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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016

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110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: North Penn Water Authority

Attn: Heidi L. Palmer
144B Park Ave.
Chalfont, PA 18914

Report: 373021
Priority: Standard Written
Status: Final
PWS ID: PA1090141
PA Lab ID: 68466

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3548856	NP-73 (EP101)	537	09/19/16 10:40	Client	09/20/16 10:00
3548857	NP-74	537	09/19/16 12:10	Client	09/20/16 10:00
3548858	FTB	537	09/19/16 10:30	Client	09/20/16 10:00

Report Summary

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Authorized Signature | Title | 10/03/2016 Date

Client Name: North Penn Water Authority
Report #: 373021

Client Name: North Penn Water Authority Report #: 373021

Sampling Point: NP-73 (EP101) PWS ID: PA1090141

EEA Methods									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
375-73-5	Perfluorobutanesulfonic acid (PFBS)	537	---	2.0	**6.0**	ng/L	09/22/16 08:00	09/24/16 21:08	3548856
375-85-9	Perfluoroheptanoic acid (PFHpA)	537	---	2.0	**4.0**	ng/L	09/22/16 08:00	09/24/16 21:08	3548856
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	537	---	2.0	**33**	ng/L	09/22/16 08:00	09/24/16 21:08	3548856
375-95-1	Perfluorononanoic acid (PFNA)	537	---	2.0	< 2.0	ng/L	09/22/16 08:00	09/24/16 21:08	3548856
1763-23-1	Perfluorooctane sulfonate (PFOS)	537	---	2.0	**62**	ng/L	09/22/16 08:00	09/24/16 21:08	3548856
335-67-1	Perfluorooctanoic acid (PFOA)	537	---	2.0	**7.1**	ng/L	09/22/16 08:00	09/24/16 21:08	3548856

Sampling Point: NP-74 PWS ID: PA1090141

EEA Methods									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
375-73-5	Perfluorobutanesulfonic acid (PFBS)	537	---	2.0	**4.7**	ng/L	09/22/16 08:00	09/24/16 21:25	3548857
375-85-9	Perfluoroheptanoic acid (PFHpA)	537	---	2.0	**5.3**	ng/L	09/22/16 08:00	09/24/16 21:25	3548857
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	537	---	2.0	**41**	ng/L	09/22/16 08:00	09/24/16 21:25	3548857
375-95-1	Perfluorononanoic acid (PFNA)	537	---	2.0	< 2.0	ng/L	09/22/16 08:00	09/24/16 21:25	3548857
1763-23-1	Perfluorooctane sulfonate (PFOS)	537	---	2.0	**110**	ng/L	09/22/16 08:00	09/24/16 21:25	3548857
335-67-1	Perfluorooctanoic acid (PFOA)	537	---	2.0	**6.7**	ng/L	09/22/16 08:00	09/24/16 21:25	3548857

Sampling Point: FTB PWS ID: PA1090141

EEA Methods									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
375-73-5	Perfluorobutanesulfonic acid (PFBS)	537	---	2.0	< 2.0	ng/L	09/22/16 08:00	09/24/16 21:41	3548858
375-85-9	Perfluoroheptanoic acid (PFHpA)	537	---	2.0	< 2.0	ng/L	09/22/16 08:00	09/24/16 21:41	3548858
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	537	---	2.0	< 2.0	ng/L	09/22/16 08:00	09/24/16 21:41	3548858
375-95-1	Perfluorononanoic acid (PFNA)	537	---	2.0	< 2.0	ng/L	09/22/16 08:00	09/24/16 21:41	3548858
1763-23-1	Perfluorooctane sulfonate (PFOS)	537	---	2.0	< 2.0	ng/L	09/22/16 08:00	09/24/16 21:41	3548858
335-67-1	Perfluorooctanoic acid (PFOA)	537	---	2.0	< 2.0	ng/L	09/22/16 08:00	09/24/16 21:41	3548858

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

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Order # 305063
Batch # 373021

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Shaded area for EEA use only

REPORT TO: Heidi Palmer
hpalmer@npwa.org

SAMPLER (Signature): [signature]

PWS ID #: 1090141

STATE (sample origin): PA

PROJECT NAME:

PO#: 11803

BILL TO: NPWA
300 Forty Foot Rd.
Lansdale, PA 19446

COMPLIANCE MONITORING: Yes [ ] No [X]

POPULATION SERVED:

SOURCE WATER:

	LAB Number	COLLECTION DATE	COLLECTION TIME	AM	PM	SAMPLING SITE	TEST NAME	SAMPLE REMARKS	CHLORINATED YES	CHLORINATED NO	# OF CONTAINERS	MATRIX CODE	TURNAROUND TIME
1	3548,856	9/19/16	1040	X		NP-73 (EP101)	537 (PFCs-6)	CI-ASS	X		2	DW	
2	857	9/19/16	1210		X	NP-74	↓	↓		X	2	GW	
3	↓ 858	9-19-16	1030			FTB							
4													
5		per bottle											
6		SS 9-20-16											
7													
8													
9													
10													
11													
12													
13													
14													

RELINQUISHED BY:(Signature)	DATE	TIME	RECEIVED BY:(Signature)	DATE	TIME
[signature]	9/19/16	1313 AM (PM)	Katherine Eldge	9/19/16	1313 AM (PM)
H. L. Palmer	9/19/16	1600 AM PM			AM PM
		AM PM	RECEIVED FOR LABORATORY BY: [signature]	9-20-16	1000 AM PM

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT

LAB COMMENTS:

CONDITIONS UPON RECEIPT (check one): X Iced Wet/Blue ___ Ambient 0.6 °C Upon Receipt ___ N/A

MATRIX CODES:

DW-DRINKING WATER
RW-REAGENT WATER
GW-GROUND WATER
EW-EXPOSURE WATER
SW-SURFACE WATER
PW-POOL WATER
WW-WASTE WATER

TURN-AROUND TIME (TAT) - SURCHARGES

SW = Standard Written: (15 working days)	0%	IV* = Immediate Verbal: (3 working days)	100%
RV* = Rush Verbal: (5 working days)	50%	IW* = Immediate Written: (3 working days)	125%
RW* = Rush Written: (5 working days)	75%	SP* = Weekend, Holiday	CALL
		STAT* = Less than 48 hours	CALL

* Please call, expedited service not available for all testing

Samples received unannounced with less than 48 hours holding time remaining may be subject to additional charges.