)	120		1.7	0.21
335-67-1	Perfluorooctanoic acid (PFOA)	61		1.7	0.73
375-95-1	Perfluorononanoic acid (PFNA)	2.0		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.27
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.7	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.7J ~~0.50~~ ~~J~~ ✓		1.7	0.25
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.7	0.30
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		17	2.7
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		17	1.6
27619-97-2	6:2 FTS	91		17	1.7
39108-34-4	8:2 FTS	ND		17	1.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-104 DL | Lab Sample ID: 480-140739-4 DL

Matrix: Water | Lab File ID: 2018.09.07LLB_018.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 13:35

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 291.3(mL) | Date Analyzed: 09/08/2018 10:27

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 10

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 244614 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
307-24-4	Perfluorohexanoic acid (PFHxA)	530		17	5.0
375-73-5	Perfluorobutanesulfonic acid (PFBS)	530		17	1.7
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	210		17	1.6

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00993	13C2 PFHxA	63		25-150
STL02337	13C3-PFBS	58		25-150
STL00991	13C4 PFOS	58		25-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-104 DL2 | Lab Sample ID: 480-140739-4 DL2

Matrix: Water | Lab File ID: 2018.09.06LLA_024.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 13:35

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 291.3(mL) | Date Analyzed: 09/06/2018 22:49

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 100

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 244284 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	8300	~~B~~	170	15
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	18000		170	46

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	46		25-150
STL00991	13C4 PFOS	51		25-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-105 | Lab Sample ID: 480-140739-5

Matrix: Water | Lab File ID: 2018.09.05LLAA_027.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 14:30

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 288.4(mL) | Date Analyzed: 09/05/2018 15:19

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	1.74 ~~1.1~~ ~~J~~ ✓		1.7	0.30
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.74 ~~0.50~~ ~~J~~ ✓		1.7	0.42
307-24-4	Perfluorohexanoic acid (PFHxA)	1.74 ~~1.3~~ ~~J~~ ✓		1.7	0.50
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.6	J	1.7	0.22
335-67-1	Perfluorooctanoic acid (PFOA)	1.74 ~~1.4~~ ~~J~~ ✓		1.7	0.74
375-95-1	Perfluorononanoic acid (PFNA)	1.8		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.27
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.95
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.7	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.25
375-73-5	Perfluorobutanesulfonic acid (PFBS)	5.6		1.7	0.17
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	64	~~J~~ ✓	1.7	0.15
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.81	J	1.7	0.16
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	190		1.7	0.47
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.28
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.7	0.30
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		17	2.7
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		17	1.6
27619-97-2	6:2 FTS	1.9	J	17	1.7
39108-34-4	8:2 FTS	ND		17	1.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-106 | Lab Sample ID: 480-140739-6

Matrix: Water | Lab File ID: 2018.09.05LLAA_029.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 15:35

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 290.8(mL) | Date Analyzed: 09/05/2018 15:34

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	4.7		1.7	0.30
2706-90-3	Perfluoropentanoic acid (PFPeA)	1.7		1.7	0.42
307-24-4	Perfluorohexanoic acid (PFHxA)	7.0		1.7	0.50
375-85-9	Perfluoroheptanoic acid (PFHpA)	4.3		1.7	0.21
335-67-1	Perfluorooctanoic acid (PFOA)	5.8		1.7	0.73
375-95-1	Perfluorononanoic acid (PFNA)	0.35	J	1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.27
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.95
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.7	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.7U ~~0.39~~	~~J B~~ ✓	1.7	0.25
375-73-5	Perfluorobutanesulfonic acid (PFBS)	14		1.7	0.17
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	49	~~B~~	1.7	0.15
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	0.90	J	1.7	0.16
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	4.5	J J	1.7	0.46
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.28
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.7	0.30
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		17	2.7
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		17	1.6
27619-97-2	6:2 FTS	ND		17	1.7
39108-34-4	8:2 FTS	ND		17	1.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-WS-101 | Lab Sample ID: 480-140739-7

Matrix: Water | Lab File ID: 2018.09.05LLAA_030.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 14:35

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 297.8(mL) | Date Analyzed: 09/05/2018 15:41

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.4		1.7	0.29
2706-90-3	Perfluoropentanoic acid (PFPeA)	3.3		1.7	0.41
307-24-4	Perfluorohexanoic acid (PFHxA)	5.4		1.7	0.49
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.8		1.7	0.21
335-67-1	Perfluorooctanoic acid (PFOA)	3.0		1.7	0.71
375-95-1	Perfluorononanoic acid (PFNA)	0.38	J	1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.26
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.7	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.24
375-73-5	Perfluorobutanesulfonic acid (PFBS)	10		1.7	0.17
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	56		1.7	0.14
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	1.9		1.7	0.16
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	81		1.7	0.45
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.7	0.29
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		17	2.6
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		17	1.6
27619-97-2	6:2 FTS	ND		17	1.7
39108-34-4	8:2 FTS	ND		17	1.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-WS-102 | Lab Sample ID: 480-140739-8

Matrix: Water | Lab File ID: 2018.09.05LLAA_031.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 16:45

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 293.1(mL) | Date Analyzed: 09/05/2018 15:49

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	6.9		1.7	0.30
2706-90-3	Perfluoropentanoic acid (PFPeA)	20		1.7	0.42
307-24-4	Perfluorohexanoic acid (PFHxA)	23		1.7	0.49
375-85-9	Perfluoroheptanoic acid (PFHpA)	7.0		1.7	0.21
335-67-1	Perfluorooctanoic acid (PFOA)	9.3		1.7	0.73
375-95-1	Perfluorononanoic acid (PFNA)	0.69	J	1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.26
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.7	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	1.7J ~~0.32~~ ~~J B~~ ✓		1.7	0.25
375-73-5	Perfluorobutanesulfonic acid (PFBS)	20		1.7	0.17
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	130	✓	1.7	0.15
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	5.8		1.7	0.16
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	120		1.7	0.46
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.7	0.30
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		17	2.6
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		17	1.6
27619-97-2	6:2 FTS	17		17	1.7
39108-34-4	8:2 FTS	ND		17	1.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-WS-103 | Lab Sample ID: 480-140739-9

Matrix: Water | Lab File ID: 2018.09.05LLAA_032.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 16:25

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 287.2(mL) | Date Analyzed: 09/05/2018 15:56

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	7.0		1.7	0.30
2706-90-3	Perfluoropentanoic acid (PFPeA)	8.9		1.7	0.43
307-24-4	Perfluorohexanoic acid (PFHxA)	32		1.7	0.50
375-85-9	Perfluoroheptanoic acid (PFHpA)	3.5		1.7	0.22
335-67-1	Perfluorooctanoic acid (PFOA)	8.0		1.7	0.74
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.7	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.27
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.96
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.7	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.25
375-73-5	Perfluorobutanesulfonic acid (PFBS)	23		1.7	0.17
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	250		1.7	0.15
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	10		1.7	0.17
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.28
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.7	0.30
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		17	2.7
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		17	1.7
27619-97-2	6:2 FTS	ND		17	1.7
39108-34-4	8:2 FTS	ND		17	1.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-WS-103 DL Lab Sample ID: 480-140739-9 DL

Matrix: Water Lab File ID: 2018.09.06LLA_026.d

Analysis Method: 537 (modified) Date Collected: 08/21/2018 16:25

Extraction Method: 3535 Date Extracted: 09/04/2018 10:12

Sample wt/vol: 287.2(mL) Date Analyzed: 09/06/2018 23:05

Con. Extract Vol.: 10.00(mL) Dilution Factor: 10

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 244284 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	990		17	4.7

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00991	13C4 PFOS	81		25-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-WS-104 | Lab Sample ID: 480-140739-10

Matrix: Water | Lab File ID: 2018.09.05LLAA_033.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 15:45

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 284(mL) | Date Analyzed: 09/05/2018 16:04

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.98	J	1.8	0.31
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.82	J	1.8	0.43
307-24-4	Perfluorohexanoic acid (PFHxA)	1.6	J	1.8	0.51
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.55	J	1.8	0.22
335-67-1	Perfluorooctanoic acid (PFOA)	0.83	J	1.8	0.75
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.8	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.8	0.27
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.8	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.26
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.9		1.8	0.18
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	7.5		1.8	0.15
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.17
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.3		1.8	0.48
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.8	0.31
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		18	2.7
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		18	1.7
27619-97-2	6:2 FTS	ND		18	1.8
39108-34-4	8:2 FTS	ND		18	1.8

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-EB-TUB | Lab Sample ID: 480-140739-11

Matrix: Water | Lab File ID: 2018.09.05LLAA_036.d

Analysis Method: 537 (modified) | Date Collected: 08/21/2018 15:55

Extraction Method: 3535 | Date Extracted: 09/04/2018 10:12

Sample wt/vol: 291.3(mL) | Date Analyzed: 09/05/2018 16:26

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.7	0.30
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.7	0.50
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.21
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.7	0.73
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.27
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.7	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.25
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.7 ~~0.31~~ ~~J B~~ ✓		1.7	0.15
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.16
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.65	J	1.7	0.46
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.7	0.30
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		17	2.7
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		17	1.6
27619-97-2	6:2 FTS	ND		17	1.7
39108-34-4	8:2 FTS	ND		17	1.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-42033-1

SDG No.:

Client Sample ID: ADK-EB-AVG | Lab Sample ID: 320-42033-5

Matrix: Water | Lab File ID: 2018.08.23LLAA_043.d

Analysis Method: 537 (modified) | Date Collected: 08/07/2018 13:20

Extraction Method: 3535 | Date Extracted: 08/20/2018 10:26

Sample wt/vol: 311.9(mL) | Date Analyzed: 08/23/2018 17:42

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 241700 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.35	J	1.6	0.28
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.6	0.39
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.6	0.46
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.20
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.6	0.68
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.6	0.22
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.6	0.25
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.88
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.6	1.0
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.27	J	1.6	0.23
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.16
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.6 U ~~0.26 J B~~ ✓		1.6	0.14
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.15
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.43
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.26
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.6	0.28
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		16	2.5
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		16	1.5
27619-97-2	6:2 FTS	ND		16	1.6
39108-34-4	8:2 FTS	ND		16	1.6

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-42033-1

SDG No.:

Client Sample ID: ADK-EB-DW Lab Sample ID: 320-42033-6

Matrix: Water Lab File ID: 2018.08.23LLAA_044.d

Analysis Method: 537 (modified) Date Collected: 08/07/2018 13:30

Extraction Method: 3535 Date Extracted: 08/20/2018 10:26

Sample wt/vol: 276.1(mL) Date Analyzed: 08/23/2018 17:50

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 241700 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	0.37	J	1.8	0.32
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.52	J	1.8	0.44
307-24-4	Perfluorohexanoic acid (PFHxA)	0.53	J	1.8	0.53
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.23
335-67-1	Perfluorooctanoic acid (PFOA)	0.90	J	1.8	0.77
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.8	0.24
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.8	0.28
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.8	1.2
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.26
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.51	J	1.8	0.18
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.8U ~~0.74~~ ~~J B~~ ✓		1.8	0.15
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.17
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.66	J	1.8	0.49
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.8	0.32
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		18	2.8
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		18	1.7
27619-97-2	6:2 FTS	ND		18	1.8
39108-34-4	8:2 FTS	ND		18	1.8

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-42033-1

SDG No.:

Client Sample ID: ADK-EB-PVC | Lab Sample ID: 320-42033-2

Matrix: Water | Lab File ID: 2018.08.23LLAA_040.d

Analysis Method: 537 (modified) | Date Collected: 08/07/2018 12:30

Extraction Method: 3535 | Date Extracted: 08/20/2018 10:26

Sample wt/vol: 290.5(mL) | Date Analyzed: 08/23/2018 17:18

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 241700 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.7	0.30
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.7	0.42
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.7	0.50
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.22
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.7	0.73
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.27
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.95
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.7	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.25
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.74 ~~0.33~~ ~~B~~ ✓		1.7	0.15
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.16
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.46
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.28
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.7	0.30
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		17	2.7
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		17	1.6
27619-97-2	6:2 FTS	ND		17	1.7
39108-34-4	8:2 FTS	ND		17	1.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-42033-1

SDG No.:

Client Sample ID: ADK-EB-SC | Lab Sample ID: 320-42033-3

Matrix: Water | Lab File ID: 2018.08.23LLAA_041.d

Analysis Method: 537 (modified) | Date Collected: 08/07/2018 12:45

Extraction Method: 3535 | Date Extracted: 08/20/2018 10:26

Sample wt/vol: 315.4(mL) | Date Analyzed: 08/23/2018 17:26

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 241700 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.6	0.28
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.6	0.39
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.6	0.46
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.20
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.6	0.67
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.6	0.21
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.6	0.25
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.87
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.6	0.44
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.6	1.0
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.23	J	1.6	0.23
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.16
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.6 U ~~0.22~~ ~~J B~~ ✓		1.6	0.13
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.15
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.43
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.25
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.6	0.28
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		16	2.5
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		16	1.5
27619-97-2	6:2 FTS	ND		16	1.6
39108-34-4	8:2 FTS	ND		16	1.6

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-42033-1

SDG No.:

Client Sample ID: ADK-EB-SP | Lab Sample ID: 320-42033-1

Matrix: Water | Lab File ID: 2018.08.23LLAA_039.d

Analysis Method: 537 (modified) | Date Collected: 08/07/2018 12:20

Extraction Method: 3535 | Date Extracted: 08/20/2018 10:26

Sample wt/vol: 299.2(mL) | Date Analyzed: 08/23/2018 17:11

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 241700 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	2.3		1.7	0.29
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.7	0.41
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.7	0.48
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.21
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.7	0.71
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.7	0.23
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.7	0.26
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.7	1.1
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.24
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.17
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.7 J	~~0.32 J B~~ ✓	1.7	0.14
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.16
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.45
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.7	0.29
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		17	2.6
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		17	1.6
27619-97-2	6:2 FTS	ND		17	1.7
39108-34-4	8:2 FTS	ND		17	1.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-42033-1

SDG No.:

Client Sample ID: ADK-EB-SS | Lab Sample ID: 320-42033-4

Matrix: Water | Lab File ID: 2018.08.23LLAA_042.d

Analysis Method: 537 (modified) | Date Collected: 08/07/2018 13:10

Extraction Method: 3535 | Date Extracted: 08/20/2018 10:26

Sample wt/vol: 317.7(mL) | Date Analyzed: 08/23/2018 17:34

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 241700 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		1.6	0.28
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		1.6	0.39
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		1.6	0.46
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		1.6	0.20
335-67-1	Perfluorooctanoic acid (PFOA)	ND		1.6	0.67
375-95-1	Perfluorononanoic acid (PFNA)	ND		1.6	0.21
335-76-2	Perfluorodecanoic acid (PFDA)	ND		1.6	0.24
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.87
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		1.6	0.43
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		1.6	1.0
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.23
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.16
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.6 U ~~0.30~~ ~~J B~~ ✓		1.6	0.13
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.6	0.15
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.42
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.25
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		1.6	0.28
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		16	2.4
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		16	1.5
27619-97-2	6:2 FTS	ND		16	1.6
39108-34-4	8:2 FTS	ND		16	1.6

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-101 | Lab Sample ID: 480-140739-1

Matrix: Water | Lab File ID: U3310966.D

Analysis Method: 8270D SIM ID | Date Collected: 08/21/2018 10:05

Extract. Method: 3510C | Date Extracted: 08/23/2018 14:44

Sample wt/vol: 100(mL) | Date Analyzed: 08/25/2018 13:05

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 431348 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		2.0	1.0

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	30		15-110

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-102 | Lab Sample ID: 480-140739-2

Matrix: Water | Lab File ID: U3310963.D

Analysis Method: 8270D SIM ID | Date Collected: 08/21/2018 11:05

Extract. Method: 3510C | Date Extracted: 08/23/2018 14:44

Sample wt/vol: 1000(mL) | Date Analyzed: 08/25/2018 11:54

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 431348 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.20	0.10

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	22		15-110

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-103 | Lab Sample ID: 480-140739-3

Matrix: Water | Lab File ID: U3310967.D

Analysis Method: 8270D SIM ID | Date Collected: 08/21/2018 12:35

Extract. Method: 3510C | Date Extracted: 08/23/2018 14:44

Sample wt/vol: 1000(mL) | Date Analyzed: 08/25/2018 13:28

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 431348 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.20	0.10

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	23		15-110

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GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-104 | Lab Sample ID: 480-140739-4

Matrix: Water | Lab File ID: U3310968.D

Analysis Method: 8270D SIM ID | Date Collected: 08/21/2018 13:35

Extract. Method: 3510C | Date Extracted: 08/23/2018 14:44

Sample wt/vol: 1000(mL) | Date Analyzed: 08/25/2018 13:51

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 431348 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.20	0.10

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	22		15-110

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-105 | Lab Sample ID: 480-140739-5

Matrix: Water | Lab File ID: U3310972.D

Analysis Method: 8270D SIM ID | Date Collected: 08/21/2018 14:30

Extract. Method: 3510C | Date Extracted: 08/23/2018 14:44

Sample wt/vol: 1000(mL) | Date Analyzed: 08/25/2018 15:29

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 431349 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.20	0.10

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	29		15-110

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-MW-106 | Lab Sample ID: 480-140739-6

Matrix: Water | Lab File ID: U3310973.D

Analysis Method: 8270D SIM ID | Date Collected: 08/21/2018 15:35

Extract. Method: 3510C | Date Extracted: 08/23/2018 14:44

Sample wt/vol: 1000(mL) | Date Analyzed: 08/25/2018 15:53

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 431349 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.20	0.10

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	26		15-110

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-WS-101 | Lab Sample ID: 480-140739-7

Matrix: Water | Lab File ID: U3310974.D

Analysis Method: 8270D SIM ID | Date Collected: 08/21/2018 14:35

Extract. Method: 3510C | Date Extracted: 08/23/2018 14:44

Sample wt/vol: 1000(mL) | Date Analyzed: 08/25/2018 16:16

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 431349 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.20	0.10

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	35		15-110

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-WS-102 | Lab Sample ID: 480-140739-8

Matrix: Water | Lab File ID: U3310975.D

Analysis Method: 8270D SIM ID | Date Collected: 08/21/2018 16:45

Extract. Method: 3510C | Date Extracted: 08/23/2018 14:44

Sample wt/vol: 1000(mL) | Date Analyzed: 08/25/2018 16:39

Con. Extract Vol.: 1(mL) | Dilution Factor: 5

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 431349 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		1.0	0.50

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	28		15-110

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-WS-103 | Lab Sample ID: 480-140739-9

Matrix: Water | Lab File ID: U3310976.D

Analysis Method: 8270D SIM ID | Date Collected: 08/21/2018 16:25

Extract. Method: 3510C | Date Extracted: 08/23/2018 14:44

Sample wt/vol: 1000(mL) | Date Analyzed: 08/25/2018 17:03

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 431349 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		4.0	2.0

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	27		15-110

FORM I

GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Buffalo | Job No.: 480-140739-1

SDG No.:

Client Sample ID: ADK-WS-104 | Lab Sample ID: 480-140739-10

Matrix: Water | Lab File ID: U3310964.D

Analysis Method: 8270D SIM ID | Date Collected: 08/21/2018 15:45

Extract. Method: 3510C | Date Extracted: 08/23/2018 14:44

Sample wt/vol: 1000(mL) | Date Analyzed: 08/25/2018 12:18

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 431348 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
123-91-1	1,4-Dioxane	ND		0.20	0.10

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
17647-74-4	1,4-Dioxane-d8	30		15-110

QC NONCONFORMANCE DOCUMENTATION

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-42033-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-240811/1-A

Matrix: Water | Lab File ID: 2018.08.23LLAA_027.d

Analysis Method: 537 (modified) | Date Collected:

Extraction Method: 3535 | Date Extracted: 08/20/2018 10:26

Sample wt/vol: 250(mL) | Date Analyzed: 08/23/2018 15:37

Con. Extract Vol.: 10.00(mL) | Dilution Factor: 1

Injection Volume: 2(uL) | GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 241700 | Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		2.0	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	ND		2.0	0.85
375-95-1	Perfluorononanoic acid (PFNA)	ND		2.0	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	ND		2.0	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3
376-06-7	Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.447	J	2.0	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		2.0	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9
27619-97-2	6:2 FTS	ND		20	2.0
39108-34-4	8:2 FTS	ND		20	2.0

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 480-140739-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-243677/1-A

Matrix: Water Lab File ID: 2018.09.05LLAA_019.d

Analysis Method: 537 (modified) Date Collected:

Extraction Method: 3535 Date Extracted: 09/04/2018 10:12

Sample wt/vol: 250(mL) Date Analyzed: 09/05/2018 14:19

Con. Extract Vol.: 10.00(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 243954 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
375-22-4	Perfluorobutanoic acid (PFBA)	ND		2.0	0.35
2706-90-3	Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49
307-24-4	Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58
375-85-9	Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25
335-67-1	Perfluorooctanoic acid (PFOA)	ND		2.0	0.85
375-95-1	Perfluorononanoic acid (PFNA)	ND		2.0	0.27
335-76-2	Perfluorodecanoic acid (PFDA)	ND		2.0	0.31
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1
307-55-1	Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55
72629-94-8	Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3
376-06-7	Perfluorotetradecanoic acid (PFTeA)	0.764	J	2.0	0.29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	0.321	J	2.0	0.17
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54
335-77-3	Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32
754-91-6	Perfluorooctane Sulfonamide (FOSA)	ND		2.0	0.35
2355-31-9	N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1
2991-50-6	N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9
27619-97-2	6:2 FTS	ND		20	2.0
39108-34-4	8:2 FTS	ND		20	2.0

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 1H,1H,2H,2H-perfluorooctanesulfoni										
427.00 > 407.00	2.719	2.719	0.0	1.000	18287	0.0221			27.1	
D 12 M2-6:2FTS										
429.00 > 81.00	2.719	2.735	-0.016	0.988	916447	2.56		108	742	
15 Perfluorooctanoic acid										M
413.00 > 369.00	2.751	2.751	0.0	1.000	612924	0.1679			29.5	M
413.00 > 169.00	2.751	2.751	0.0	1.000	223926		2.74(1.36-4.08)		209	
* 62 13C2-PFOA										
415.00 > 370.00	2.751	2.751	0.0		8413093	2.50			9407	
16 Perfluoroheptanesulfonic acid										M
449.00 > 80.00	2.767	2.751	0.016	0.882	64329	0.0262			15.7	
449.00 > 99.00	2.767	2.751	0.016	0.882	21522		2.99(1.84-5.53)		27.6	M
D 14 13C4 PFOA										
417.00 > 372.00	2.751	2.751	0.0	1.000	8479154	2.50		100	9449	
20 Perfluorononanoic acid										M
463.00 > 419.00	3.137	3.118	0.019	1.000	31105	0.0101			1.8	M
463.00 > 169.00	3.119	3.118	0.001	0.994	4583		6.79(2.68-8.03)		7.5	M
17 Perfluorooctane sulfonic acid										M
499.00 > 80.00	3.010	3.118	-0.108	0.960	344759	0.1308			36.1	M
499.00 > 99.00	3.137	3.118	0.019	1.000	55845		6.17(2.04-6.12)		60.8	M
D 18 13C4 PFOS										
503.00 > 80.00	3.137	3.137	0.0	1.140	5970469	2.48		104	2542	
D 19 13C5 PFNA										
468.00 > 423.00	3.137	3.137	0.0	1.140	7887936	2.48		99.3	9237	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.483	3.467	0.016	1.000	9188	0.002720			20.3	
D 21 13C8 FOSA										
506.00 > 78.00	3.483	3.467	0.016	1.266	2849194	2.24		89.5	4372	
24 Perfluorodecanoic acid										R
513.00 > 469.00	3.499	3.483	0.016	1.000	9365	0.002533			1.2	R
513.00 > 169.00	3.483	3.483	0.0	0.996	370		25.31(7.12-21.35)		1.0	
D 26 M2-8:2FTS										
529.00 > 81.00	3.483	3.483	0.0	1.266	134122	2.55		106	666	
D 23 13C2 PFDA										
515.00 > 470.00	3.499	3.499	0.001	1.272	8120697	2.56		102	9117	
28 N-methyl perfluorooctane sulfonami										
570.00 > 419.00	3.658	3.644	0.014	1.004	5186	0.003461			2.0	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.644	3.644	0.0	1.324	3769735	2.64		105	5171	
29 Perfluorodecane Sulfonic acid										
599.00 > 80.00	3.794	3.794	0.0	1.210	6469	0.003184			1.9	
599.00 > 99.00	3.794	3.794	0.0	1.210	2307		2.80(2.14-6.43)		9.4	
33 N-ethyl perfluorooctane sulfonamid										
584.00 > 419.00	3.810	3.810	0.0	1.000	5134	0.004877			11.4	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.810	3.810	0.0	1.385	2830419	2.52		101	2276	
D 30 13C2 PFUnA										
565.00 > 520.00	3.810	3.826	-0.016	1.385	6878465	2.55		102	5783	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C4 PFOA										
417.00 > 372.00	2.735	2.751	-0.016	0.994	8218534	2.56		102	8268	
17 Perfluorooctane sulfonic acid										M
499.00 > 80.00	3.118	3.118	0.0	1.000	46750	0.0188			7.2	M
499.00 > 99.00	3.118	3.118	0.0	1.000	3681		12.70(2.04-6.12)		6.4	
D 18 13C4 PFOS										
503.00 > 80.00	3.118	3.137	-0.019	1.134	5633339	2.47		103	1834	
D 19 13C5 PFNA										
468.00 > 423.00	3.118	3.137	-0.019	1.134	8073020	2.68		107	5539	
22 Perfluorooctane Sulfonamide										
498.00 > 78.00	3.483	3.467	0.016	1.004	1801	0.000519			5.2	
D 21 13C8 FOSA										
506.00 > 78.00	3.467	3.467	0.0	1.260	2925209	2.43		97.0	4018	
24 Perfluorodecanoic acid										R
513.00 > 469.00	3.483	3.483	0.0	1.000	10495	0.002711			1.3	R
513.00 > 169.00	3.467	3.483	-0.016	0.996	1824		5.75(7.12-21.35)		3.2	
D 26 M2-8:2FTS										
529.00 > 81.00	3.467	3.483	-0.016	1.260	120885	2.42		101	600	
D 23 13C2 PFDA										
515.00 > 470.00	3.483	3.499	-0.015	1.266	8502068	2.83		113	5406	
D 27 d3-NMeFOSAA										
573.00 > 419.00	3.629	3.644	-0.015	1.319	4084609	3.02		121	5253	
D 32 d5-NEtFOSAA										
589.00 > 419.00	3.794	3.810	-0.016	1.379	2878872	2.70		108	2914	
D 30 13C2 PFUnA										
565.00 > 520.00	3.810	3.826	-0.016	1.385	6878745	2.69		108	7988	
D 36 13C2 PFDoA										
615.00 > 570.00	4.092	4.126	-0.034	1.488	7818581	2.51		101	7340	
42 Perfluorotetradecanoic acid										
713.00 > 169.00	4.612	4.612	0.0	1.004	2396	0.005763			10.7	
713.00 > 219.00	4.612	4.612	0.0	1.004	1643		1.46(0.70-2.09)		7.5	
D 43 13C2-PFTeDA										
715.00 > 670.00	4.594	4.630	-0.036	1.670	6438364	2.60		104	8991	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated