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January 7, 2019

Christopher F. Mannes III, P.E.
Environmental Engineer II
Environmental Remediation Region 7
NYS Department of Environmental Conservation
615 Erie Blvd.West
Syracuse, NY 13204

Re: Novak Farm Groundwater Report, VOCs and Emerging Contaminants, November 2018
Site No. 7-09-005

Dear Mr. Mannes,

Envirospec Engineering, PLLC, on behalf of Stauffer Management Company LLC, has prepared the enclosed November 2018 Groundwater Monitoring Report for the volatile organic compounds (VOCs) and emerging contaminants sampling completed at the Novak Farm Site.

Should you have questions or require additional information regarding this report, please feel free to contact me at (518) 453-2203.

Sincerely,

Gianna Aiezza

Gianna Aiezza, PE
Principal Engineer

cc: J. Kenney – NYSDOH

STAUFFER MANAGEMENT COMPANY

NOVAK FARM SITE

Town of McDonough, New York

GROUNDWATER MONITORING REPORT

NOVEMBER 2018 SAMPLING

January 2019

Prepared for:

Stauffer Management Company LLC
1800 Concord Pike
Wilmington, DE 19850-5437

Prepared by:

349 Northern Boulevard Suite 3
Albany, NY 12204

Envirospec Engineering Project E18-1804

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APPENDICES

1.0 Introduction

This Groundwater Monitoring Report has been prepared by Envirospec Engineering, PLLC (Envirospec) on behalf of Stauffer Management Company (SMC) to summarize groundwater sampling completed at the SMC Novak Site (the "Site") in McDonough, NY (see Figure 1). The sampling was conducted under the New York State Department of Environmental Conservation (NYSDEC) approved SMC Novak Farm Site Groundwater Monitoring Plan dated August 27, 2004 and the subsequent Plan modifications, dated November 17, 2004 and December 2006.

The groundwater monitoring event discussed in this report occurred on November 5, 2018. Samples were collected for both VOCs and emerging contaminants, specifically PFAS and 1,4-dioxane, in response to NYSDEC's request in the letter dated April 4, 2018.

2.0 Background

The Novak Farm Site is located in rural Chenango County, occupying approximately 120 acres with the remediation area restricted to approximately eleven (11) acres.

After the completion of soil remediation in September 2004, groundwater monitoring was continued under the SMC Novak Farm Site Groundwater Monitoring Plan dated August 27, 2004. The Plan stated that the groundwater elevation at MW-104 and the lower sump would be monitored biannually for long-term groundwater monitoring, with sampling conducted until the MW-104 and lower sump show contaminant levels below cleanup levels or contaminant levels that decrease asymptotically. The Plan initially required sample analysis of volatile organic compounds (VOCs) in accordance with EPA Method 8260 for the lower sump and MW-104 and semi-volatile organic compounds (SVOCs) in accordance with EPA Method 8270 for MW-104. However, a November 17, 2004 revision removed the requirement of SVOC analysis.

In June 2006, a request was made to discontinue sampling of the lower sump. Remedial goals had been achieved at the lower sump as VOC concentrations had been below laboratory detection limits for four (4) semi-annual sampling events prior to the June 2006 request. The request was approved by NYSDEC in December 2006.

MW-104 was monitored semi-annually through 2016 for VOCs by EPA method 8260C following two (2) rounds of Hydrogen Release Compound (HRC) as discussed in Section 3.0. Semi-annual sampling was then discontinued in accordance with NYSDEC's letter dated October 18, 2016 with one sampling event for VOCs planned for 2019. This VOC sampling event was completed in November 2018 to coincide with the emerging contaminants sampling. The next Periodic Review Report will be due for the site by December 4, 2019.

3.0 HRC Injections

Injection of HRC was conducted on July 14, 2009 to facilitate remediation of residual contamination in MW-104. Approximately 240 pounds of HRC was injected into seven (7) one-inch HRC injection points installed around the well. Groundwater samples were collected from MW-104 prior to the HRC injection and one (1) month (August 18, 2009) and three (3) months (October 15, 2009) after the application. In March 2010, NYSDEC requested a change from semiannual sampling to quarterly sampling for the first three (3) quarters of 2010, with no sampling required in the winter, to better monitor the effects of the initial HRC injection.

A second HRC injection took place on October 26, 2010 upgradient from the 2009 HRC application to further facilitate dechlorination of residual contamination in MW-104. The results were intended to evaluate the effectiveness of the HRC injections and the necessity for ongoing monitoring.

3.1 HRC Byproducts

Concentrations of acetone and 2-butanone (MEK) were reported in the MW-104 sample analytical data since the April 2011 sampling event (the first sampling event since the second HRC injection took place in October 2010). As per REGENESIS, the manufacturer of the HRC injected into the site, both acetone and MEK are temporary byproducts and are due to fermentation of the HRC injected. It appears from the data that these compounds are no longer being produced, as levels have decreased. MEK and acetone concentrations were reported below laboratory detection limits during the November 2018 sampling event.

4.0 Groundwater Sampling Activities

On November 5, 2018, sampling was completed at MW-104, as shown on Figure 2 for VOCs, PFAS, and 1,4-dioxane. Sampling for PFAS and 1,4-dioxane was completed in response to the request in NYSDEC's letter dated April 4, 2018. Monitoring well MW-104 was sampled in accordance with the work plan submitted on June 19, 2018. Purging and sampling activities were completed in accordance with NYSDEC's "Collection of Groundwater Samples for Perfluorooctanoic Acid (PFOA) and Perfluorinated Compounds (PFCs) from Monitoring Wells Sample Protocol" (June 2016) and "Groundwater Sampling for Emerging Contaminants" (April 2018).

The monitoring well was purged with a peristaltic pump using a short piece of silicone tubing in the pump head and HDPE tubing in the well. Field data, including pH, temperature, conductivity, turbidity, oxidation / reduction potential, and dissolved oxygen, were recorded in ten (10)-minute

increments. Purging continued until parameters stabilized, which was approximately 2.6 well volumes. Samples were also collected with the peristaltic pump. Field data collected during the sampling event is presented in Table 1.

Quality Control (QC) samples for VOCs included a duplicate and trip blank. The duplicate sample results are shown in parentheses in Table 2. A duplicate, MS, and MSD were also collected for PFAS and 1,4-dioxane. These results are summarized in Table 3.

5.0 Analytical Methods

Samples were sent to Alpha Analytical, Inc. in Westborough, MA, a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory, following typical chain of custody procedures. Groundwater samples were analyzed for VOCs via EPA Method 8260C. PFAS were analyzed using modified EPA method 537. Analysis for 1,4-dioxane was completed using EPA 8270D SIM.

6.0 VOC Results

Analytical results for VOCs are presented in Table 2 and included as Appendix B. Data trends of detected compounds are shown in Figure 3.

As shown on Table 2 and Figure 3, five (5) VOCs were detected in MW-104 and in the duplicate sample, respectively. The total VOCs of concern detected were 14.55 ppb in MW-104 and 11.02 ppb in the duplicate sample. Benzene, 1,1-dichloroethane, and vinyl chloride are noted above NYSDEC regulatory standards in both samples.

Since the initial HRC injection in July 2009, certain target VOCs have remained below 5 ppb, including 1,2 dichloroethane, 1,1 dichloroethene, 1,1,1, trichloroethane, and trichloroethene. The Total VOC concentrations has remained below 50 ppb for the last six (6) sampling rounds.

7.0 Emerging Contaminants Results

Analytical results for PFAS and 1,4-dioxane are shown in Table 3 and included as Appendix C. 1,4-Dioxane was detected at 1.05 ppb (1.25 ppb in duplicate) and very low detections of PFAS were observed in both the original well sample and the duplicate.

8.0 Data Usability Summary Report (DUSR)

A Data Usability Summary Report (DUSR) was completed by Environmental Data Services, Inc. using the most recent methods and criteria from the USEPA. The DUSR assessed sample analytical data, the duplicate sample, and laboratory control samples and evaluated the completeness of the analytical package. The DUSR is provided as Appendix D to this report. There were no rejections of data as a result of this assessment.

9.0 Conclusion

Since the initial HRC injection in July 2009, certain target VOCs have remained below 5 ppb including 1,2 dichloroethane, 1,1 dichloroethene, 1,1,1, trichloroethane, and trichloroethene. The Total VOC concentrations has remained below 50 ppb for the last six (6) sampling rounds.

The above sample results support removal of groundwater monitoring well MW-104 from ongoing monitoring requirements since this well has shown consistent reductions in concentrations of COCs since February 2010. SMC is requesting no further action at the SMC Novak Site.

TABLES

TABLE 1

Novak Farm Groundwater Monitoring
MW-104
November 5, 2018

Field Data

Monitoring Well Location	Well Depth to Top of Casing (ft.)	Depth to Water (ft.)	Water Column (ft.)	Purged Volume (gal)	Final pH	Final Temp (°C)	Final Conductivity (uS/cm)	Turbidity (NTU)
MW-104	18.1	3.2	14.9	6.3	7.14	9.62	329	4.4

General Site Information:

Sampler: Rachel Farnum, Thomas Rascona

Weather: Rain

TABLE 2
Novak Farm
MW-104
Analytical Data Summary for VOCs
2004 – Present

	NYSDEC Standard (ppb)	Aug. 10, 2004	Dec. 13, 2004	June 1, 2005	Nov. 29, 2005	May 5, 2006	Nov. 3, 2006	May 7, 2007	Dec. 11, 2007	June 28, 2008	Nov. 10, 2008	July 13, 2009	Aug. 14, 2009	Oct. 15, 2009	Mar. 22, 2010	June 15, 2010	Oct. 25, 2010
Benzene	1	**7.1**	**9.5**	**2.6 (4.7)**	**4.0 (6.6)**	**ND (ND)**	**4.1 (3.5)**	**2.5 (2.5)**	**2.2 (<5)**	**1.6 (1.6)**	ND (ND)	**2.9 (3.0)**	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)
1,1 dichloroethane	5	**45**	**35**	**16 (21)**	**20 (21)**	**14 (14)**	**59 (37)**	**20 (11)**	**25 (29)**	**21 (22)**	**32 (31)**	**30 (31)**	**30 (34)**	**42 (39)**	**26 (30)**	**32 (28)**	**30 (33)**
1,2 dichloroethane	0.6	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	1.4 (1.0)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	1.0 (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)
1,1 dichloroethene	5	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	**8.2 (4.9)**	ND (ND)	ND (ND)	1.9 (1.9)	ND (ND)	3.3 (3.1)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)
cis-1,2 dichloroethene	5	**130**	**60**	**34 (34)**	**47 (41)**	**38 (37)**	**149 (87)**	**61 (48)**	**70 (78)**	**64 (64)**	**111 (108)**	**98 (109)**	**96 (106)**	**103 (99)**	**87 (101)**	**89 (83)**	**82 (93)**
trans-1,2 dichloroethene	5	**110**	ND	**24 (29)**	**16 (17)**	**23 (21)**	**146 (85)**	**48 (35)**	**37 (39)**	**54 (54)**	**111 (106)**	**108 (122)**	**98 (118)**	**94 (99)**	**68 (77)**	**82 (76)**	**70 (82)**
1,1,1 trichloroethane	5	**10**	ND	ND (ND)	**5.7 (8.2)**	3.7 (3.3)	**14 (10)**	3.9 (4.2)	**5.0 (6.2)**	**5.6 (5.6)**	**7.6 (7.4)**	**8.4 (7.9)**	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)
Trichloroethene	5	**12**	ND	ND (ND)	3.6 (3.9)	3.6 (3.4)	**10 (7.7)**	3.8 (4.1)	**3.9 (5.1)**	4.1 (4.2)	**12 (11)**	**16 (16)**	ND (ND)	**10 (ND)**	ND (ND)	ND (ND)	ND (ND)
Vinyl chloride	2	**66**	**95**	**28 (30)**	**64 (79)**	**16 (9.5)**	**95 (95)**	**30 (29)**	**14 (6.3)**	**54 (54)**	**70 (66)**	**44 (48)**	**45 (60)**	**77 (69)**	**37 (41)**	**56 (56)**	**50 (68)**
Chloroethane	5	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)
Total VOCs		380.1	199.5	104.6 (118.7)	160.3 (176.7)	98.3 (88.2)	486.7 (331.1)	169.2 (133.8)	157.1 (163.6)	206.2 (207.3)	343.6 (329.4)	311.6 (340)	269 (318)	326 (306)	218 (249)	259 (243)	232 (276)

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TABLE 2 (CONTINUED)
Novak Farm
MW-104
Analytical Data Summary for VOCs
2004 – Present

	NYSDEC Standard (ppb)	Apr. 21, 2011	Aug 16, 2011	Nov. 28, 2011	May 11, 2012	Sept 28, 2012	Jan. 30, 2013	April 25 2013	July 25 2013	April 21, 2014	Nov. 12, 2014	May 5, 2015	November 9, 2015	April 22, 2016	Oct. 13, 2016	Nov. 5, 2018
Benzene	1	ND (ND)	ND (ND)	**14 (12)**	**7.0 (6.6)**	ND (ND)	**8.3 (8.9)**	**5.5 (5.5)**	**4.4 (4.7)**	**5.1 (4.4)**	**3.5 (3.3)**	**2.1 (2.1)**	**6.0 (5.9)**	**3.5 (3.5)**	**3.5 (3.3)**	**1.1 (1)**
1,1 dichloroethane	5	**51 (53)**	**89 (87)**	**94 (92)**	**45 (43)**	**20 (21)**	**17 (18)**	**13 (14)**	**16 (18)**	**12 (10)**	**17 (16.9)**	**9.1 (9.5)**	**8.5 (5.3)**	**18.4 (18.1)**	**17.8 (17.1)**	**8.4 (6.3)**
1,2 dichloroethane	0.6	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)
1,1 dichloroethene	5	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)
cis-1,2 dichloroethene	5	**59 (62)**	**95 (91)**	**97 (97)**	**45 (46)**	**16 (15)**	**12 (13)**	**17 (22)**	**14 (14)**	ND (ND)	3.5 (3.0)	1.5 (1.4)	1.1 (1.1)	1.9 (1.8)	1.5 (1.5)	0.85 J (ND)
trans-1,2 dichloroethene	5	**98 (99)**	**139 (138)**	**149 (142)**	**60 (56)**	**37 (38)**	**29 (28)**	ND (ND)	ND (ND)	**7.6 (6.0)**	3.3 (3.0)	ND (ND)	1.9 (2.0)	ND (1.1)	ND (ND)	ND (ND)
1,1,1 trichloroethane	5	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	1.3 (1.3)	ND (ND)	ND (ND)	1.0 (1.1)	ND (ND)	ND (ND)
Trichloroethene	5	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)	ND (ND)
Vinyl chloride	2	**111 (105)**	**78 (82)**	**60 (55)**	**36 (34)**	**26 (21)**	**12 (11)**	**6.5 (6.5)**	**12 (13)**	ND (ND)	**4.5 (4.6)**	**4.3 (3.9)**	1.7 (ND)	**3.9 (4.2)**	**5.4 (5.6)**	**2.9 (2.8)**
Chloroethane	5	ND (ND)	ND (ND)	ND (ND)	**20 (18)**	**53 (64)**	**45 (45)**	**21 (20)**	**22 (ND)**	**26 (24)**	**14.4 (14.2)**	**9.9 (9.5)**	**21.3 (22.9)**	**15.7 (15.7)**	**8.9 (8.2)**	1.3 J (0.92 J)
Total VOCs		**319 (319)**	**401 (398)**	**414 (398)**	**213 (203.6)**	**152 (159)**	**123.3 (123.9)**	**63 (68)**	**68.4 (49.7)**	**50.7 (44.4)**	**47.5 (46.3)**	**26.9 (26.4)**	**40.5 (37.2)**	**44.4 (45.5)**	**37.1 35.7**	**14.55 (11.02)**

Concentrations in µg/L (ppb)
ND = Compound not detected
Results in parenthesis are duplicate sample results

TABLE 3
Novak Farm
MW-104
PFAS and 1,4-Dioxane Results

	SAMPLE ID:	MW-104		DUP	
	COLLECTION DATE:	11/5/2018		11/5/2018	
ANALYTE	CAS	Result	Detection Limit	Result	Detection Limit
1,4 DIOXANE BY 8270D-SIM					
1,4-Dioxane	123-91-1	1.05	0.0798	1.25	0.0765
PERFLUORINATED ALKYL ACIDS BY ISOTOPE DILUTION					
Perfluorobutanoic Acid (PFBA)	375-22-4	0.00351	0.000397	0.00347	0.000387
Perfluoropentanoic Acid (PFPeA)	2706-90-3	ND	0.000494	0.00061 J	0.000481
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	ND	0.000404	ND	0.000394
Perfluorohexanoic Acid (PFHxA)	307-24-4	0.000953 J	0.000523	0.000925 J	0.00051
Perfluoroheptanoic Acid (PFHpA)	375-85-9	0.000847 J	0.000396	0.000722 J	0.000386
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	ND	0.000464	ND	0.000452
Perfluorooctanoic Acid (PFOA)	335-67-1	0.00146 J	0.000489	0.00151 J	0.000477
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	27619-97-2	ND	0.000206	0.000282 JB	0.000201
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	ND	0.000553	ND	0.000539
Perfluorononanoic Acid (PFNA)	375-95-1	ND	0.000464	ND	0.000452
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	ND	0.000596	ND	0.000581
Perfluorodecanoic Acid (PFDA)	335-76-2	ND	0.00066	ND	0.000643
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	39108-34-4	ND	0.000309	ND	0.000302
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2355-31-9	ND	0.000266	ND	0.00026
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	ND	0.000451	ND	0.00044
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	ND	0.000411	ND	0.0004
Perfluorooctanesulfonamide (FOSA)	754-91-6	ND	0.000591	ND	0.000577
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2991-50-6	ND	0.000396	ND	0.000387
Perfluorododecanoic Acid (PFDoA)	307-55-1	ND	0.00063	ND	0.000614
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	ND	0.000334	ND	0.000326
Perfluorotetradecanoic Acid (PFTA)	376-06-7	ND	0.00105	ND	0.00102

All units are in ug/L.
ND = Not Detected
J = Estimated Value
B = The analyte was detected above the reporting limit in the associated method blank.

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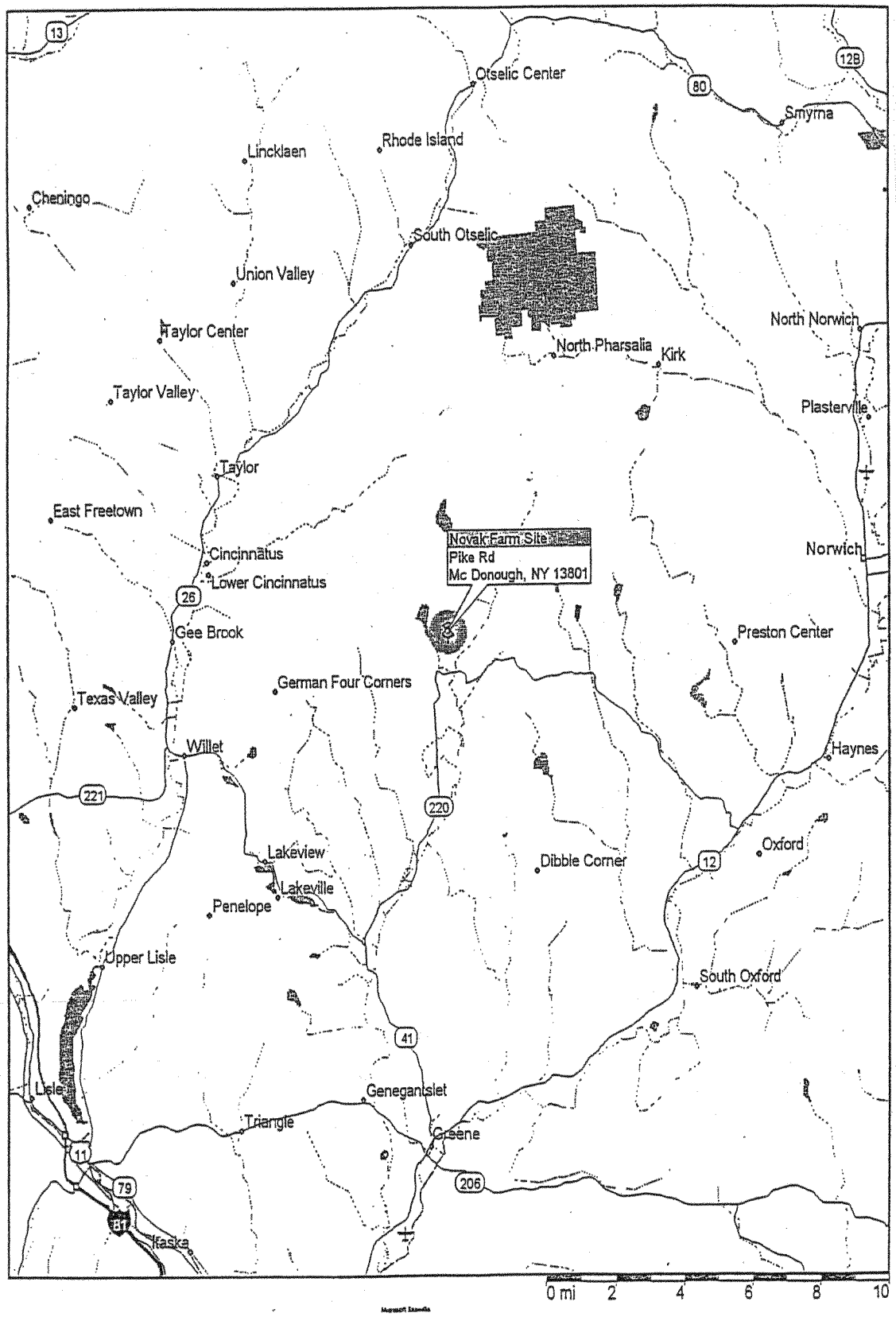
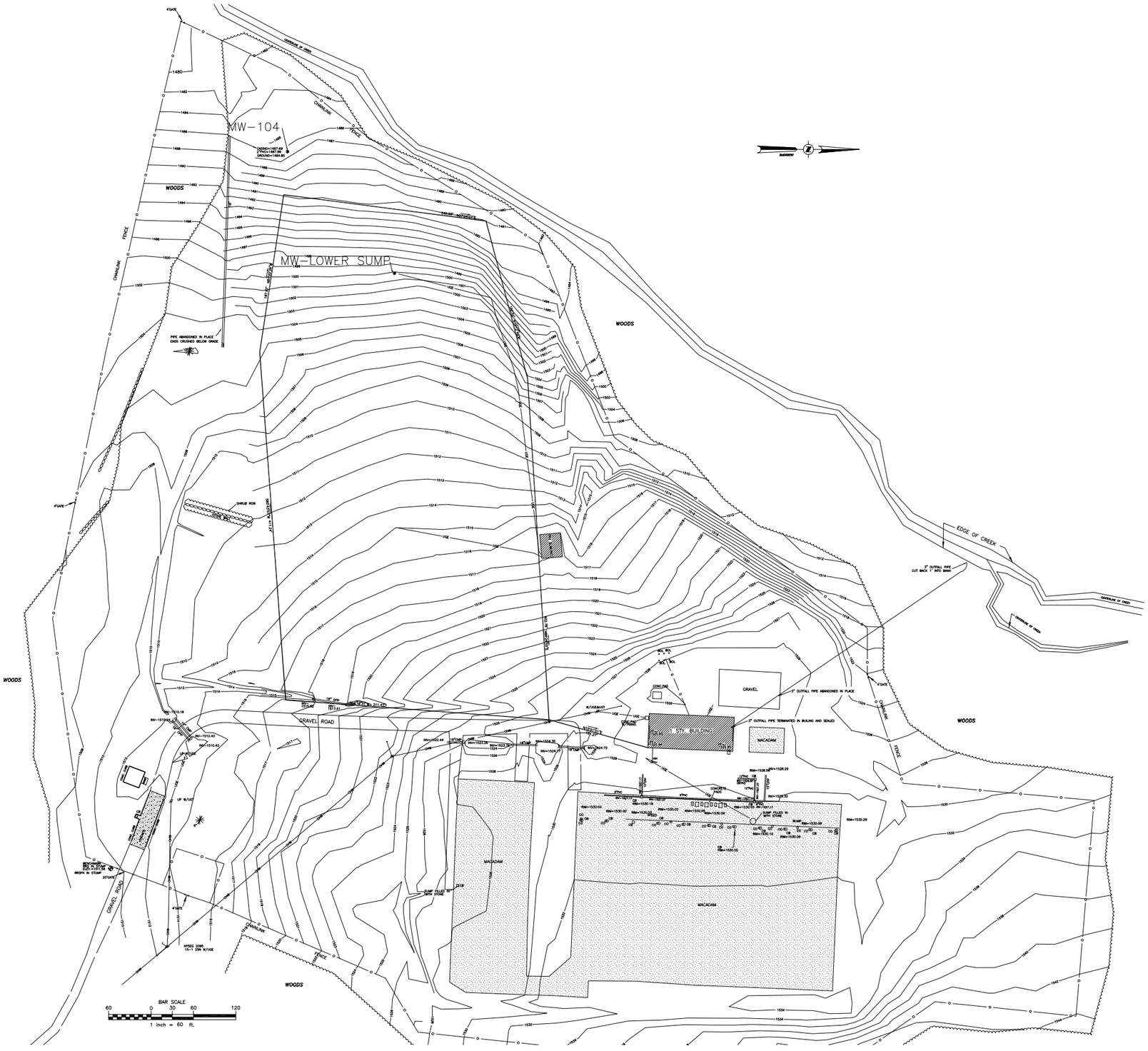
FIGURES

Novak Farm Site Location

Figure 1





MAP NOTES

1.) NORTH ORIENTATION IS BASED ON MAGNETIC NORTH ON JULY 29, 1999.

2.) ELEVATIONS SHOWN BASED ON SITE DATUM FOR THE RAILROAD SPIKE IN THE STUMP AT THE SOUTHEASTERLY CORNER OF THE SITE ELEV. = 1511.58 FEET AS PROVIDED BY THE AUGUST 30, 1994 RHINEVAULT P.C. SURVEYORS DRAWING.

3.) UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM DATA OBTAINED BY FIELD SURVEY, PREVIOUS MAPS AND RECORDS, (AND PAROL TESTIMONY). THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UNDERGROUND UTILITIES, THE EXISTENCE OF WHICH ARE NOT KNOWN TO THE UNDERSIGNED. SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION.

LEGEND

- MW 105 – MONITORING WELL
- CB – CATCH BASIN
- CHAINLINK FENCE
- EDGE OF WOODS
- CO – CLEANOUT
- FFE=0.94 – FINISHED FLOOR ELEVATION
- UP – UTILITY POLE
- LP – LIGHT POLE
- OHE – OVERHEAD UTILITIES LINES
- HH – HAND HOLD
- CONIFER TREE
- EMH – ELECTRIC MANHOLE
- UGE – UNDERGROUND ELECTRIC
- G – UNDERGROUND GAS (PROPANE)
- STONE WALL
- GUY WIRE
- BOL – BOLLARD

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT.

REFERENCE:
BASES MAP SOURCE C.T. MALE

SPEC PROJECT #99-004

NO.	DESCRIPTION	DATE	APP.

DESIGN	BF	10/22/04	APPROVED
DRAWN	BF	10/22/04	
CHECK	JB	10/22/04	
APVD.	ST	10/22/04	
DRAWING CHECK	BF	10/22/04	DATE

STAUFFER MANAGEMENT COMPANY SITE
NOVAK FARMS, NEW YORK
GENERAL SITE MAP

SCALE	DRAWING No.	SHEET	REV. No.
AS NOTED	FIGURE 2	1 of 1	–

APPENDICES

APPENDIX A

Well Sampling Field Notes

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Well Sampling Field Record

WELL NO	MW-104
Date(s)	11/5/2018

Weather	Temperature
Overcast with light rain	High 41ºF Low 46ºF

Project	SMC Novak	Project No.	E18-1804
Location	SMC Novak, Pike Road, McDonough, NY		

Well Info

Well #:	MW-104	Well Location:	Southwest corner of the site
Well Diameter (in):	2	Well Condition:	OK
A. Total Well Depth (ft bgs):	16.1	Depth to Bedrock (ft):	--
B. TOC to Grade (ft):	2	TOC Elevation (ft):	--
C. Depth to Water TOC (ft):	3.2	G. Volume Factors:	2-inch well = 0.163 gal/ft
D. Water Column Height (ft):	14.9	= *(A + B) - C*	4-inch well = 0.653 gal/ft
E. Total Well Volume (gal):	2.42	*=D*G*	6-inch well = 1.468 gal/ft
F. Purge (3 volumes) (gal):	7.26	*=E*3*	8-inch well = 2.609 gal/ft

Purge

Purge Date:	11/5/2018	Pump/Method:	Peristaltic
Purge Start Time:	9:30	Approx Flow Rate:	250 mL/Min
Purge Stop Time:	11:05	Approx Volume	6.3 gallons
Did well dry out?	No		

Sampling

Date:	11/5/2018	pH					
Time:	11:05	Temp (ºC)					
Sample ID:	MW-104	Conductivity(mS/cm)					
Sample Method:	Peristaltic	TDS (g/L)					
		ORP (mV)					
		Turbidity (NTU)					
		DO (mg/L)					

Appearance

Comments

@ 9:50 flow rate changed to 200 mL/min

Well location	MW-104
Date	11/5/2018

Time (min)	pH	Specific Conductance (mS/cm)	Temperature (°C)	Turbidity (NTU)	Dissolved oxygen (mg/L)	ORP	Depth to Water (ft)
9:30	8.06	0.582	8.75	43.9	4.9	-11	4.4
9:40	7.46	0.567	9.13	39.8	5.63	-12.8	4.9
9:50	7.27	0.396	9.38	27.9	5.4	-21.5	5.3
10:00	7.14	0.379	9.31	18.9	5.46	-25.5	5.3
10:10	7.11	0.36	9.34	14.1	5.86	-28.5	5.3
10:20	7.13	0.351	9.31	10.8	5.91	-28.5	5.35
10:30	7.14	0.348	9.51	9.7	5.54	-32.4	5.35
10:40	7.14	0.342	9.63	6.7	5.45	-34.5	
10:50	7.11	0.343	9.47	5.8	5.65	-36.5	
11:00	7.15	0.334	9.7	5.2	5.58	-33.8	5.35
11:05	7.14	0.329	9.62	4.4	5.57	-34.4	

APPENDIX B

Analytical Data for VOCs

www.alphalab.com

Alpha Analytical

Laboratory Code: 11148

SDG Number: L1845206

Table of Contents

Project Name: NOVAK FARM
Project Number: Not Specified

Lab Number: L1845206
Report Date: 11/14/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1845206-01	MW-104	WATER	EAST PHARSALIA, NY	11/05/18 11:05	11/05/18
L1845206-02	DUP	WATER	EAST PHARSALIA, NY	11/05/18 11:05	11/05/18
L1845206-03	TRIP BLANK	WATER	EAST PHARSALIA, NY	11/05/18 00:00	11/05/18

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Cripps Melissa Cripps Report Date: 11/14/18

Title: Technical Director/Representative

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Report Format: DU Report with 'J' Qualifiers

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Volatile Organics Instruments

Volatile Organics:

Instrument: Agilent 5975MSD (or equivalent)	Columns (length x ID x df):
Trap: Supelco K Trap (VOACARB 3000)	RTX-VMS 20m x 0.18mm x 1um
Concentrator: EST Encon (or equivalent)	RTX-VMS 30m x 0.25mm x 1.4um
Autosampler: EST Centurion (or equivalent)	RTX-502.2 40m x 0.18mm x 1um
Purge time: 11 min	

Volatile Organics: VPH

Instrument: Agilent 6890 (or equivalent)	Column Type: Restek RTX 502.2
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 105 Meters
Concentrator: EST Encon (or equivalent)	df: 3.00 um
Autosampler: EST Centurion (or equivalent)	ID: 0.53mm

Volatile Organics: PIANO

Instrument: Agilent 7890 GC/5975C MSD	Column Type: DB-VRX
Trap: Supelco K Trap (VOACARB 3000)	Column Length: 60 Meters
Concentrator: Tekmar Velocity / EST Encon	df: 1.40 um
Autosampler: Varian Archon / EST Centurion	ID: 0.25 mm
Purge time: 11 min	Desorb: 1 min

Volatile Organics in Air Instruments

Volatile Organics in Air:
Instruments: Agilent 6890 GC / 5975 MSD Shimadzu QP2010-SE

Concentrator: Entech 7100A or 7200	Column Type: Restek RTX-1
Autosampler: Entech 7016CA or 7016D	Column Length: 60 Meters
	df: 1.00 um
	ID: 0.52 mm or 0.32 mm

Trap 1: Glass Bead: manufacturer-Entech: 20 cm packing material
Trap 2: Tenax: manufacturer-Entech: 20 cm packing material

Semivolatile Organics Instruments - Westborough

Semivolatile Organics (Acid/Base/Neutral Extractables):

Instrument: Agilent 5973N MSD	Injection volume: 1 ul
Column Type: Restek RXI-5SILMS	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Polynuclear Aromatic Hydrocarbons by 8270 SIM:

Instrument: Agilent 5973 MSD	Injection volume: 1 ul
Column Type: Restek RTX-5MS	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Pesticides/PCB

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-CL/STX-CL	df: 0.32
Column B: Restek RTX/STX-CLPPesticide II	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Herbicides

Instrument: Agilent 6890 w/Dual Micro ECDs	Injection Volume: 1uL
Column A: Restek RTX-1701	df: 0.25
Column B: Restek RTX-5	df: 0.25
Column Length: 30 Meters	ID: 0.32 mm

Petroleum

Instrument: Agilent 6890 w/FID / HP 5890 w/ FID	Injection Volume: 1uL
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	

EPH

Instrument: Agilent 6890N w/FID	Injection Volume: 1uL
Column: Restek RTX 5	df: 0.25
Column Length: 30 Meters	
ID: 0.32 mm	

Semivolatile Organic Instruments - Mansfield

Semivolatile Organics (ALK-PAH Extractables):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 1 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (8270):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 2 ul
Column Type: ZB-Semivolatiles	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (8270 SIM):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: ZB-5	df: 0.25 um
Column Length: 30 Meters	ID: 0.25 mm

Semivolatile Organics (1,4-Dioxane):

Instrument: Agilent 5973N / 5975 / 5977 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (209 Congener):

Instrument: Agilent 5973N / 5975 MSD	Injection volume: 3 ul
Column Type: RTX-5, RTX-PCB	df: 0.25um, 0.18 um
Column Length: 60 Meters	ID: 0.25um, 0.18 mm

Semivolatile Organics (ECD):

Instrument: Agilent 6890 / 7890	Injection volume: 1 ul
Column Type: RTX-5 / RTX-CLP II	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Semivolatile Organics (SHC Extractables):

Instrument: Agilent 6890	Injection volume: 1 ul
Column Type: RTX-5	df: 0.25 um
Column Length: 60 Meters	ID: 0.25 mm

Sample Delivery Group Summary

Alpha Job Number : L1845206

Account Name : Envirospec Engineering, PLLC
Project Number :
Project Name : NOVAK FARM

Received : 05-NOV-2018
Reviewer : Brennan Williams

Delivery Information

Samples Delivered By : Alpha Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	3.8	

Condition Information

1) All samples on COC received?	**YES**
2) Extra samples received?	**NO**
3) Are there any sample container discrepancies?	**NO**
4) Are there any discrepancies between sample labels & COC?	**NO**
5) Are samples in appropriate containers for requested analysis?	**YES**
6) Are samples properly preserved for requested analysis?	**YES**
7) Are samples within holding time for requested analysis?	**YES**
8) All sampling equipment returned?	**NA**

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	**NO**

ALPHA ANALYTICAL LABORATORIES, INC.
LOGIN CHAIN OF CUSTODY REPORT
Nov 14 2018, 12:09 pm

Login Number: L1845206
Account: ENVIROSPECEN Envirospec Engineering, PLLC
Received: 05NOV18 Due Date: 14NOV18

Sample #	Client ID	Mat	PR	Collected
L1845206-01	MW-104	S0	1	05NOV18 11:05
| ASP-A Package Due Date: 11/14/18				
ASP-A,NYTCL-8260-R2				
L1845206-02	DUP	S0	1	05NOV18 11:05
| Package Due Date: 11/14/18				
NYTCL-8260-R2				
L1845206-03	TRIP BLANK	S0	1	05NOV18 00:00
| Package Due Date: 11/14/18				
NYTCL-8260-R2				

Logged By: Brennan Williams

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page of

Date Rec'd in Lab: 11/6/18

ALPHA Job #: L1845206

Client Information

Client: Environmental Engineering
Address: 349 Northern Blvd
Albany, NY 12204
Phone: 518-453-2203
Fax:
Email: rfountain@environmentalengineering.com

Project Information

Project Name: Novak Farm
Project Location: East Pharsalia, NY
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☒ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
Category A deliverable only. EQUIS not needed.

Please specify Metals or TAL.

ANALYSIS

VOCs by 8260

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs by 8260	Sample Specific Comments
45206 -01	MW-104	11/5/18	11:05 AM			X	
-02	DUP	11/5/18	11:05 AM			X	
-03	Trip Blank					X	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	11/5/18 3:25PM	Robert Haines ALC	11-5-18 15:25
Robert Haines	11-5-18 15:25		11/6/18 0050

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

Organics

Volatiles Data

Volatiles Sample Data

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845206-01	Date Collected	: 11/05/18 11:05
Client ID	: MW-104	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/13/18 19:29
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V08181113N06	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	8.4	2.5	0.70	
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	1.1	0.50	0.16	
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	2.9	1.0	0.07	
75-00-3	Chloroethane	1.3	2.5	0.70	J
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845206-01	Date Collected	: 11/05/18 11:05
Client ID	: MW-104	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/13/18 19:29
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: V08181113N06	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	0.85	2.5	0.70	J
540-59-0	1,2-Dichloroethene, Total	0.85	2.5	0.70	J
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	ND	5.0	1.5	U
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	**Lab Number**	: L1845206
Project Name	: NOVAK FARM	**Project Number**	:
Lab ID	: L1845206-01	**Date Collected**	: 11/05/18 11:05
Client ID	: MW-104	**Date Received**	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	**Date Analyzed**	: 11/13/18 19:29
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260C	**Analyst**	: NLK
Lab File ID	: V08181113N06	**Instrument ID**	: VOA108
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
123-91-1	1,4-Dioxane	ND	250	61.	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845206-02	Date Collected	: 11/05/18 11:05
Client ID	: DUP	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/12/18 21:47
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: VG181112N09	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	6.3	2.5	0.70	
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	1.0	0.50	0.16	
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	2.8	1.0	0.07	
75-00-3	Chloroethane	0.92	2.5	0.70	J
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845206-02	Date Collected	: 11/05/18 11:05
Client ID	: DUP	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/12/18 21:47
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: VG181112N09	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	ND	5.0	1.5	U
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	**Lab Number**	: L1845206
Project Name	: NOVAK FARM	**Project Number**	:
Lab ID	: L1845206-02	**Date Collected**	: 11/05/18 11:05
Client ID	: DUP	**Date Received**	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	**Date Analyzed**	: 11/12/18 21:47
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260C	**Analyst**	: NLK
Lab File ID	: VG181112N09	**Instrument ID**	: GONZO
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
123-91-1	1,4-Dioxane	ND	250	61.	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845206-03	Date Collected	: 11/05/18 00:00
Client ID	: TRIP BLANK	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/12/18 21:22
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: VG181112N08	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845206-03	Date Collected	: 11/05/18 00:00
Client ID	: TRIP BLANK	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/12/18 21:22
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: VG181112N08	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	ND	5.0	1.5	U
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845206-03	Date Collected	: 11/05/18 00:00
Client ID	: TRIP BLANK	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/12/18 21:22
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: NLK
Lab File ID	: VG181112N08	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
123-91-1	1,4-Dioxane	ND	250	61.	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: WG1178840-5	Date Collected	: NA
Client ID	: WG1178840-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 11/12/18 20:06
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: VG181112N05	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: WG1178840-5	Date Collected	: NA
Client ID	: WG1178840-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 11/12/18 20:06
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: VG181112N05	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	ND	5.0	1.5	U
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: WG1178840-5	Date Collected	: NA
Client ID	: WG1178840-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 11/12/18 20:06
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: KJD
Lab File ID	: VG181112N05	Instrument ID	: GONZO
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
123-91-1	1,4-Dioxane	ND	250	61.	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: WG1179339-5	Date Collected	: NA
Client ID	: WG1179339-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 11/13/18 19:06
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: MKS
Lab File ID	: V08181113N05	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	ND	2.5	0.70	U
75-01-4	Vinyl chloride	ND	1.0	0.07	U
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845206
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: WG1179339-5	Date Collected	: NA
Client ID	: WG1179339-5BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 11/13/18 19:06
Sample Matrix	: WATER	Dilution Factor	: 1
Analytical Method	: 1,8260C	Analyst	: MKS
Lab File ID	: V08181113N05	Instrument ID	: VOA108
Sample Amount	: 10 ml	GC Column	: RTX-502.2
Level	: LOW	%Solids	: N/A
Extract Volume (MeOH)	: N/A	Injection Volume	: N/A

		ug/L			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	ND	5.0	1.5	U
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U
106-93-4	1,2-Dibromoethane	ND	2.0	0.65	U
104-51-8	n-Butylbenzene	ND	2.5	0.70	U
135-98-8	sec-Butylbenzene	ND	2.5	0.70	U
98-06-6	tert-Butylbenzene	ND	2.5	0.70	U
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.5	0.70	U
98-82-8	Isopropylbenzene	ND	2.5	0.70	U
99-87-6	p-Isopropyltoluene	ND	2.5	0.70	U
91-20-3	Naphthalene	ND	2.5	0.70	U
103-65-1	n-Propylbenzene	ND	2.5	0.70	U

Form 1
VOA

Client	: Envirospec Engineering, PLLC	**Lab Number**	: L1845206
Project Name	: NOVAK FARM	**Project Number**	:
Lab ID	: WG1179339-5	**Date Collected**	: NA
Client ID	: WG1179339-5BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 11/13/18 19:06
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260C	**Analyst**	: MKS
Lab File ID	: V08181113N05	**Instrument ID**	: VOA108
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
87-61-6	1,2,3-Trichlorobenzene	ND	2.5	0.70	U
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	0.70	U
108-67-8	1,3,5-Trimethylbenzene	ND	2.5	0.70	U
95-63-6	1,2,4-Trimethylbenzene	ND	2.5	0.70	U
79-20-9	Methyl Acetate	ND	2.0	0.23	U
110-82-7	Cyclohexane	ND	10	0.27	U
123-91-1	1,4-Dioxane	ND	250	61.	U
76-13-1	Freon-113	ND	2.5	0.70	U
108-87-2	Methyl cyclohexane	ND	10	0.40	U

APPENDIX C

Analytical Data for PFAS and 1,4-Dioxane

envirospec ENGINEERING, PLLC

349 Northern Boulevard Suite 3 ▪ Albany, NY 12204 ▪ Phone: 518.453.2203 ▪ Fax: 518.689.4800

ANALYTICAL REPORT

Lab Number:	L1845203
Client:	Envirospec Engineering, PLLC 349 Northern Blvd. Ste. 3 Albany, NY 12204
ATTN:	Rachel Farnum
Phone:	(518) 453-2203
Project Name:	NOVAK FARM
Project Number:	Not Specified
Report Date:	11/16/18

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: NOVAK FARM
Project Number: Not Specified

Lab Number: L1845203
Report Date: 11/16/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1845203-01	MW-104	WATER	EAST PHARSALIA, NY	11/05/18 11:05	11/05/18
L1845203-02	DUP	WATER	EAST PHARSALIA, NY	11/05/18 11:05	11/05/18

Project Name: NOVAK FARM
Project Number: Not Specified

Lab Number: L1845203
Report Date: 11/16/18

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: NOVAK FARM **Lab Number:** L1845203
Project Number: Not Specified **Report Date:** 11/16/18

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Perfluorinated Alkyl Acids by Isotope Dilution

The WG1177280-1 Method Blank, associated with L1845203-01 and -02, has a concentration above the reporting limit for 6:2FTS. Since the sample(s) were non-detect to the RL for this target analyte, no further actions were taken. The results of the original analysis are reported.

WG1177280QC: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

WG1179840-4: The continuing calibration standard, associated with L1845203 as well as the associated QC, had the response for the extracted internal standard Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA) (166%) and Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA) (173.3%) outside the acceptance criteria for the method. The associated target analytes are within acceptance criteria, therefore no further action was taken.

WG1179840-2: The continuing calibration standard, associated with L1845203 as well as the associated QC, had the response for the extracted internal standard Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA) (166%) outside the acceptance criteria for the method. The associated target analytes are within acceptance criteria, therefore no further action was taken.

WG1179840-3: The continuing calibration standard, associated with L1845203 as well as the associated QC, had the response for the extracted internal standard Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA) (185.4%) outside the acceptance criteria for the method. The associated target analytes are within acceptance criteria, therefore no further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 11/16/18

ORGANICS

SEMIVOLATILES

Project Name: NOVAK FARM
Project Number: Not Specified
Lab Number: L1845203
Report Date: 11/16/18

SAMPLE RESULTS

Lab ID: L1845203-01
Client ID: MW-104
Sample Location: EAST PHARSALIA, NY

Date Collected: 11/05/18 11:05
Date Received: 11/05/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 11/10/18 00:16
Analyst: MA

Extraction Method: EPA 3510C
Extraction Date: 11/08/18 08:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	1050		ng/l	160	79.8	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	24		15-110

Project Name: NOVAK FARM
Project Number: Not Specified
Lab Number: L1845203
Report Date: 11/16/18

SAMPLE RESULTS

Lab ID: L1845203-01
Client ID: MW-104
Sample Location: EAST PHARSALIA, NY

Date Collected: 11/05/18 11:05
Date Received: 11/05/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 11/16/18 01:23
Analyst: AJ

Extraction Method: EPA 537
Extraction Date: 11/08/18 07:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	3.51		ng/l	2.13	0.397	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.13	0.494	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.13	0.404	1
Perfluorohexanoic Acid (PFHxA)	0.953	J	ng/l	2.13	0.523	1
Perfluoroheptanoic Acid (PFHpA)	0.847	J	ng/l	2.13	0.396	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.13	0.464	1
Perfluorooctanoic Acid (PFOA)	1.46	J	ng/l	2.13	0.489	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.13	0.206	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.13	0.553	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.13	0.464	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.13	0.596	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.13	0.660	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.13	0.309	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.13	0.266	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.13	0.451	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.13	0.411	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.13	0.591	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.13	0.396	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.13	0.630	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.13	0.334	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.13	1.05	1

Project Name: NOVAK FARM **Lab Number:** L1845203

Project Number: Not Specified **Report Date:** 11/16/18

SAMPLE RESULTS

Lab ID: L1845203-01 Date Collected: 11/05/18 11:05

Client ID: MW-104 Date Received: 11/05/18

Sample Location: EAST PHARSALIA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	112		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	115		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	101		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	83		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	102		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	129		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	108		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	115		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	93		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	82		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	73		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	102		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	59		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	72		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	107		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	117		33-143

Project Name: NOVAK FARM
Project Number: Not Specified
Lab Number: L1845203
Report Date: 11/16/18

SAMPLE RESULTS

Lab ID: L1845203-02
Client ID: DUP
Sample Location: EAST PHARSALIA, NY

Date Collected: 11/05/18 11:05
Date Received: 11/05/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 11/10/18 03:24
Analyst: MA

Extraction Method: EPA 3510C
Extraction Date: 11/08/18 08:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	1250		ng/l	153	76.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	26		15-110

Project Name: NOVAK FARM
Project Number: Not Specified
Lab Number: L1845203
Report Date: 11/16/18

SAMPLE RESULTS

Lab ID: L1845203-02
Client ID: DUP
Sample Location: EAST PHARSALIA, NY

Date Collected: 11/05/18 11:05
Date Received: 11/05/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 11/16/18 02:13
Analyst: AJ

Extraction Method: EPA 537
Extraction Date: 11/08/18 07:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	3.47		ng/l	2.07	0.387	1
Perfluoropentanoic Acid (PFPeA)	0.610	J	ng/l	2.07	0.481	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.07	0.394	1
Perfluorohexanoic Acid (PFHxA)	0.925	J	ng/l	2.07	0.510	1
Perfluoroheptanoic Acid (PFHpA)	0.722	J	ng/l	2.07	0.386	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.07	0.452	1
Perfluorooctanoic Acid (PFOA)	1.51	J	ng/l	2.07	0.477	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.282	JB	ng/l	2.07	0.201	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.07	0.539	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.07	0.452	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.07	0.581	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.07	0.643	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.07	0.302	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.07	0.260	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.07	0.440	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.07	0.400	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.07	0.577	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.07	0.387	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.07	0.614	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.07	0.326	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.07	1.02	1

Project Name: NOVAK FARM **Lab Number:** L1845203

Project Number: Not Specified **Report Date:** 11/16/18

SAMPLE RESULTS

Lab ID: L1845203-02 Date Collected: 11/05/18 11:05

Client ID: DUP Date Received: 11/05/18

Sample Location: EAST PHARSALIA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	115		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	128		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	101		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	85		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	101		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	127		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	112		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	137		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	99		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	110		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	100		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	101		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	126		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	125		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	49		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	88		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	130		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	127		33-143

Project Name: NOVAK FARM
Project Number: Not Specified

Lab Number: L1845203
Report Date: 11/16/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 11/09/18 13:47
Analyst: MA

Extraction Method: EPA 3510C
Extraction Date: 11/08/18 08:00

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01-02 Batch: WG1177278-1					
1,4-Dioxane	ND		ng/l	150	75.0

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	40		15-110

Project Name: NOVAK FARM
Project Number: Not Specified

Lab Number: L1845203
Report Date: 11/16/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 11/15/18 23:11
Analyst: AJ

Extraction Method: EPA 537
Extraction Date: 11/08/18 07:53

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-02 Batch: WG1177280-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.373
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.464
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.380
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.492
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.372
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.436
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.460
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	2.40		ng/l	2.00	0.194
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.520
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.436
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.560
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.620
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	0.291
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.250
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.424
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.386
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.556
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.373
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.592
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.314
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.988

Project Name: NOVAK FARM
Project Number: Not Specified

Lab Number: L1845203
Report Date: 11/16/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 11/15/18 23:11
Analyst: AJ

Extraction Method: EPA 537
Extraction Date: 11/08/18 07:53

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-02 Batch: WG1177280-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	112		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	115		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	108		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	94		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	111		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	138		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	115		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	97		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	106		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	114		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	109		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	89		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	126		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	131		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	40		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	156		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	139		33-143

Lab Control Sample Analysis

Batch Quality Control

Project Name: NOVAK FARM

Project Number: Not Specified

Lab Number: L1845203

Report Date: 11/16/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab	Associated sample(s): 01-02		Batch: WG1177278-2		WG1177278-3			
1,4-Dioxane	104		104		40-140	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	32		26		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: NOVAK FARM

Project Number: Not Specified

Lab Number: L1845203

Report Date: 11/16/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 Batch: WG1177280-2 WG1177280-3								
Perfluorobutanoic Acid (PFBA)	103		105		67-148	2		30
Perfluoropentanoic Acid (PFPeA)	108		109		63-161	1		30
Perfluorobutanesulfonic Acid (PFBS)	106		106		65-157	0		30
Perfluorohexanoic Acid (PFHxA)	108		110		69-168	2		30
Perfluoroheptanoic Acid (PFHpA)	96		100		58-159	4		30
Perfluorohexanesulfonic Acid (PFHxS)	102		102		69-177	0		30
Perfluorooctanoic Acid (PFOA)	102		105		63-159	3		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	96		108		49-187	12		30
Perfluoroheptanesulfonic Acid (PFHpS)	116		118		61-179	2		30
Perfluorononanoic Acid (PFNA)	102		110		68-171	8		30
Perfluorooctanesulfonic Acid (PFOS)	88		92		52-151	4		30
Perfluorodecanoic Acid (PFDA)	107		110		63-171	3		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	103		93		56-173	10		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	104		105		60-166	1		30
Perfluoroundecanoic Acid (PFUnA)	99		98		60-153	1		30
Perfluorodecanesulfonic Acid (PFDS)	84		87		38-156	4		30
Perfluorooctanesulfonamide (FOSA)	98		101		46-170	3		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	96		93		45-170	3		30
Perfluorododecanoic Acid (PFDoA)	101		99		67-153	2		30
Perfluorotridecanoic Acid (PFTrDA)	63		56		48-158	12		30
Perfluorotetradecanoic Acid (PFTA)	110		114		59-182	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: NOVAK FARM

Project Number: Not Specified

Lab Number: L1845203

Report Date: 11/16/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 Batch: WG1177280-2 WG1177280-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	116		114		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	116		114		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	114		105		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	99		99		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	114		113		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	140		127		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	115		112		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	99		84		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	108		99		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	121		107		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	115		109		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	93		92		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	125		178		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	135		136		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	48		52		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	118		88		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	**181**	Q	**196**	Q	24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	139		**154**	Q	33-143

Matrix Spike Analysis

Batch Quality Control

Project Name: NOVAK FARM

Project Number: Not Specified

Lab Number: L1845203

Report Date: 11/16/18

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
1,4 Dioxane by 8270D-SIM - Mansfield Lab	Associated sample(s): 01-02		QC Batch ID: WG1177278-4			WG1177278-5			QC Sample: L1845203-01			Client ID: MW-104
1,4-Dioxane	1050	5100	6370	104		7060	115		40-140	10		30

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
1,4-Dioxane-d8	24		25		15-110

Matrix Spike Analysis

Batch Quality Control

Project Name: NOVAK FARM

Project Number: Not Specified

Lab Number: L1845203

Report Date: 11/16/18

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1177280-6 WG1177280-7 QC Sample: L1845203-01 Client ID: MW-104												
Perfluorobutanoic Acid (PFBA)	3.51	41	45.4	102		46.7	105		67-148	3		30
Perfluoropentanoic Acid (PFPeA)	ND	41	44.2	108		44.4	107		63-161	0		30
Perfluorobutanesulfonic Acid (PFBS)	ND	41	42.5	104		45.1	109		65-157	6		30
Perfluorohexanoic Acid (PFHxA)	0.953J	41	45.6	111		45.6	110		69-168	0		30
Perfluoroheptanoic Acid (PFHpA)	0.847J	41	40.5	99		41.3	100		58-159	2		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	41	41.8	102		43.9	106		69-177	5		30
Perfluorooctanoic Acid (PFOA)	1.46J	41	42.9	105		45.3	110		63-159	5		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	41	42.0	102		42.6	103		49-187	1		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	41	50.1	122		50.6	122		61-179	1		30
Perfluorononanoic Acid (PFNA)	ND	41	43.7	107		43.7	106		68-171	0		30
Perfluorooctanesulfonic Acid (PFOS)	ND	41	36.6	89		36.6	89		52-151	0		30
Perfluorodecanoic Acid (PFDA)	ND	41	45.8	112		45.7	111		63-171	0		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	41	40.1	98		46.7	113		56-173	15		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	41	40.1	98		40.2	97		60-166	0		30
Perfluoroundecanoic Acid (PFUnA)	ND	41	40.6	99		40.4	98		60-153	0		30
Perfluorodecanesulfonic Acid (PFDS)	ND	41	28.9	70		29.1	70		38-156	1		30
Perfluorooctanesulfonamide (FOSA)	ND	41	40.8	100		39.2	95		46-170	4		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	41	39.0	95		42.3	102		45-170	8		30
Perfluorododecanoic Acid (PFDoA)	ND	41	44.5	109		42.9	104		67-153	4		30
Perfluorotridecanoic Acid (PFTrDA)	ND	41	34.0	83		31.8	77		48-158	7		30
Perfluorotetradecanoic Acid (PFTA)	ND	41	43.9	107		46.1	112		59-182	5		30

Matrix Spike Analysis

Batch Quality Control

Project Name: NOVAK FARM

Project Number: Not Specified

Lab Number: L1845203

Report Date: 11/16/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1177280-6 WG1177280-7 QC Sample: L1845203-01 Client ID: MW-104												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	95		90		7-170
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	138		141		1-244
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87		84		23-146
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	137		135		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	123		125		40-144
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	100		100		38-144
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	92		90		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	113		110		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	134		127		47-153
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	134		139		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	121		140		33-143
Perfluoro[13C4]Butanoic Acid (MPFBA)	117		117		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	127		131		16-173
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	66		56		1-87
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	106		108		42-146
Perfluoro[13C8]Octanoic Acid (M8PFOA)	116		112		36-149
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	102		99		34-146
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	106		103		31-159

Project Name: NOVAK FARM
Project Number: Not Specified

Lab Number: L1845203
Report Date: 11/16/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1845203-01A	Plastic 250ml Trizma preserved	A	NA		3.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1845203-01A1	Plastic 250ml Trizma preserved	A	NA		3.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1845203-01A2	Plastic 250ml Trizma preserved	A	NA		3.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1845203-01B	Plastic 250ml Trizma preserved	A	NA		3.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1845203-01B1	Plastic 250ml Trizma preserved	A	NA		3.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1845203-01B2	Plastic 250ml Trizma preserved	A	NA		3.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1845203-01C	Amber 500ml unpreserved	A	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1845203-01C1	Amber 500ml unpreserved	A	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1845203-01C2	Amber 500ml unpreserved	A	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1845203-01D	Amber 500ml unpreserved	A	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1845203-01D1	Amber 500ml unpreserved	A	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1845203-01D2	Amber 500ml unpreserved	A	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1845203-02A	Plastic 250ml Trizma preserved	A	NA		3.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1845203-02B	Plastic 250ml Trizma preserved	A	NA		3.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1845203-02C	Amber 500ml unpreserved	A	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1845203-02D	Amber 500ml unpreserved	A	7	7	3.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)

*Values in parentheses indicate holding time in days

Project Name:	NOVAK FARM	**Lab Number:**	L1845203
Project Number:	Not Specified	**Report Date:**	11/16/18

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Report Format: DU Report with 'J' Qualifiers

Project Name:	NOVAK FARM	**Lab Number:**	L1845203
Project Number:	Not Specified	**Report Date:**	11/16/18

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name: NOVAK FARM
Project Number: Not Specified
Lab Number: L1845203
Report Date: 11/16/18

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

122 Determination of Selected Perfluorintated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537, EPA/600/R-08/092. Version 1.1, September 2009.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page of

Date Rec'd in Lab: 11/6/18

ALPHA Job #: L1845203

Client Information

Client: Enviro Spec Engineering
Address: 349 Northern Blvd
Albany, NY 12204
Phone: 518-453-2203
Fax:
Email: rfamum@enviospec.com

Project Information

Project Name: Novak Farm
Project Location: East Pharsalia, NY
Project #
(Use Project name as Project #) ☐
Project Manager:
ALPHAQuote #:

Turn-Around Time

Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☒ ASP-B
☒ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☒ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Need Category B deliverable and NY EQUIS file
For 8270 SIM method, only report 1,4-dioxane

Please specify Metals or TAL.

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS Method 537	1,4-dioxane 8270 SIM	Total Bottle
45203 -01	MW-104	11/5/18	11:05AM			X	X	
-02	DUP	11/5/18	11:05AM			X	X	
-01	MS	11/5/18	11:05AM			X	X	
-01	MSD	11/5/18	11:05AM			X	X	

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Sample Specific Comments

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	11/5/18 3:35PM	Robert Haines AAL	11-5-18 15:25
Robert Haines	11-5-18 15:25	AAL	11/6/18 0050

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

APPENDIX D

Data Usability Summary Report (DUSR)

envirospec ENGINEERING, PLLC

349 Northern Boulevard Suite 3 ▪ Albany, NY 12204 ▪ Phone: 518.453.2203 ▪ Fax: 518.689.4800

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
NOVAK FARM, EAST PHARSALIA, NEW YORK

Client: Envirospec Engineering, LLC, Albany, New York
SDG: L1845203
Laboratory: Alpha Analytical, Westborough, Massachusetts
Site: Novak Farm, East Pharsalia, New York
Date: November 30, 2018

SVOCs/PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	MW-104	L1845203-01	Water
1MS	MW-104MS	L1845203-01MS	Water
1MSD	MW-104MSD	L1845203-01MSD	Water
2	DUP	L1845203-02	Water

A Data Usability Summary Review was performed on the analytical data for two water samples collected on November 5, 2018 by Envirospec Engineering at the Novak Farm site in Pharsalia, New York. The samples were analyzed under Environmental Protection Agency (USEPA) "Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions" and the USEPA Method "Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)".

Specific method references are as follows:

Analysis	*Method References*
SVOC (1,4-Dioxane)	USEPA SW-846 Method 8270D-SIM
PFCs	USEPA Method 537

The data have been validated according to the protocols and quality control (QC) requirements of the analytical method, USEPA Region II Data Review Standard Operating Procedures (SOPs), and the USEPA National Functional Guidelines for Organic Data Review as follows:

- SOP Number HW-35A, Revision 1, September 2016: Semivolatile Data Validation;
- The USEPA "Contract Laboratories Program National Functional Guidelines for Organic Superfund Methods Data Review," January 2017;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Date Completeness, Case Narrative & Custody Documentation

- Holding times
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Data Usability Assessment

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Semivolatile Organic Compounds (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days for water samples and analyzed within 40 days.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC samples were not collected.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate recoveries (%R).

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable percent recoveries (%R) and RPD values.

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	MW-104 ng/L	DUP ng/L	RPD	Qualifier
1,4-Dioxane	1050	1250	17%	None

Perfluorinated Compounds (PFCs)

Holding Times

- All samples were extracted within 14 days for water samples and analyzed within 28 days.

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD), %R and/or coefficient of determination criteria were met.

Continuing Calibration

- All percent recovery (%R) criteria were met.

Method Blank

- The following table lists method blank samples with contamination and the samples associated with the blanks that had results qualified as a consequence of the blank contamination. Detected sample concentrations less than ten times (10x) the highest associated blank (after taking sample dilution levels, percent moisture and sample volume into account) are negated and qualified with a (U).

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
WG1177280-1BLANK	6:2 FTS	2.40	U	2

Field QC Blank

- Field QC samples were not collected.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable percent recoveries (%R) and RPD values.

Laboratory Control Samples

- The LCS/LCSD samples exhibited acceptable percent recoveries (%R) and RPD values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	MW-104 ng/L	DUP ng/L	RPD	Qualifier
PFBA	3.51	3.47	1%	None
PFPeA	2.13U	0.610	NC	
PFHxA	0.953	0.925	3%	
PFHpA	0.847	0.722	16%	
PFOA	1.46	1.51	3%	

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 12/1/18

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

Form 1
SemiVolatile Organics

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845203
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845203-01	Date Collected	: 11/05/18 11:05
Client ID	: MW-104	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/10/18 00:16
Sample Matrix	: WATER	Date Extracted	: 11/08/18
Analytical Method	: 1,8270D-SIM	Dilution Factor	: 1
Lab File ID	: F611091823	Analyst	: MA
Sample Amount	: 470 ml	Instrument ID	: GCMS6
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 5000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	1050	160	79.8	

NW 11/30/18

Form 1
SemiVolatile Organics

2

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845203
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845203-02	Date Collected	: 11/05/18 11:05
Client ID	: DUP	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/10/18 03:24
Sample Matrix	: WATER	Date Extracted	: 11/08/18
Analytical Method	: 1,8270D-SIM	Dilution Factor	: 1
Lab File ID	: F611091828	Analyst	: MA
Sample Amount	: 490 ml	Instrument ID	: GCMS6
Extraction Method	: EPA 3510C	GC Column	: RTX-5
Extract Volume	: 5000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 1 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
123-91-1	1,4-Dioxane	1250	153	76.5	

NW11130118

Form 1
SemiVolatile Organics

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845203
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845203-01	Date Collected	: 11/05/18 11:05
Client ID	: MW-104	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/16/18 01:23
Sample Matrix	: WATER	Date Extracted	: 11/08/18
Analytical Method	: 122,537(M)	Dilution Factor	: 1
Lab File ID	: I12320	Analyst	: AJ
Sample Amount	: 235 ml	Instrument ID	: LCMS01
Extraction Method	: EPA 537	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	ng/l Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	3.51	2.13	0.397	
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	2.13	0.494	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	2.13	0.404	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.953	2.13	0.523	J
375-85-9	Perfluoroheptanoic Acid (PFHpA)	0.847	2.13	0.396	J
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	2.13	0.464	U
335-67-1	Perfluorooctanoic Acid (PFOA)	1.46	2.13	0.489	J
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	2.13	0.206	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	2.13	0.553	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	2.13	0.464	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	2.13	0.596	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	2.13	0.660	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	2.13	0.309	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	2.13	0.266	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	2.13	0.451	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	2.13	0.411	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	2.13	0.591	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	2.13	0.396	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	2.13	0.630	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	2.13	0.334	U

11/30/18

Form 1
SemiVolatile Organics

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845203
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845203-01	Date Collected	: 11/05/18 11:05
Client ID	: MW-104	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/16/18 01:23
Sample Matrix	: WATER	Date Extracted	: 11/08/18
Analytical Method	: 122,537(M)	Dilution Factor	: 1
Lab File ID	: I12320	Analyst	: AJ
Sample Amount	: 235 ml	Instrument ID	: LCMS01
Extraction Method	: EPA 537	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	2.13	1.05	U

NW 11/30/18

Form 1
SemiVolatile Organics

2

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845203
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845203-02	Date Collected	: 11/05/18 11:05
Client ID	: DUP	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/16/18 02:13
Sample Matrix	: WATER	Date Extracted	: 11/08/18
Analytical Method	: 122,537(M)	Dilution Factor	: 1
Lab File ID	: I12323	Analyst	: AJ
Sample Amount	: 241 ml	Instrument ID	: LCMS01
Extraction Method	: EPA 537	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

CAS NO.	Parameter	ng/l Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	3.47	2.07	0.387	
2706-90-3	Perfluoropentanoic Acid (PFPeA)	0.610	2.07	0.481	J
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	2.07	0.394	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.925	2.07	0.510	J
375-85-9	Perfluoroheptanoic Acid (PFHpA)	0.722	2.07	0.386	J
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	2.07	0.452	U
335-67-1	Perfluorooctanoic Acid (PFOA)	1.51	2.07	0.477	J
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.282 U	2.07	0.201	JB
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	2.07	0.539	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	2.07	0.452	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	2.07	0.581	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	2.07	0.643	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	2.07	0.302	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	2.07	0.260	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	2.07	0.440	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	2.07	0.400	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	2.07	0.577	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	2.07	0.387	U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	2.07	0.614	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	2.07	0.326	U

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Form 1
SemiVolatile Organics

2

Client	: Envirospec Engineering, PLLC	Lab Number	: L1845203
Project Name	: NOVAK FARM	Project Number	:
Lab ID	: L1845203-02	Date Collected	: 11/05/18 11:05
Client ID	: DUP	Date Received	: 11/05/18
Sample Location	: EAST PHARSALIA, NY	Date Analyzed	: 11/16/18 02:13
Sample Matrix	: WATER	Date Extracted	: 11/08/18
Analytical Method	: 122,537(M)	Dilution Factor	: 1
Lab File ID	: I12323	Analyst	: AJ
Sample Amount	: 241 ml	Instrument ID	: LCMS01
Extraction Method	: EPA 537	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	%Solids	: N/A
GPC Cleanup	: N	Injection Volume	: 3 uL

		ng/l			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	2.07	1.02	U

11/30/18