Emery & Garrett Groundwater Investigations, A Division of GZA

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January 31, 2019

Mr. Andrew Koff Drinking Water and Groundwater Bureau New Hampshire Department of Environmental Services 29 Hazen Drive - P.O. Box 95 Concord, NH 03302-0095

Dear Mr. Koff,

Please find enclosed a copy of Emery & Garrett Groundwater Investigations (EGGI), a Division of GZA's summary report of the 2018 results for the groundwater monitoring program conducted to fulfill the requirement of the Large Groundwater Withdrawal Permit (#LGWP 2016-0001) for the City of Dover's Production Well DPH #1.

I hope you find the information contained herein responsive to your needs. If you have any questions, please do not hesitate to contact us.

Best regards,

James M. Wieck, P.G. Senior Project Manager

Hydrogeologist

James M. Emery, P.G. Principal

Cc: Mr. John Storer, Director of Dover Public Works Mr. Dean Peschel, Peschel Consulting, LLC

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MONITORING PROGRAM FOR PRODUCTION WELL DPH #1

Results of 2018 Water Quality and Groundwater Level Monitoring

DOVER, NEW HAMPSHIRE

January 2019

I. INTRODUCTION

This report provides a summary of the results of Emery & Garrett Groundwater Investigations, a Division of GZA (EGGI's) Monitoring Program for the City of Dover, New Hampshire's DPH #1 Production Well during 2018. The Monitoring Program was performed as required by the New Hampshire Department of Environmental Services (NHDES) as part of the Large Groundwater Withdrawal Permit (LGWP) (# LGWP-2016-0001) issued for the DPH #1 Production Well in June of 2016¹. The location of Well DPH #1 and other site features are depicted on **Figure 1**. The LGWP for Well DPH #1 allows withdrawals of up to 720,000 gallons over any 24-hour period or a total of 1,123,300 gallons over any 24-hour period from the combined pumping of Well DPH #1 and the Ireland Well.

As noted in the Project Narrative provided by the NHDES as part of the LGWP permit, the LGWP monitoring requirements for Well DPH #1 recommend that:

- Water levels in DPH #1 be monitored continuously so that water level fluctuations in nearby wells can be compared to the operation of the production well;
- Water levels in three on-site monitoring wells and one off-site well be monitored continuously to infer the extent of potential water level effects on nearby wells within the influence area of the production well under typical use conditions;
- Water levels in each of the wells used for the withdrawal testing program be monitored twice each year to infer the flow directions in the Aquifer; and,
- Water quality samples be collected from five on-site monitoring wells and one off-site monitoring well to assess for the presence of groundwater contamination."

Production Well DPH #1 was put on-line on July 10, 2017. This report focuses on summarizing water use, water level, and water quality data for 2018. Water level data for 2016 and 2017 are also presented if available for wells included in the Monitoring Program.

¹ The Large Groundwater Withdrawal Permit was approved based on the findings presented by EGGI (2012).

II. RESULTS OF THE 2018 GROUNDWATER MONITORING PROGRAM

A. Introduction

The City of Dover withdrew groundwater from the Pudding Hill Aquifer intermittently during the first approximately half of 2018.

- The Ireland Well was used during the periods from January 1 through March 18 and May 25 to June 27, 2018.
- Well DPH #1 was used during the periods from January 1 through February 2, 2018; April 19 to April 23; May 10 to May 24; June-20 to June 22; and July 2 to July 3, 2018.

The use of the Ireland Well and Well DPH #1 were limited by the City due to the concentrations of contaminants detected in the Ireland Well as summarized in **Section F**. Water levels in the Aquifer were influenced by the pumping of the Production Wells, ambient changes (e.g. precipitation), and the utilization of Artificial Recharge (AR).

EGGI conducted an extended Pilot Test to further evaluate the feasibility of artificially recharging the Aquifer (*i.e.*, AR) between May 4 and August 31, 2018. During this extended Pilot Test, water withdrawn from the Bellamy River was discharged into two temporary AR Basins to supply Artificial Recharge to the Pudding Hill Aquifer (**Figure 1**), as allowed by surface water levels/flow within the Bellamy River. A total of approximately 43.75 million gallons of AR was added to the Aquifer during the Pilot Test (**Table 1**).

B. Precipitation

In order to evaluate the impact of climatic variations on water levels within the Pudding Hill Aquifer, EGGI downloaded precipitation data from the NOAA National Climatic Data Center (NCDC) website for the Thompson Farm weather station in Durham, New Hampshire² (**Figure 2**). In addition, precipitation statistics were obtained from the NOAA Applied Climate Information System (ACIS) website³ (see below).

The graph of precipitation in **Figure 2** shows that 15 rain events with a total rainfall greater than one inch in a day occurred during 2018. In addition, closely-spaced rain events with relatively large cumulative precipitation occurred, such as those during mid-July through mid-August and mid-October through the end of November. These individual and closely-spaced rain events collectively impacted groundwater levels in the wells monitored, as discussed below.

The historic average annual cumulative precipitation⁴ is depicted by the brown line in the graph on **Figure 2**. The cumulative precipitation for each year, starting in 2011, is depicted by the green line and shading in the graph. The comparison illustrated by the combined graph

⁴ Based on a 30-year period from 1981-2010.

² Weather station: NH Durham 2 SSW. Website for Data: https://www.ncdc.noaa.gov/crn/station.htm?stationId=1040

³ Website for Data: http://scacis.rcc-acis.org/

shows that the total annual precipitation during 2018 (57.75 inches) was approximately 20 percent higher than each of the previous seven years, and higher than the historic average annual cumulative precipitation (48.04-inches). Through early July 2018, the cumulative precipitation was near the historic average; however, beginning during mid-July 2018 the cumulative total precipitation exceeds the average annual and remains above the cumulative total through the remainder of the year, due to the numerous precipitation events during the second half of 2108 depicted on the plot of precipitation data on **Figure 2**.

C. DPH #1 and Ireland Well Water Withdrawals and Water Levels

City water use data depicted on **Figure 3** indicate that groundwater was withdrawn from the Ireland Well at a maximum rate of approximately 534,000 gallons per day (gpd) during 2018. In comparison, during 2017 the maximum withdrawal rate ranged from 200,000 to 570,000 gpd. A total of approximately 31.50 million gallons of water were withdrawn from the Ireland Well from January 1, 2018 to December 31, 2018.

Groundwater was withdrawn from Well DPH #1 at a maximum rate of 559,000 gpd during 2018, in comparison to the maximum rate of 592,000 gpd during 2017 (**Figure 3**). The combined maximum withdrawal rate from both Production Wells during 2018 is 1,083,000 gpd. The daily pumping rate of Well DPH #1 and the combined pumping rate of DPH #1 and the Ireland Well were both below the respective permitted amounts of 720,000 and 1,123,000 gpd.

The pumping of Production Well DPH #1 during 2018 resulted in the withdrawal of approximately 32.76 million gallons of water from the Aquifer (**Figure 3**). Approximately 31.50 million gallons of water was withdrawn from the Ireland Well during the same time period. As a result, the total combined withdrawal from both Production Wells during 2018 is approximately 64.26 million gallons.

The relative water levels in Well DPH #1 and the Ireland Well are measured as head of water above the transducers in each of the Production Wells. Water levels in each of the Production Wells had been gradually decreasing during 2017, and had reached levels of approximately 8.3 feet and 24.3 feet above the transducers under pumping conditions, respectively, by January 31, 2018 in response to the pumping of the two Wells (**Figure 3**). The water levels in both Production Wells gradually increased throughout the year in response to the limited use of the wells and increased precipitation and use of AR during the second half of the year. The non-pumping water levels in the Ireland Well and Well DPH #1 at the end of 2018 are approximately 56.5 feet and 43.5 feet, respectively. The water levels within the Ireland Well and Well DPH #1 had therefore increased by 32.2 feet and 35.2 feet, respectively. For the Ireland Well water level data for December 12, 2018 were used rather than data for December 31, 2018 due to the effects of an approximate 9-day withdrawal test performed on the Ireland well from December 12 to December 21, 2018.

D. Water Level Variations in Monitoring Wells

Water levels were recorded at minimum 2-hour intervals in Wells DPH-MW2d, DPH-B5 5 , DP-105, and DPH-MW6 using automated transducers (**Appendix A** and **Appendix C** 6). These automated water levels were supplemented with manual measurements obtained periodically throughout the monitoring program. Automated and manual water levels measurement collection methods each have an estimated accuracy of \pm 0.01 foot. Water level elevations (in feet above sea level) calculated based on the water level measurements have an estimated accuracy of \pm 0.1 foot due to the accuracy of the methods used to establish the level elevation reference points at each monitoring location.

During 2018 the water level in Monitoring Well DPH-MW2D rose approximately 19.5 feet (from 64.5 feet to 84 feet) in response to precipitation, aquifer recovery during the periods when the Ireland Well was not pumped, and the addition of artificial recharge to the Aquifer⁷ (**Appendix A**). The water level appears to generally stabilize at an elevation of approximately 80 feet during May through July, and then increase relatively rapidly during August. This increase coincides with both the largest period of AR (**Table 1**) and an increase in the frequency of precipitation events (**Figure 2**).

Water levels in Well DPH-B5 behaved similarly to the water levels in Well DPH-MW2D, increasing approximately 18.5 feet (from elevation 66 feet to 84.5 feet). The water level in Well DPH-B5 also appears to generally stabilize at an elevation of approximately 80 feet during May through July, and then increase relatively rapidly during August, coincident with the largest period of AR and an increase in the frequency of precipitation events.

The water level in Monitoring Well DP-105 increased continuously during 2018 from an elevation of approximately 86 feet to approximately 92.5 feet (*i.e.*, an increase of approximately 6.5 feet). The increase is anticipated to be largely in response to the continued recovery of water levels after turning off the Griffin Well in December 2015 and reduced use of the Ireland Well and Well DPH #1, and likely to a lesser extent, precipitation events and AR. Relatively rapid increases in water level of approximately one to two feet appear to coincide with precipitation events. These increases generally appear to be shorter term deviations from the general increasing water level trend.

Similar to the water level trends for the other wells, the water level within Monitoring Well DPH-MW6 increases throughout 2018. The water level in this well increased approximately six feet, from elevation 86.5 feet to elevation 92.5 feet. The water level trend is most similar to the water level trend for Monitoring Well DP-105 and interpreted by EGGI similarly.

⁵ Well DPH-B5 was monitored instead of Monitoring Well DPH-MW10, per agreement with NHDES.

⁶ Data in **Appendix C** is included on a Compact Disk for hard copies of the report and as an Excel file for submittal to the NHDES.

⁷ A detailed report on hydraulic impacts related to withdrawals from the Ireland and DPH #1 Production Wells, recharge from precipitation, and Artificial Recharge is currently being prepared for presentation to the City of Dover and NHDES.

E. Interpreted Groundwater Flow Directions

Groundwater elevation contour maps were prepared to evaluate the effects of the groundwater withdrawals on groundwater flow directions within the Pudding Hill Aquifer. Groundwater hydraulic head contours based on depth to groundwater level data collected from 38 groundwater monitoring wells on April 25 and 26 and August 28 through 30, 2018 are depicted on **Figure 4** and **Figure 5**, respectively. Groundwater elevations used to prepare the contour maps were obtained for available monitoring wells, including wells utilized during the pumping test conducted for the permitting of Well DPH #1 and from 21 Monitoring Wells, five Existing Wells, and 10 wells installed as part of EGGI's ongoing contaminant assessment of the Pudding Hill Aquifer⁸. Groundwater elevation data are summarized in **Table 2**.

The Ireland Well and Well DPH #1 were not in continuous use at the time the data used in the preparation of the estimated groundwater contours depicted in **Figure 4** were collected. However, as can be seen in **Figure 4**, the effects of the pumping of the Ireland Well and Well DPH #1 are present within the Aquifer. In general, groundwater flow within the aquifer is interpreted as toward the Ireland Well and Well DPH #1, as the collective cone of depression associated with the Production Wells is filled.

The estimated groundwater hydraulic contours depicted on **Figure 5** show the effects of limited use of the Production Wells and use of AR during the summer of 2018. Notably, the contours indicate the presence of groundwater mounding beneath and surrounding AR Basin 1 and AR Basin 2. During the period between the April and August groundwater gauging rounds, the hydraulic head near AR Basin 1 and AR Basin 2 increases by approximately seven feet and nine feet, respectively. The hydraulic head contours depicted on **Figure 5** also suggest that, while the overall head in the aquifer may increase further due to the limited use of the Production Wells, the effects of the groundwater withdrawals from the Production Wells on the direction of the direction of the head gradient has largely dissipated (*i.e.*, the cone of depression has largely been filled). Continued collection and evaluation of hydraulic head data is needed to confirm this conclusion.

F. Results of Water Quality Sampling and Analyses

In accordance with the water quality monitoring program in the Large Groundwater Withdrawal Permit issued by the NHDES for Production Well DPH #1, EGGI collected groundwater samples for laboratory analysis during 2018 from the following wells:

- Monitoring Wells DP-MW6, DPH-B5⁹, and DP-105: Volatile organic compounds (VOCs), 1,4-Dioxane, per- and poly-fluoroalkyl substance (PFAS), RCRA 8 metals, iron, and manganese.
- Monitoring Well DPH-MW2D: VOCs and 1,4-Dioxane.
- Monitoring Wells DPH-4 and DPH-6: Nitrite, nitrate, chloride, sodium,

⁸ Monitoring Wells DPH-MW1-17 through DPH-MW10-17 were installed as part of EGGI's ongoing evaluation of contaminants that is being conducted for the City of Dover.

⁹ Well DPH-B5 was sampled instead of Monitoring Well DPH-MW10, as approved by the NHDES.

arsenic, zinc, and VOCs.

Water quality samples collected by EGGI were submitted to Eastern Analytical, Inc. (EAI) of Concord, New Hampshire for analyses of the required water quality parameters. EAI subcontracted the analysis of groundwater samples for analyses of PFAS to Vista Analytical Laboratory (Vista) in El Dorado Hills, California. EAI's and Vista's laboratory reports are presented in **Appendix B**.

The water quality monitoring requirements included in the LGWP permit for Production Well DPH #1 includes two sampling events (conducted annually between April 15 and May 15 and between August 15 and September 15). During 2018, the permit-required sampling rounds were performed on May 15, 2018 and August 29, 2018¹⁰. Results of the water quality analyses are summarized in **Table 3**. The following subsections further summarize the results of the laboratory analyses.

1) VOCs, 1,4-Dioxane, and PFAS

The analyses of VOCs, 1,4-Dioxane, and PFAS indicate the following:

- MtBE is the only VOC detected in samples submitted for VOC analyses. MtBE was detected in samples collected from Wells DPH-B5 and DP-105 during both 2018 sampling rounds at concentrations ranging from 3.7 micrograms per liter (ug/l) (BPH-B5; August 29, 2018) to 8.3 ug/L (DP-105; April 24, 2018). The detected concentrations of MtBE are below the New Hampshire Ambient Groundwater Quality Standard (NH AGQS; 13 ug/L).
- 1,4-Dioxane was detected in each of the samples collected from Wells DP-105 and DPH-B5 at concentrations ranging from 1.9 ug/L (DP-105) to 3.9 ug/L (DPH-B5). The detected concentrations of 1,4-Dioxane exceed the NH AGOS; 0.32 ug/L.
- 1,4-Dioxane was not detected above the laboratory reporting limit (RL) in the groundwater samples collected from Wells DPH-MW-2D and DPH-MW-6.
- PFAS were detected in both rounds of groundwater samples collected from Wells DPH-B5 and DP-105.
 - The detected concentrations of perfluorooctanoic acid (PFOA) range from 154 nanograms per liter (ng/L) (DPH-B5; August 29, 2108) to 317 ng/L (DP-105; July 24, 2018).
 - o The detected concentrations of perfluoro-octane-sulfonate (PFOS) range from 200 nanograms per liter (ng/L) (DPH-B5; August 29, 2108) to 579 ng/L (DP-105; April 25, 2018).
 - PFAS were not detected above the laboratory RL in the samples collected from Well DPH-MW-6.

¹⁰ Well DPH-4 and well DPH-B5 were sampled for one or more of the required parameters on July 24, 2018. These Wells were not resampled for the respective parameters during the August 29, 2018 sampling round, as indicated on **Table 3**.

- o The detected concentrations of PFOA and PFOS (*i.e.*, concentrations detected in samples collected from wells DPH-B5 and DP-105) exceed their combined and individual NH AGQS of 70 ppt for individual and the combined total for these two PFAS compounds.
- Overall, concentrations of MtBE, 1,4-dioxane, and PFAS decreased towards the east within the Aquifer (*i.e.*, towards Production Well DPH #1 and the Ireland Well), as reflected by the concentrations detected in the samples collected from Wells DP-105, DPH-B5, and DPH-MW2d.
 - 2) Other Water Quality Parameter Results

The results of the analyses indicate the following:

- a. Analytical results for Groundwater Samples from Wells DPH-MW6, DP-105, and DPH-B5:
- Cadmium, lead, mercury, selenium, and silver were not detected above the laboratory RLs in either of the samples collected from the referenced wells.
- Arsenic was detected in one or both samples collected from the referenced wells at concentrations ranging from 0.001 mg/L (DPH-MW6, August; and DPH-5, May) to 0.004 mg/l (DPH-6, May). The detected concentrations of arsenic do not exceed the NH AGQS for arsenic (0.005 mg/L).
- Barium was detected in each of the samples collected from the referenced wells at concentrations ranging from 0.003 mg/L (DPH-MW6, May) to 0.058 mg/l (DP-105, May). The detected concentrations of barium do not exceed the NH AGQS for barium (2 mg/L).
- Total chromium was only detected above the laboratory RL in the samples collected from DPH-MW6 (0.002 mg/L to 0.0023 mg/L). The detected concentrations of chromium do not exceed the NH AGQS for total chromium (0.100 mg/L).
- Iron was detected in the samples collected from Wells DP-105 and DPH-B5 at concentrations ranging from 1.1 mg/L (DPH-B5, May) to 1.8 mg/l (DP-105, August). The detected concentrations of iron exceed the Secondary Maximum Contaminant Level (SMCL) for iron (0.3 mg/L).
- Manganese was detected in the samples collected from Wells DP-105 and DPH-B5 at concentrations ranging from 0.28 mg/L (DPH-B5, May) to 0.52 mg/L (DP-105, May). The detected concentrations of manganese exceed the SMCL for manganese (0.05 mg/L), but do not exceed the NH AGQS for manganese (0.840 mg/L).
 - b. Analytical results for Groundwater Samples from Wells DPH-4 and DPH-6:

- Arsenic was detected in each of the samples collected from the referenced wells at concentrations ranging from 0.0011 mg/L (DPH-4, August) to 0.004 mg/l (DPH-6, May). The detected concentrations of arsenic do not exceed the NH AGQS for arsenic (0.005 mg/L).
- Nitrate was detected in each of the samples collected from the referenced wells at concentrations ranging from 0.057 mg/L (DPH-6, August) to 0.98 mg/L (DPH-6, May). The detected concentrations of nitrate are below the NH AGQS for nitrate (10 mg/L).
- Nitrite was not detected above the laboratory RL in the samples collected from each of the referenced wells.
- Chloride was detected in each of the samples collected from the referenced wells at concentrations ranging from 13 mg/L (DPH-6, August) to 59 mg/L (DPH-6, May). The detected concentrations of chloride are below the SMCL for chloride (250 mg/L).
- Sodium was detected in each of the samples collected from the referenced wells at concentration ranging from 10 mg/L (DPH-6, August) to 26 mg/L (DPH-4, May).
- Zinc was only detected above the laboratory RL in the samples collected from well DPH-6. The detected concentrations of zinc are 0.0058 mg/L (August) and 0.031mg/L (May). The detected concentrations of zinc are below the SMCL for zinc (5 mg/L).

III. SUMMARY AND RECOMMENDATIONS

Results of groundwater level and quality monitoring during 2018 indicate the following:

- The City of Dover withdrew groundwater resources from the Ireland Well and Well DPH #1 from January 1, 2018 through March 18 and February 2, 2018, respectively. After these dates withdrawals from the Production Wells was intermittent, with the last use of the Ireland Well and Well DPH #1 on June 27 and July 3, respectively. Use of the Ireland Well and Well DPH #1 were voluntarily limited based on groundwater quality data collected within the Aquifer and from the Ireland Well to limit the potential for further contamination of the Ireland Well and contamination of Well DPH #1. The decision to limit the use the Production Wells was based on water quality data collected as required by the LGWP and data collected under other programs, including data for samples collected from the Ireland Well and DPH #1. Non-LGWP-related data will be summarized separately.
- Total groundwater withdrawals during 2018 from Well DPH #1 and the Ireland Well were approximately 31.5 and 32.8 million gallons, respectively.
- During calendar year 2018, the maximum withdrawal rate from Well DPH #1

- was 559,000 gpd, and the maximum combined withdrawal rate from Well DPH #1 and the Ireland Well was 1,083, 000 gpd. These withdrawal rates comply with the maximum daily withdrawals allowed under the LGWP (Well DPH #1 720,000 and combined 1,123,000 gpd).
- Water levels within the monitoring wells and Production Wells increased significantly during 2018 due to the combined effects of precipitation, aquifer recovery during the periods when the Ireland Well was not pumped, and the addition of Artificial Recharge to the Aquifer. Continued collection and evaluation of hydraulic head data is needed to assess whether the August 2018 water level data are generally representative of static non-pumping aquifer conditions.
- General flow directions within the central and eastern portion of the Pudding Hill Aquifer converge on Well DPH #1 and/or the Ireland Well at the time of the April 2018 groundwater gauging round, reflecting the effects of withdrawals from these wells. However, at the time of the August 2018 groundwater gauging round the effects of the groundwater withdrawals from the Production Wells on the direction of the direction of the head gradient has largely dissipated (*i.e.*, the cone of depression has largely been filled). The overall direction of groundwater flow inferred based on the August estimated hydraulic head contours indicate that groundwater flow within the aquifer is generally toward the north convergent at depth beneath the Bellamy River. This interpretation is based on EGGI's understanding of Site hydrogeology and should be further evaluated as additional water level data potentially representative of static aquifer conditions are collected.
- Groundwater contaminants and naturally occurring metals and inorganic
 parameters were detected in certain Permit-required groundwater quality
 samples collected during 2018. The concentrations of 1,4-Dioxane, PFOA
 and PFOS detected in certain groundwater samples collected under the Permit
 exceed their respective NH AGQS but are consistent with the results of water
 quality monitoring during 2017.
- Overall, concentrations of VOCs, 1,4-Dioxane, and PFAS decrease from west to east in the monitoring wells sampled.
- The concentrations of iron and manganese detected in certain samples exceed their respective SMCLs and are consistent with the results of water quality monitoring during 2017.
- Arsenic was detected in samples collected from each of the monitoring wells sampled at concentrations that are below the MCL and NH AGQS.
- Chloride and sodium detected in Monitoring Wells DPH-4 and DPH-6 may be due to salt use within the light industrial complex to the west of the project site or use along Stonewall Road.

The continued long-term monitoring of water levels within the Pudding Hill Aquifer during 2019 will provide further insights into the hydrology and water quality of the Aquifer in relation to the pumping of Production Well DPH #1 (and the Ireland Well). This information will form the basis for managing withdrawals from Production Well DPH #1 to maximize withdrawals to benefit the City of Dover, while at the same time preventing adverse hydrological and water quality impacts to the Pudding Hill Aquifer.

IV. LIMITATIONS

EGGI has collected and evaluated the available technical data according to professionally accepted scientific standards. It is to be recognized that the monitoring program is limited to that which is presented in this report and occurred during a specific climatic period. The interpretations provided herein represent EGGI's professional opinion based upon the data collected. Nothing stated or inferred in this report constitutes a warranty written or implied.

V. REFERENCES

Emery & Garrett Groundwater Investigations, LLC, 2016, Final Hydrogeologic Investigation, City of Dover, Pudding Hill Aquifer Groundwater Development, Production Well DPH #1, Dover, New Hampshire.

FIGURES

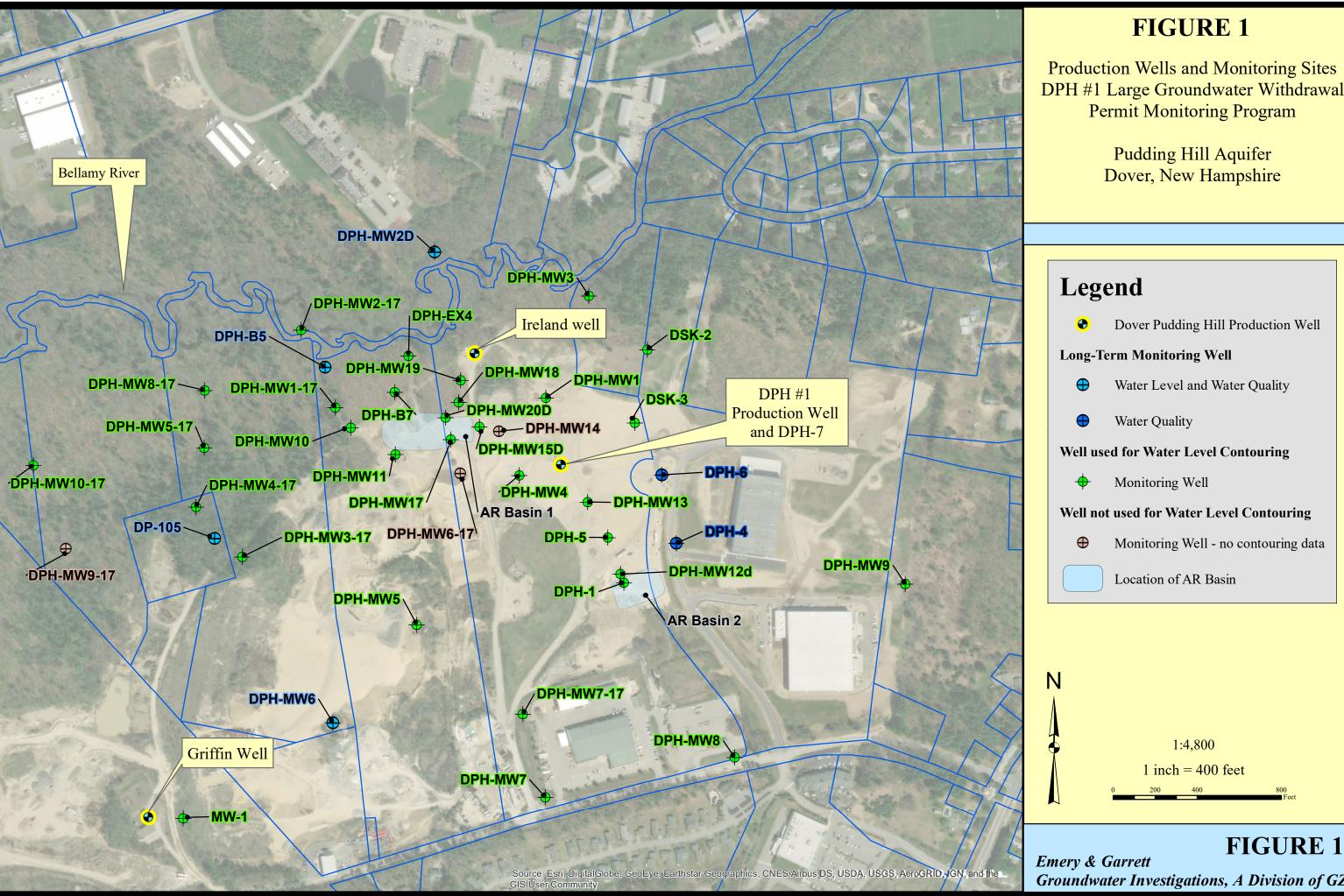
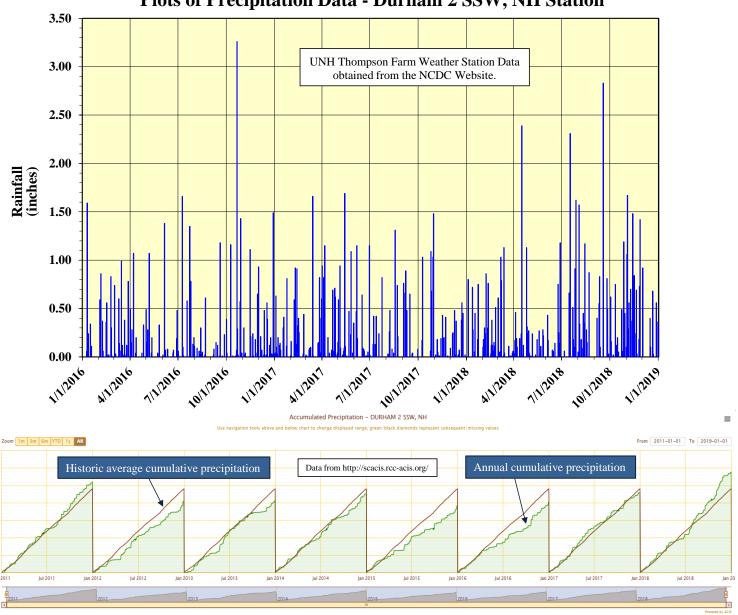


FIGURE 1

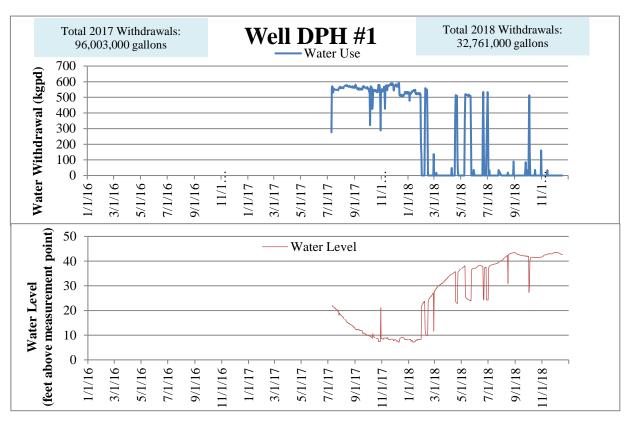
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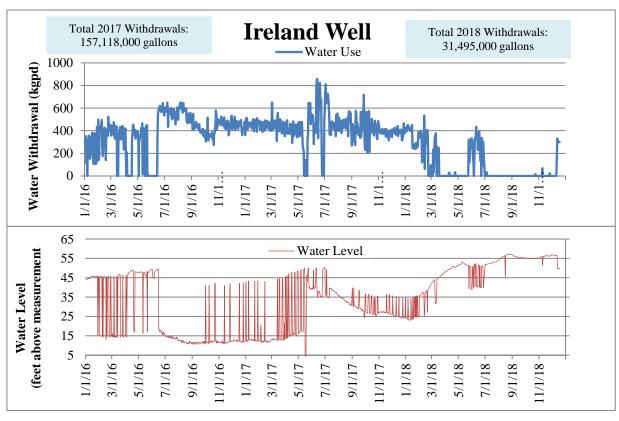
FIGURE 2
Plots of Precipitation Data - Durham 2 SSW, NH Station

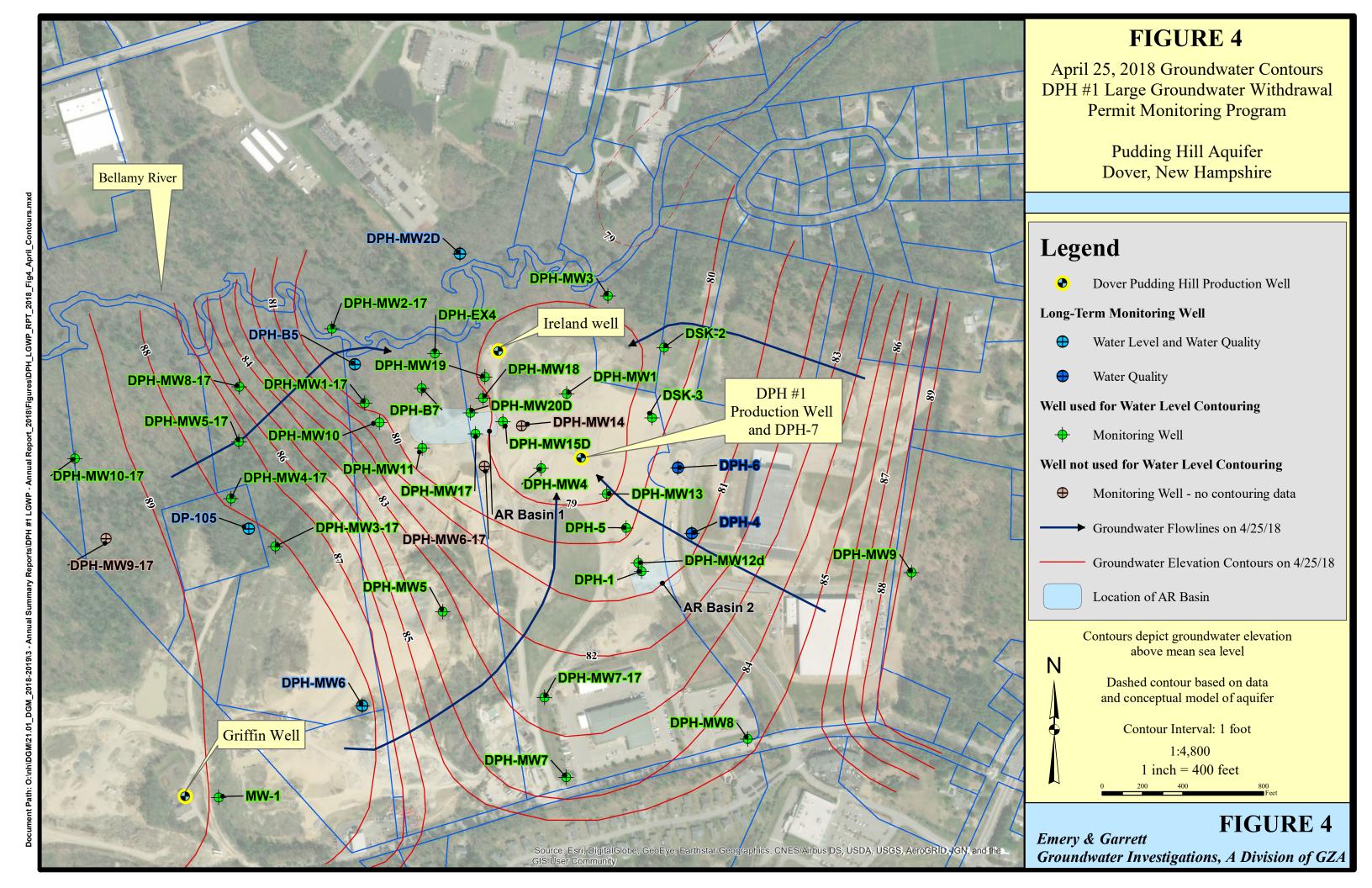


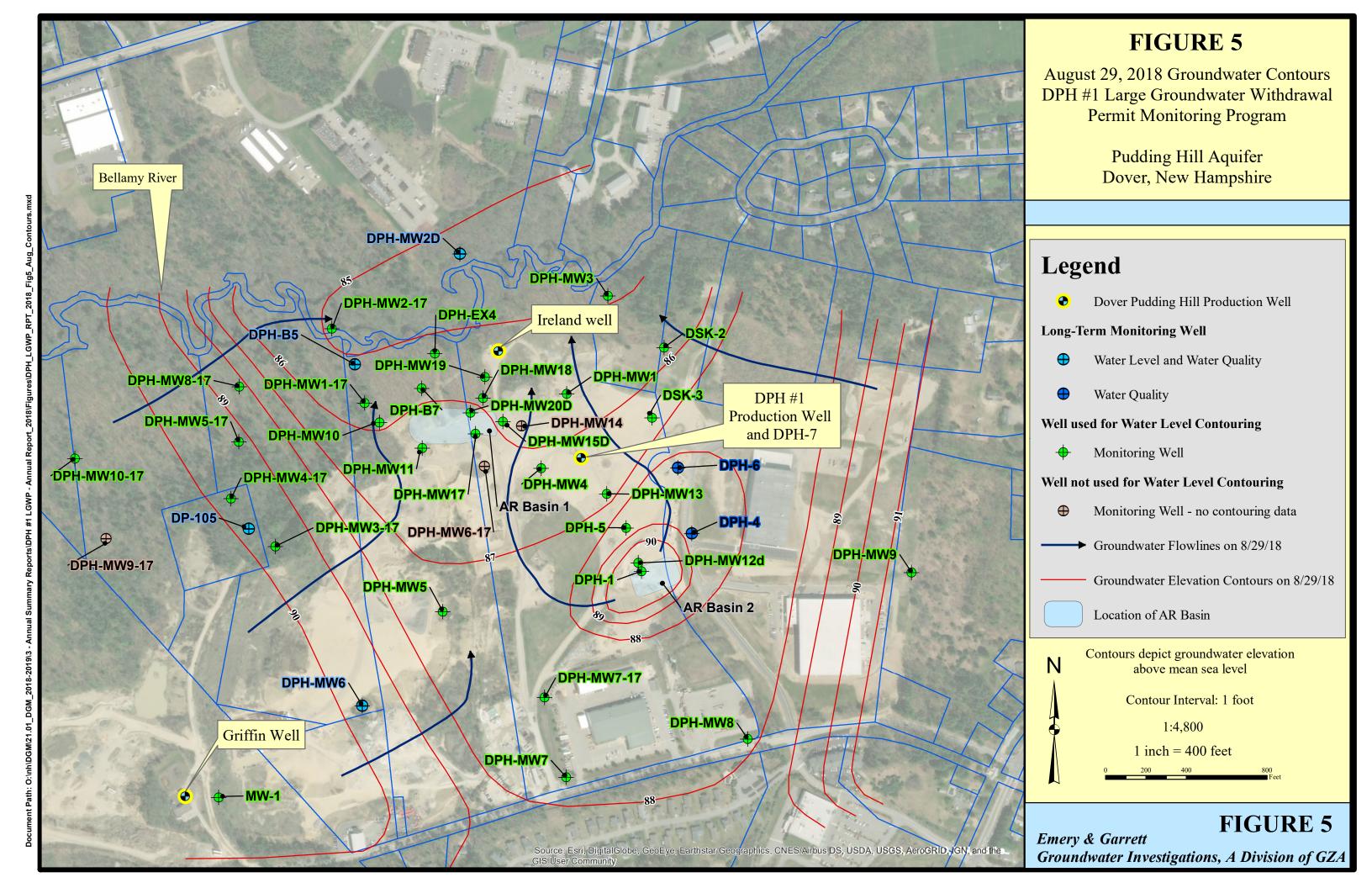
Thompson Farm, Durham, New Hampshire

FIGURE 3
2017 and 2018 Water Use and Water Levels*
Production Wells DPH #1 and Ireland Well









TABLES

TABLE 1

Information on Discharge of Artificial Recharge (AR) into AR Basins 1 and 2 for 2018 - Pudding Hill Aquifer, Dover, New Hampshire
DPH #1 Large Groundwater Withdrawal Permit Monitoring Program

		DPH-AR Basin 2									
Date/Time	Staff Gage	AR rate	I-AR Basin 1 Discharge	AR Discharge Inte	rvals	Date/Time	Staff Gage	AR rate	Discharge	AR Discharg	ge Intervals
	(feet)	(gpm)	(gallons)		- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	2 4110/ 2 41112	(feet)	(gpm)	(gallons)		5
5/03/18 09:30:00	0			Event 1		5/03/18 09:30:00	0			Ever	nt 1
5/04/18 14:55:00	0	290	511,850	5/3/18 - 5/11/1	8	5/04/18 15:05:00	0	333	591,075	5/3/18 - :	5/11/18
5/07/18 07:20:00	0	325	1,256,125	Total:	3,288,335	5/07/18 07:10:00	0.2	330	1,268,850	Total:	3,661,356
5/09/18 18:14:00	0.83	300	1,060,200	Avg.Day:	413,627	5/09/18 18:03:00	1.6	333	1,176,489	Avg. Day:	461,394
5/10/18 08:20:00				Total Time:	7.95	5/10/18 00:00:00				Total Time:	7.94
5/11/18 08:18:00	0.92	320	460,160			5/11/18 07:57:00	1.78	326	624,942		
				Event 2						Ever	
5/20/18 15:05:00	0	200	445,200	5/20/18 - 5/21/1		5/20/18 15:25:00 5/21/18 07:33:00	0.25	216	498,016	5/20/18 -	
5/21/18 07:40:00 5/21/18 17:35:00	0	280	443,200	Total: Avg. Day:	445,200 403,200	5/21/18 07:33:00	0.25	316	498,010	Total: Avg. Day:	498,016 455,040
3/21/16 17.33.00				Total Time:	1.10	3/21/16 17.41.00				Total Time:	1.09
6/01/18 17:25:00		300		Event 3	1.10	6/1/2018 17:25		303		Ever	
6/03/18 09:17:00		300	717,600	6/1/18 - 6/7/18	3	6/3/2018 9:20		303	725,685	6/1/18 -	
6/04/18 09:34:00	0.83	306	445,842	Total:	2,368,293	6/04/18 09:15:00	1.43	296	424,760	Total:	2,358,084
6/06/18 08:47:00	0.42	279	790,407	Avg. Day:	417,218	6/06/18 08:36:00	2.65	279	792,639	Avg. Day:	415,878
6/07/18 09:39:00	0.5	278	414,444	Total Time:	5.68	6/07/18 09:30:00	2.65	278	415,000	Total Time:	5.6
				Event 4						Ever	nt 4
6/25/18 08:00:00				6/25/18 - 6/27/1		6/25/2018 8:00				6/25/18 -	
6/27/18 08:15:00	0.5	300	868,500	Total:	868,500	6/27/18 08:25:00	0.8	300	871,500	Total:	871,500
				Avg. Day:	432,000					Avg. Day:	432,000
				Total Time:	2.01					Total Time:	2.02
6/00/0010				Event 5	0	6/00/10 07 51 00				Ever	
6/28/2018 7/2/2018		280	1,598,520	6/28/18 - 7/2/1 Total:	1,598,520	6/28/18 07:51:00 7/2/2018 7:00		280	1,598,520	6/28/18 - Total:	1.598.520
7/2/2018		280	1,398,320	Avg. Day:	403,200	7/2/2018 7:00		280	1,398,320	Avg. Day:	403,20
				Total Time:	3.96					Total Time:	3.9
				Event 6	3.70					Ever	
7/18/2018 7:22				7/18/18 - 7/19/20)18	7/18/2018 7:22				7/18 - 7/1	
7/19/2018 12:48		250	441,500	Total:	477,170	7/19/2018 12:48		250	441,500	Total:	477,170
7/19/2018 16:54		145	35,670	Avg. Day:	341,513	7/19/2018 16:54		145	35,670	Avg. Day:	341,513
				Total Time:	1.40					Total Time:	1.40
				Event 7						Ever	
7/26/2018 8:25				7/26/18 - 7/28/1		7/26/2018 8:25				7/26/18 -	
7/26/2018 15:25		270	113,400	Total:	695,200	7/26/2018 15:25		270	113,400	Total:	695,200
7/28/2018 11:58		200	534,600	Avg. Day:	300,717	7/28/2018 11:58		200	534,600	Avg. Day:	300,71
7/28/2018 15:54		200	47,200	Total Time:	2.31	7/28/2018 15:54		200	47,200	Total Time:	2.3
7/20/2019 7.40				Event 8	0	7/30/2018 7:40				7/30/18 -	
7/30/2018 7:40 7/31/2018 7:12		290	409,480	7/30/18 - 8/2/1 Total:	1,413,750	7/31/2018 7:12		290	409,480	7/30/18 - Total:	1,413,750
8/1/2018 7:35		290	424,270	Avg. Day:	417,600	8/1/2018 7:35		290	424,270	Avg. Day:	417,600
8/2/2018 16:55		290	580,000	Total Time:	3.39	8/2/2018 16:55		290	580,000	Total Time:	3.39
8/3/2018 7:50			200,000	Event 9		8/3/2018 7:50		-, -	200,000	Ever	
8/3/2018 10:40		280	47,600	8/3/18 - 8/27/1	8	8/3/2018 10:40		280	47,600	8/3/18 -	
8/3/2018 11:00	Off to fi	x Basin 2 flo				8/3/2018 11:00	Off to fi	x Basin 2 fl			
8/4/2018 8:57		285	375,345	Total:	11,211,410	8/4/2018 8:57		296	389,832	Total:	9,808,775
8/6/2018 19:52		290	1,025,150	Avg. Day:	397,793	8/6/2018 19:52		303	1,071,105	Avg. Day:	348,020
8/9/2018 13:00		290	1,133,320	Total Time:	28.18	8/9/2018 13:00		303	1,184,124	Total Time:	28.18
8/14/2018 7:51		270	1,860,570			8/14/2018 7:37		299	2,056,223		
8/15/2018 7:45		270	387,180			8/15/2018 7:36		306	440,334		
8/15/2018 8:00		330	4,950 1,084,800			8/15/2018 7:40		240	960 787,760		
8/17/2018 16:30 8/20/2018 14:25		320 315	1,084,800			8/17/2018 17:00 8/20/2018 14:34		229 229	955,846		
8/23/2018 14:25		315	1,224,405			8/23/2018 14:34 8/23/2018 7:12		229	876,428		
8/23/2018 7:25		240	3,120			8/23/2018 8:20		176	11,968		
8/27/2018 7:18		240	1,380,720			8/27/2018 7:09		169	961,441		
8/31/2018 8:10		225	1,307,700			8/31/2018 8:00		169	982,059		
8/31/2018 12:15		225	55,125			8/31/2018 12:15		169	43,095		
	PUMP OF	DUE TO L	OW FLOW IN B	ELLAMY RIVER			PUMP OFF	DUE TO LO	OW FLOW IN B	ELLAMY RIVER	
				Total of all Eve	nts					Total of a	ll Events
				ns Discharged		(Values in red are from Basin				ons Discharged	21,382,371
				harge per Day		the flowmeter at Basin 2 was	not working)		charge per Day	382,098
		R Discharge:		s of Discharge	55.98				Total Day	s of Discharge	55.96
		 Lucharge. 	115.9								

TABLE 2
Water Levels Used to Create Groundwater Elevation Contour Maps
DPH #1 Large Groundwater Withdrawal Permit Monitoring Program
Pudding Hill Aquifer, Dover, New Hampshire

Monitoring Location	Casing Elevation	Water Level below Top of Casing on 4/25/2018*	Groundwater Elevation 4/25/2018	Water Level below Top of Casing on 8/29/2018*	Groundwater Elevation 8/29/2018 (feet amsl)
Monitoring Wells	(feet amsl)	(feet)	(feet amsl)	(feet)	(leet amsi)
DPH-1	102.10	21.46	90.72	11.41	90.78
DPH-4	102.19 108.58	28.15	80.73 80.43	11.41 19.97	88.61
DPH-5	108.58	22.69	79.84	13.93	88.60
DPH-6	102.33	23.83	80.52	15.96	88.39
DPH-7	104.33	21.19	78.81	13.70	86.30
DPH-MW1	100.00	23.61	78.88	17.07	85.42
DPH-MW2d	85.02	5.68	79.34	0.96	84.06
DPH-MW3	89.71	10.61	79.34	4.81	84.90
DPH-MW4	100.00	21.17	78.83	13.80	86.20
DPH-MW5	100.00	25.53	83.14	21.53	87.14
DPH-MW6	108.54	20.34	88.20	18.63	89.91
DPH-MW7	150.26	66.78	83.48	62.96	87.30
DPH-MW8	148.83	64.06	84.77	60.95	87.88
DPH-MW9	106.87	17.26	89.61	14.95	91.92
DPH-MW10	108.05	27.86	80.19	22.14	85.91
DPH-MW11	118.00	38.51	79.49	31.57	86.43
DPH-MW12d	101.53	20.54	80.99	10.57	90.96
DPH-MW13	101.73	22.80	78.93	15.06	86.67
DPH-MW15d	127.59	48.85	78.74	42.20	85.39
DPH-MW17	127.39	43.01	79.10	35.70	86.41
DPH-MW18	124.02	44.91	79.10	38.10	85.92
DPH-MW19	117.99	39.23	78.76	32.38	85.61
DPH-MW20d	123.46	44.38	79.08	37.40	86.06
DP-105	99.74	11.57	88.17	9.85	89.89
DPH-B5	87.54	7.93	79.61	2.46	85.08
DPH-B7	119.18	39.80	79.38	33.47	85.71
DSK-2	116.99	37.84	79.15	31.29	85.70
DSK-3	100.67	21.27	79.13	13.92	86.75
EX4	97.74	18.51	79.23	12.41	85.33
MW-1	146.26	57.45	88.81	56.08	90.18
DPH-MW1-17	103.75	24.16	79.59	18.29	85.46
DPH-MW2-17	86.31	6.68	79.63	1.33	84.98
DPH-MW3-17	112.85	24.58	88.27	22.92	89.93
DPH-MW4-17	96.45	8.61	87.84	7.11	89.34
DPH-MW5-17	97.26	9.74	87.52	8.09	89.17
DPHMW7-17	159.40	76.96	82.44	71.81	87.59
DPH-MW8-17	95.02	9.35	85.67	6.79	88.23
DPH-MW10-17	96.74	6.95	89.79	5.95	90.79

amsl = above mean sea level

^{*}Some data points are from transducer measurements when manual measurements were taken the day before.

TABLE 3 **Laboratory Analyses of Water Quality Samples** DPH #1 Large Groundwater Withdrawal Permit Monitoring Program **Pudding Hill Aquifer, Dover, New Hampshire**

Well	Date Sampled	Lab	Arsenic (mg/l)	Barium (mg/l)	Cadmium (mg/l)	Chromium (mg/l)	Iron (mg/l)	Lead (mg/l)	Manganese (mg/l)	Mercury (mg/l)	Selenium (mg/l)	Silver (mg/l)	Sodium (mg/l)	Zinc (mg/l)
		MCL or SMCL	0.01	2	0.005	0.1	0.3**	0.015	0.05**	0.002	0.05	0.1**	none	5**
DP-105	6/15/2017	EAI	0.007	0.060	ND	ND	24	ND	0.58	ND	0.021	ND	Not Require	d By Pern
	9/8/2017	EAI	0.01	0.059	ND	ND	22	ND	0.47	ND	0.03	ND	Not Require	
	5/15/2018	EAI	0.002	0.058	ND	ND	1.4	ND	0.52	ND	ND	ND	Not Require	•
	8/28/2018	EAI	0.0017	0.057	ND	ND	1.8	ND	0.43	ND	ND	ND	Not Require	d By Peri
DPH-B5	6/15/2017	EAI	0.003	0.018	ND	ND	ND	ND	0.18	ND	0.008	ND	Not Require	d By Per
	9/7/2017	EAI	0.005	0.023	ND	ND	0.17	ND	0.027	ND	0.015	ND	Not Required	•
	5/15/2018	EAI	0.001	0.028	ND	ND	1.1	ND	0.28	ND	ND	ND	Not Require	d By Per
	8/29/2018	EAI	0.0015	0.022	ND	ND	1.4	ND	0.39	ND	ND	ND	Not Require	d By Per
DPH-4	6/14/2017	EAI	0.004				Not I	Required B	y Permit				23	0.02
	9/6/2017	EAI	0.003					Required B	•				20	ND
	5/16/2018	EAI	0.002	Not Required By Permit							26	ND		
	8/28/2018	EAI	0.0011				Not I	Required B	y Permit				24	ND
DPH-6	6/14/2017	EAI	0.006				Not I	Required B	y Permit				15	0.04
	9/6/2017	EAI	0.004				Not I	Required B	y Permit				15	0.01
	5/16/2018	EAI	0.004				Not I	Required B	y Permit				25	0.03
	8/28/2018	EAI	0.0039				Not I	Required B	y Permit				10	0.00
DPH-MW2D	6/15/2017	EAI						Not Re	quired By Perm	nit				
	9/8/2017	EAI						Not Re	quired By Perm	it				
	5/16/2018	EAI						Not Re	quired By Perm	it				
	8/29/2018	EAI						Not Re	quired By Perm	it				
DPH-MW6	6/15/2017	EAI	0.004	0.003	ND	ND	ND	ND	0.1	ND	ND	ND	Not Require	d By Per
	9/6/2017	EAI	0.003	0.004	ND	0.003	0.5	ND	0.013	ND	ND	ND	Not Required	l By Per
	5/15/2018	EAI	ND	0.003	ND	0.002	ND	ND	ND	ND	ND	ND	Not Required	d By Per
	8/29/2018	EAI	0.0010	0.0033	ND	0.0023	ND	ND	ND	ND	ND	ND	Not Required	1 By Per

									Perfluorinated Chemicals*				
Well	Date Sampled	Lab	Sulfate (ug/l)	Chloride (mg/l)	Nitrite-N (mg/l)	Nitrate-N (mg/l)	MtBE (ug/L)	1-4 Dioxane (ug/L)	PFBS (ng/l)	PFHxS (ng/l)	PFOA (ng/l)	PFOS (ng/l)	PFNA (ng/l)
		MCL or SMCL	250**	250**	1	10	13***	0.32					
DP-105	6/15/2017	EAI/VAL		Not :	Required By	Permit	11.0	2.8	41.2	143	425	412	6.66
	9/8/2017	EAI/VAL		Not	Required By	Permit	ND	3.7	42.3	137	353	418	8.47
	4/24/2018	EAI/VAL		Not	Required By	Permit	8.3	3.9	36.5	127	286	579	6.73
	7/24/2018	EAI/VAL		Not	Required By	Permit	7.9	3.9	40.0	128	317	571	5.71
DPH-B5	6/15/2017	EAI/VAL		Not :	Required By	Permit	2.0	0.93	12.9	47.4	98	189	ND
	9/7/2017	EAI/VAL		Not :	Required By	Permit	5.0	1.7	24.9	94.1	281	331	6.31
	4/24/2018	EAI/VAL		Not !	Required By	Permit	7.2	1.9	30.6	116	280	341	7.49
	7/24/2018	EAI		Not !	Required By	Permit	na	1.9	na	na	na	na	na
	8/29/2018	EAI/VAL		Not !	Required By	Permit	3.7	na	16.4	60.5	154	200	ND
DPH-4	6/14/2017	EAI	na	40	ND	0.9	ND		Not Required By Permit				
	9/6/2017	EAI	na	25	ND	1.0	ND		Not Required By Permit				
	5/16/2018	EAI	70	48	ND	0.76	ND		Not Required By Permit				
	8/28/2018	EAI	na	35	ND	0.88	ND		Not Required By Permit				
DPH-6	6/14/2017	EAI	na	14	ND	1.7	ND			Not Required	By Permit		
	9/6/2017	EAI	na	9	ND	1.0	ND			Not Required			
	5/16/2018	EAI	58	59	ND	0.98	ND			Not Required	•		
	8/28/2018	EAI	na	13	ND	0.57	ND			Not Required			
DPH-MW2D	6/15/2017	EAI			Required By		ND	0.26			Required By		
	9/8/2017	EAI			Required By		ND	ND			Required By		
	5/16/2018	EAI			Required By		ND	ND			Required By		
	8/29/2018	EAI			Required By		ND	ND		Not F	Required By	Permit	
DPH-MW6	6/15/2017	EAI/VAL			Required By		ND	ND	ND	ND	ND	ND	ND
	9/6/2017	EAI/VAL			Required By		ND	ND	ND	ND	ND	ND	ND
	5/15/2018	EAI/VAL			Required By		ND	ND	ND	ND	ND	ND	ND
	8/29/2018	EAI/VAL		Not	Required By	Permit	ND	ND	ND	ND	ND	ND	ND

ND: Not Detected na: not analyzed

LAB CODES: EAI = Eastern Analytical, Inc. VAL = Vista Analytical Laboratory

*EPA Health Advisory and NHDES AGQS: 70 ng/l for PFOA, PFOS, or combined PFOA and PFOS concentrations.

** EPA Secondary Maximum Contaminant Level

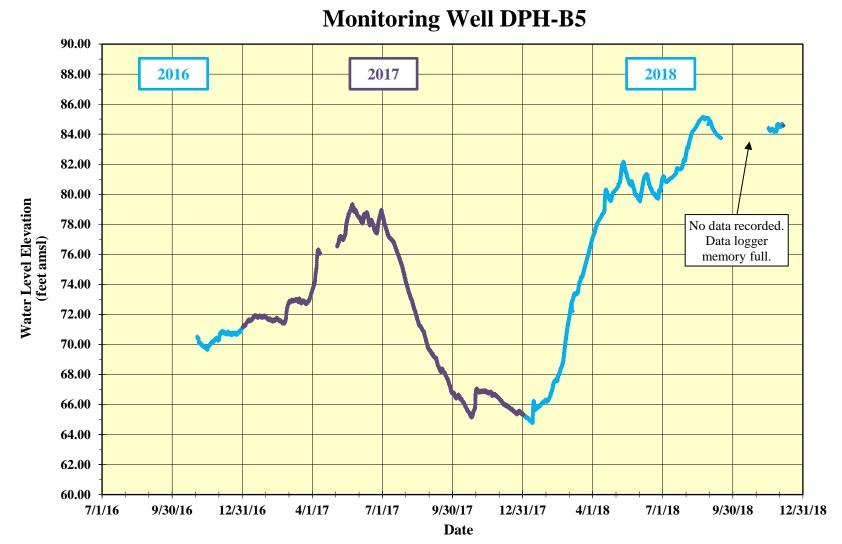
*** NHDES Ambient Groundwater Quality Standard (AGQS)

APPENDIX A WATER LEVEL DATA

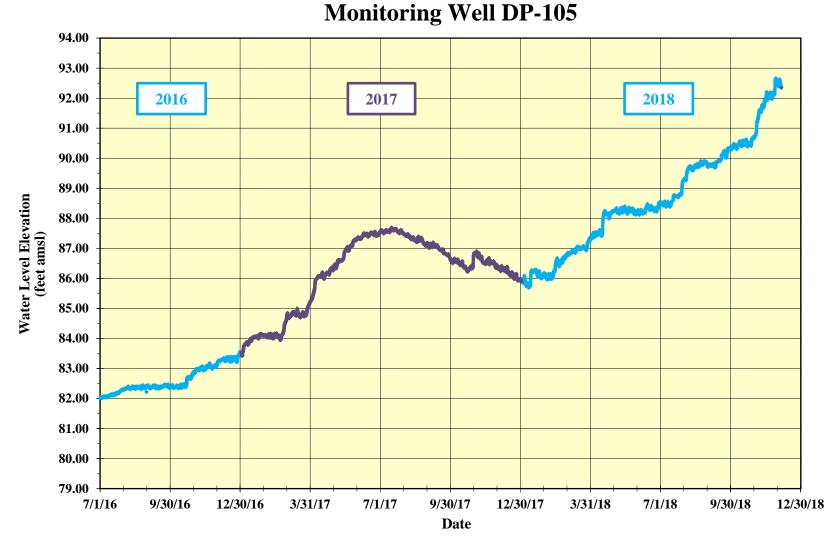
Monitoring Well DPH-MW2d 90.00 88.00 86.00 2016 2017 2018 84.00 82.00 80.00 Water Level Elevation (feet amsl) **78.00** Anomolous data due to transducer position 76.00 removed 74.00 72.00 70.00 68.00 66.00 64.00 62.00 60.00 7/1/16 9/30/16 3/31/17 7/1/17 9/30/17 12/30/17 3/31/18 7/1/18 12/30/16 9/30/18 12/30/18

Plot of Water Level versus Time for July 14, 2016 to December 31, 2018 DPH #1 Large Groundwater Withdrawal Permit Monitoring Program Dover, New Hampshire

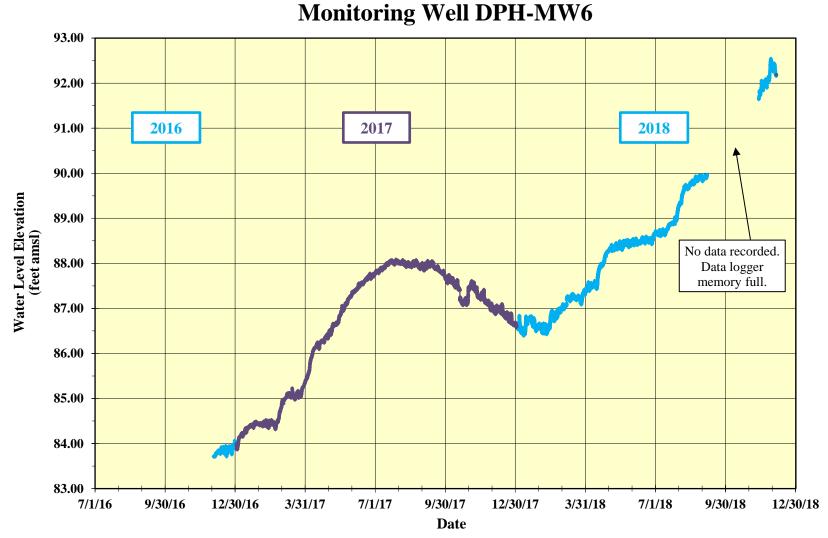
Date



Plot of Water Level versus Time for November 2, 2016 to December 5, 2018 DPH #1 Large Groundwater Withdrawal Permit Monitoring Program Dover, New Hampshire



Plot of Water Level versus Time for July 1, 2016 to December 5, 2018 DPH #1 Large Groundwater Withdrawal Permit Monitoring Program Dover, New Hampshire



Plot of Water Level versus Time for December 2, 2016 to December 5, 2018 DPH #1 Large Groundwater Withdrawal Permit Monitoring Program Dover, New Hampshire

APPENDIX B WATER QUALITY RESULTS

John Brooks
Emery & Garrett Groundwater Investigations, LLC
56 Main Street
Meredith, NH 03253

nelac =

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 181058

Client Identification: 26.01 Task 2

Date Received: 4/25/2018

Dear Mr. Brooks:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

wire Jashuw

6.1.18

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE



EAI ID#: 181058

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: 26.01 Task 2

Temperature upon receipt (°C): 0.7

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample % Matrix W		Exceptions/Comments (other than thermal preservation)
181058.01	DPH-MW1-17	4/25/18	4/24/18	aqueous		Adheres to Sample Acceptance Policy
181058.02	DPH-MW2-17	4/25/18	4/24/18	aqueous		Adheres to Sample Acceptance Policy
181058.03	DPH-MW3-17	4/25/18	4/24/18	aqueous		Adheres to Sample Acceptance Policy
181058.04	DPH-MW 4-17	4/25/18	4/24/18	aqueous		Adheres to Sample Acceptance Policy
181058.05	DPH-MW 5-17	4/25/18	4/24/18	aqueous		Adheres to Sample Acceptance Policy
181058.06	DPH-MW8 -17	4/25/18	4/24/18	aqueous	•	Adheres to Sample Acceptance Policy
181058.07	DPH-MW9-17	4/25/18	4/24/18	aqueous		Adheres to Sample Acceptance Policy
181058.08	DPH-MW10-17	4/25/18	4/24/18	aqueous		Adheres to Sample Acceptance Policy
181058.09	DPH-Ireland	4/25/18	4/24/18	aqueous		Adheres to Sample Acceptance Policy
181058.1	DPH #1	4/25/18	4/24/18	aqueous	,	Adheres to Sample Acceptance Policy
181058.11	EX4	4/25/18	4/24/18	aqueous	,	Adheres to Sample Acceptance Policy
181058.12	DPH-MW1	4/25/18	4/25/18	aqueous	,	Adheres to Sample Acceptance Policy
181058.13	DPH-B5	4/25/18	4/24/18	aqueous	ı	Adheres to Sample Acceptance Policy
181058.14	DPH-B7	4/25/18	4/25/18	aqueous	A	Adheres to Sample Acceptance Policy
181058.15	DP-105	4/25/18	4/24/18	aqueous	A	Adheres to Sample Acceptance Policy
181058.16	Trìp Blank - 8260	4/25/18	4/6/18	aqueous	A	Adheres to Sample Acceptance Policy
181058.17	Trip Blank - 1,4 Dioxane	4/25/18	3/30/18	aqueous	A	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



EAI ID#: 181058

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	DPH-B5
Lab Sample ID:	181058.13
Matrix:	
Date Sampled:	aqueous
Date Received:	4/24/18
Units:	4/25/18
Date of Analysis:	ug/L
•	4/27/18
Analyst: Method:	BAM
	8260C
Dilution Factor:	1
Dichlorodifluoromethane	< 5
Chloromethane Vinyl chloride	< 2
Bromomethane	< 2 < 2
Chloroethane	< 5
Trichlorofluoromethane	< 5
Diethyl Ether Acetone	< 5
1,1-Dichloroethene	< 10
tert-Butyl Alcohol (TBA)	< 1 < 30
Methylene chloride	< 5
Carbon disulfide	< 2
Methyl-t-butyl ether(MTBE) Ethyl-t-butyl ether(ETBE)	7.2
sopropyl ether(DIPE)	< 5 < 5
tert-amyl methyl ether(TAME)	< 5 < 5
trans-1,2-Dichloroethene	<1
1,1-Dichloroethane 2,2-Dichloropropane	< 1
cis-1,2-Dichloroethene	<1
2-Butanone(MEK)	< 1 < 10
3romochloromethane	< 1
Tetrahydrofuran(THF)	< 10
Chloroform 1,1,1-Trichloroethane	< 1
Carbon tetrachloride	<1 <1
,1-Dichloropropene	<1
Benzene	<1
I,2-Dichloroethane Frichloroethene	< 1
l,2-Dichloropropane	<1 <1
Dibromomethane	<1
Bromodichloromethane	< 0.5
,4-Dioxane I-Methyl-2-pentanone(MIBK)	< 50
is-1,3-Dichloropropene	< 10
oluene	< 0.5 < 1
rans-1,3-Dichloropropene	< 0.5
,1,2-Trichloroethane -Hexanone	< 1
-nexanone etrachloroethene	< 10
,3-Dichloropropane	<1 <1
Pibromochloromethane	<1
,2-Dibromoethane(EDB)	< 2
Chlorobenzene ,1,1,2-Tetrachloroethane	< 1
thylbenzene	<1



EAI ID#: 181058

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	DPH-B5
Lab Sample ID:	181058.13
Matrix:	aqueous
Date Sampled:	4/24/18
Date Received:	4/25/18
Units:	ug/L
Date of Analysis:	4/27/18
Analyst:	BAM
Method:	
Dilution Factor:	8260C
	1
mp-Xylene	<1
o-Xylene Styrene	< 1
Bromoform	<1
IsoPropylbenzene	<2 <1
Bromobenzene	<1
1,1,2,2-Tetrachloroethane	<1
1,2,3-Trichloropropane	< 0.5
n-Propylbenzene	<1
2-Chlorotoluene	<1
4-Chlorotoluene 1,3,5-Trimethylbenzene	<1
tert-Butylbenzene	<1
1,2,4-Trimethylbenzene	<1
sec-Butylbenzene	<1 <1
1,3-Dichlorobenzene	<1
p-Isopropyltoluene	<1
1,4-Dichlorobenzene	<1
1,2-Dichlorobenzene	<1
n-Butylbenzene	<1
1,2-Dibromo-3-chloropropane	< 2
1,3,5-Trichlorobenzene 1,2,4-Trichlorobenzene	< 1
Hexachlorobutadiene	<1
Naphthalene	< 0.5
1,2,3-Trichlorobenzene	< 5 < 1
4-Bromofluorobenzene (surr)	95 %R
1,2-Dichlorobenzene-d4 (surr)	103 %R
Toluene-d8 (surr)	95 %R
1,2-Dichloroethane-d4 (surr)	108 %R



EAI ID#: 181058

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	DP-105	Trip Blank - 8260
Lab Sample ID:	181058.15	181058.16
Matrix:	aqueous	aqueous
Date Sampled:	4/24/18	4/6/18
Date Received:	4/25/18	4/25/18
Units:	ug/L	ug/L
	4/27/18	4/27/18
Date of Analysis:		
Analyst:	BAM	BAM
Method:	8260C	8260C
Dilution Factor:	1	1
Dichlorodifluoromethane	< 5	< 5
Chloromethane	< 2	< 2
Vinyl chloride	< 2	< 2
Bromomethane	< 2	< 2
Chloroethane	< 5	< 5
Trichlorofluoromethane	< 5	< 5
Diethyl Ether	< 5	< 5
Acetone 1,1-Dichloroethene	< 10 < 1	< 10 < 1
tert-Butyl Alcohol (TBA)	< 30	< 30
Methylene chloride	< 5	< 5
Carbon disulfide	< 2	< 2
Methyl-t-butyl ether(MTBE)	8.3	< 1
Ethyl-t-butyl ether(ETBE)	< 5	< 5
Isopropyl ether(DIPE)	< 5	< 5
tert-amyl methyl ether(TAME)	< 5	< 5
trans-1,2-Dichloroethene	< 1	< 1
1,1-Dichloroethane	< 1	< 1
2,2-Dichloropropane	< 1	< 1
cis-1,2-Dichloroethene	< 1	< 1
2-Butanone(MEK)	< 10	< 10
Bromochloromethane	< 1	<1
Tetrahydrofuran(THF) Chloroform	< 10 < 1	< 10 < 1
1,1,1-Trichloroethane	< 1	< 1
Carbon tetrachloride	< 1	< 1
1,1-Dichloropropene	< 1	< 1
Benzene	< 1	< 1
1,2-Dichloroethane	< 1	, < 1
Trichloroethene	< 1	< 1
1,2-Dichloropropane	< 1	< 1
Dibromomethane	< 1	< 1
Bromodichloromethane	< 0.5	< 0.5
1,4-Dioxane	< 50	< 50
4-Methyl-2-pentanone(MIBK)	< 10	< 10 < 0.5
cis-1,3-Dichloropropene Toluene	< 0.5 < 1	< 0.5 < 1
trans-1,3-Dichloropropene	< 0.5	< 0.5
1,1,2-Trichloroethane	< 1	< 1
2-Hexanone	< 10	< 10
Tetrachloroethene	< 1	< 1
1,3-Dichloropropane	< 1	< 1
Dibromochloromethane	< 1	< 1
1,2-Dibromoethane(EDB)	< 2	< 2
Chlorobenzene	< 1	< 1
1,1,1,2-Tetrachloroethane	< 1	< 1
Ethylbenzene	< 1	< 1



EAI ID#: 181058

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	DP-105	Trip Blank - 8260
Lab Sample ID:	181058.15	181058.16
Matrix:	aqueous	aqueous
Date Sampled:	4/24/18	4/6/18
Date Received:	4/25/18	4/25/18
Units:	ug/L	ug/L
Date of Analysis:	4/27/18	4/27/18
Analyst:	BAM	BAM
Method:	8260C	8260C
Dilution Factor:	1	1
mp-Xylene	< 1	< 1
o-Xylene	< 1	< 1
Styrene Bromoform	< 1 < 2	< 1 < 2
IsoPropylbenzene	< 1	· <1
Bromobenzene	< 1	< 1
1,1,2,2-Tetrachloroethane	< 1	< 1
1,2,3-Trichloropropane	< 0.5	< 0.5
n-Propylbenzene	< 1 < 1	< 1 < 1
2-Chlorotoluene 4-Chlorotoluene	< 1	< 1
1,3,5-Trimethylbenzene	< 1	< 1
tert-Butylbenzene	< 1	< 1
1,2,4-Trimethylbenzene	< 1	< 1
sec-Butylbenzene	< 1 < 1	< 1 < 1
1,3-Dichlorobenzene p-Isopropyltoluene	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1
n-Butylbenzene	< 1	< 1
1,2-Dibromo-3-chloropropane	< 2	< 2
1,3,5-Trichlorobenzene 1,2,4-Trichlorobenzene	< 1 < 1	< 1 < 1
Hexachlorobutadiene	< 0.5	< 0.5
Naphthalene	< 5	< 5
1,2,3-Trichlorobenzene	< 1	< 1
4-Bromofluorobenzene (surr)	93 %R	96 %R
1,2-Dichlorobenzene-d4 (surr) Toluene-d8 (surr)	102 %R 91 %R	102 %R 95 %R
1,2-Dichloroethane-d4 (surr)	109 %R	108 %R
•		

EAI ID#: 181058

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	DPH-B5
Lab Sample ID:	181058.13
Matrix:	aqueous
Date Sampled: Date Received:	4/24/18 4/25/18
Units:	ug/L
Date of Analysis:	4/29/18
Analyst:	VG
Method:	8260B SIM
Dilution Factor:	1
1,4-Dioxane	1.9
4-Bromofluorobenzene (surr) Toluene-d8 (surr)	102 %R 93 %R



EAI ID#: 181058

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	DP-105	Trip Blank - 1,4 Dioxane
Lab Sample ID:	181058.15	181058.17
Matrix:	aqueous	aqueous
Date Sampled:	4/24/18	3/30/18
Date Received:	4/25/18	4/25/18
Units:	ug/L	ug/L
Date of Analysis:	4/29/18	4/29/18
Analyst:	VG	VG
Method:	8260B SIM	8260B SIM
Dilution Factor:	1	1
1,4-Dioxane 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	3.9 102 %R 94 %R	< 0.25 101 %R 94 %R



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May 30, 2018

Vista Work Order No. 1800778

Ms. Jennifer Laramie Eastern Analytical, Inc. 25 Chennell Drive Concord, NH 03301

Dear Ms. Laramie,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on April 27, 2018. This sample set was analyzed on a standard turn-around time, under your Project Name '181058 NH 4912'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.vista-analytical.com

Vista Work Order No. 1800778 Case Narrative

Sample Condition on Receipt:

Fifteen aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

PFAS Isotope Dilution Method

The following samples contained particulate and were centrifuged prior to extraction.

Sample Name
DPH-MW1-17
DPH-MW4-17
DPH-MW9-17
DPH-MW10-17

The samples were extracted and analyzed for a selected list of PFAS using the PFAS Isotope Dilution Method. This method is listed on Vista's NELAP certificate as Modifed EPA Method 537. The results for PFHxS, PFOA and PFOS include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The recoveries of PFDoA and PFTeDA were > 130% in the OPR. These analytes were not detected in the samples. The recoveries of all other analytes were within the method acceptance criteria.

The internal standard recoveries outside of the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
B8E0024-BLK1	B8E0024-BLK1	PFAS Isotope Dilution Method	13C2-PFDA	Н	56.3
B8E0024-BLK1	B8E0024-BLK1	PFAS Isotope Dilution Method	13C2-PFUnA	Н	49.4

H = Recovery was outside laboratory acceptance criteria.

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Certifications	24
Sample Receipt	25

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1800778-01	DPH-MW1-17	24-Apr-18 16:00	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-02	DPH-MW2-17	24-Apr-18 14:50	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-03	DPH-MW3-17	24-Apr-18 08:30	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-04	DPH-MW4-17	24-Apr-18 12:05	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-05	DPH-MW5-17	24-Apr-18 13:25	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-06	DPH-MW8-17	24-Apr-18 12:45	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-07	DPH-MW9-17	24-Apr-18 09:40	27-Apr-18 10:32	HDPE Bottle, 125 mL
	·			HDPE Bottle, 125 mL
1800778-08	DPH-MW10-17	24-Apr-18 11:05	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-09	DPH-Ireland	24-Apr-18 11:00	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-10	DPH#1	24-Apr-18 11:25	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-11	EX4	24-Apr-18 09:33	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-12	DPH-MW1	25-Apr-18 09:25	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-13	DPH-B5	24-Apr-18 15:45	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-14	DPH-B7	25-Apr-18 08:20	27-Apr-18 _. 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1800778-15	DP-105	24-Apr-18 13:55	27-Apr-18 10:32	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

Client Project: 181058 NH 4912

Vista Project: 1800778

ANALYTICAL RESULTS



<i>*</i>	Only the linear isomer is reported for all other analytes.	ner analytes.	Only the linear isomer is reported for all other analytes.	linear isomer is 1	Only the	control limit	Results reported to RL.	Results reported to RL.	KL - Keporting limit	Ę.	
	23-May-18 04:41	0.125 L	08-May-18	B8E0024	wii	= 150	20-	47.12	IS		13C2-PF IeDA
1	23-May-18 04:41	0.125 L	08-May-18	B8E0024	many factor of the factor of the many control of the control of		30 -	56.4	IS	Canor Comiss Vs. of CCAs wherebook a bring an account of a family or	13C2-PFDoA
	23-May-18 04:41	0.125 L	08-May-18	B8E0024			50	59,4	SI		d5-EtFOSAA
_	23-May-18 04:41	0.125 L	08-May-18	B8E0024	Ħ	- 130	- 00	49.4	IS	dien ist der eigenstellen der eigen in der	13C2-PFUnA
	23-May-18 04:41	0.125 L	08-May-18	B8E0024		50 - 150	50	59.2	IS		d3-MeFOSAA
1	23-May-18 04:41	0.125 L	08-May-18	B8E0024	H	- 130	- 00	56.3	IS	edinarioseda no sera mandana rentena entre sedes menerans tradiciones in instituto de la compansión de la comp	13C2-PFDA
	23-May-18 04:41	0.125 L	08-May-18	B8E0024		50 - 130	50	76.2	S		13C5-PFNA
	23-May-18 04:41	0.125 L	08-May-18	B8E0024	er skilling i sentrakanaka ini inerali kanish	- 130	- 09	104	IS	illeritiik aeta vadamaalakerraikamaraameera ietoorinaan soosaa	13C8-PFOS
	23-May-18 04:41	0.125 L	08-May-18	B8E0024		60 - 130	60	83.8	SI		13C2-PFOA
,	23-May-18 04:41	0.125 L	08-May-18	B8E0024		- 130	- 00	102	SI	nistanii "Hidibirania midharani istidikki Wakikkida ka ta ta	1802-PFHxS
	23-May-18 04:41	0.125 L	08-May-18	B8E0024		- 150	60-	91,3	SI		13C4-PFHpA
<u>, – </u>	23-May-18 04:41	0.125 L	08-May-18	B8E0024		- 130	70 -	92.9	SI		13C2-PFHxA
	23-May-18 04:41	0.125 L	08-May-18	B8E0024		60 - 150	60	14	S		13C3-PFBS
1	23-May-18 04:41	0.125 L	08-May-18	B8E0024	and the chart of the beautiful 1999 to a collection	- 150	- 09	wie steinschammen 0.96 0.96		o descuid despesiblement. Assessor responsabilid dum ASA transcor estimate transcor.	13C3-PFPeA
	23-May-18 04:41	$0.125\mathrm{L}$	08-May-18	B8E0024		- 130	- 00	91.6	IS		13C3-PFBA
Dilution	Analyzed L	Samp Size	Extracted 5	Batch	Qualifiers	Limits	Li	% Recovery	Туре	ards	Labeled Standards
1	23-May-18 04:41	0.125 L	08-May-18	B8E0024		4.00		ND	376-06-7		PFTeDA
	23-May-18 04:41		08-May-18	B8E0024		4.00		Ù	72629-94-8		PFTrDA
	23-May-18 04:41		08-May-18	B8E0024	The second secon	4.00	manner and the state of the sta	ND	307-55-1	reida es es es es esta face es esta esta esta esta esta esta esta	PFD0A
•	23-May-18 04:41		08-May-18	B8E0024		4.00		j	2991-50-6		EtFOSAA
-	23-May-18 04:41	19	08-May-18	В8Е0024		4.00		NU	2058-94-8		PFUnA
	23-May-18 04:41		08-May-18	B8E0024		4.00		, N	2355-31-9		MeFOSAA
	23-May-18 04:41		08-May-18	B8E0024		4.00	and the second s	UN N	335-76-2	As a consistent of a second of a large constant to the constant of the constan	PFDA
	23-May-18 04:41	0.125 L	08-May-18	B8E0024		4.00		ď	375-95-1		PFNA
1	23-May-18 04:41	0.125 L	08-May-18	B8E0024		4.00		Ä	1763-23-1	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TO SERVICE ASSESSMENT OF THE PERSON NAMED IN COLUMN TO SE	PFOS
-	23-May-18 04:41	0.125 L	08-May-18	B8E0024		4.00		TD.	335-67-1	Control of the contro	PFOA
1	23-May-18 04:41	0.125 L	08-May-18	B8E0024	ARCHA 1 620 N 1 com could de 200 N 1 2 N 644 NA 1 A	4.00	Anna Pilo e de Sal de Barado de la Comba do Como dominio como de la Companio de Sal de Companio	ND	355-46-4	Facility Codd Facility (1907) for professional model to a Americal Visual on You	PFHxS
	23-May-18 04:41	0.125 L	08-May-18	B8E0024		4.00		ND	375-85-9		PFHpA
	23-May-18 04:41	0.125 L	08-May-18	B8E0024		4.00		ND .	307-24-4		PFHxA
	23-May-18 04:41	$0.125\mathrm{L}$	08-May-18	B8E0024		4.00		Ą	375-73-5		PFBS
	23-May-18 04:41	$0.125\mathrm{L}$	08-May-18	B8E0024		4.00	TOTAL THE THE TAX I I THE TAX I THE	ND	2706-90-3	THE THE PART	PFPeA
	23-May-18 04:41	0.125 L	08-May-18	B8E0024		4,00		Ŋ	375-22-4		PFBA
Dilution	Analyzed I	Samp Size	Extracted S	Batch	Qualifiers	ŔL		Conc. (ng/L)	CAS Number		Analyte
	ВЕН С18	Column:	3LK1	B8E0024-BLK1	Lab Sample:	Lab {	Aqueous	Matrix:	c.	Eastern Analytical, Inc. 181058 NH 4912	Name: Project:
					oratory Data	Labora					Client Data
lethod	PFAS Isotope Dilution Method	PFAS Ison				•				Sample ID: Method Blank	Sample ID: 1
	170										

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Sample ID: OPR									PFAS Is	PFAS Isotope Dilution Method	Method
Client Data					Labo	boratory Data					
Name: Ea	Eastern Analytical, Inc. 181058 NH 4912	Matrix:	Aqueous		Lab	b Sample:	B8E0024-BS1	-BS1	Column:	BEH C18	
Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	86.1	80.0	108	70-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	111111
PFPeA	2706-90-3	82.3	80.0	103	70-130	Silver Si	B8E0024	08-May-18	0.125 L	23-May-18 04:30) 1
PFBS	375-73-5	86.5	80.0	108	70-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	
PFHxA	307-24-4	87.8	80.0	110	70-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	1
PFHpA	375-85-9	84.9	80.0	106	70-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	
PFHxS	355-46-4	89.1	80.0	111	70-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	_
PFOA	335-67-1	84.7	80.0	106	70-130		B8E0024	08-May-18	0.125 L	23-May-18 04;30	——————————————————————————————————————
PFOS	1763-23-1	82.5	80.0	103	70-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	
PFNA	375-95-1	82.5	80.0	103	70-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	1
PFDA	335-76-2	98.1	80.0	123	70-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	7
MeFOSAA	2355+31-9	89.5	80.0	112	70-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	
PFUnA	2058-94-8	92.7	80.0	116	70-130	State of the second desiration of the second second	B8E0024	08-May-18	0.125 L	23-May-18 04:30	–
EtFOSAA	2991-50-6	100	80.0	125	70-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	
PFD ₀ A	307-55-1	116	80.0	145	70-130	Н	B8E0024	08-May-18	0.125 L	23-May-18 04:30	1
PFTrDA	72629-94-8	101	80.0	126	60-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	_
PFTeDA	376-06-7	114	80.0	143	70-130	Н	B8E0024	08-May-18	0.125 L	23-May-18 04:30	
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		SI		103	60 130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	_
13C3-PFPeA	enterdande en de normane en ekondar en dadage en en autor dada da en enterdan out en anterdade en en en de des En en	IS	A CANADA A C	104	60- 150		B8E0024	08-May-18	$0.125\mathrm{L}$	23-May-18 04:30	_
13C3-PFBS		SI		108	60- 150		B8E0024	08-May-18	0.125 L	23-May-18 04:30	1
13C2-PFHxA		S		98.6	70- 130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	_
13C4-PFHpA		IS		102	60- 150		B8E0024	08-May-18	0.125 L	23-May-18 04:30	_
1802-PFHxS		SI		98.0	60- 130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	_
13C2-PFOA		ĪŠ		86,1	60-130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	_
13C8-PFOS		IS		105	60- 130	and the state of t	B8E0024	08-May-18	0.125 L	23-May-18 04:30	-
13C5-PFNA		SI		87.9	50-130		B8E0024	08-May-18	$0.125\mathrm{L}$	23-May-18 04:30	
13C2-PFDA		SI	and the second description of the second	63.2	60- 130		B8E0024	08-May-18	0.125 L	23-May-18 04:30	_
d3-MeFOSAA		S		76.5	50 150		B8E0024	08-May-18	0.125 L	23-May-18 04:30	_
13C2-PFUnA		SI		64.0			B8E0024	08-May-18	0.125 L	23-May-18 04:30	—
d5-EtFUSAA		SI		73.7	50-150		B8E0024	08-May-18	0.125 L	23-May-18 04:30	
13C2-PFD0A		IS		50.0			B8E0024	08-May-18	0.125 L	23-May-18 04:30	-
13C2-PF IeDA		JS		58.5	20- 150		B8E0024	08-May-18	0.125 L	23-May-18 04:30)



Dilut Dilut Eastern Analytical, Inc. Eastern Analytical, Inc. CAS Number Conc. (ng/L) Eastern Analytical, Inc. Date Collected: 24-App-18 15:45 Date Receive Date Collected: 24-App-18 15:45 Date Receive Date Collected: 24-App-18 15:45 Date Receive Date Receive Date Collected: 24-App-18 15:45 Date Receive Date Receive	nd branched isomers.	When reported, PFHxS, PFOA and PFOS include both linear and branched isomers Only the linear isomer is reported for all other analytes.	When reported, PFHxS, PFOA and PFOS include both Only the linear isomer is reported for all other analytes.	inear isomer is	When rep Only the l	nit	LCL-UCL- Lower control limit - upper control limit Results reported to RL.	LCL-UCL- Lower cont Results reported to RL.		RL - Reporting limit	RI.	
Dilat Dila	May-18 07:45 1	0,120 L 23-	08-May-18	B8E0024			20 - 150	3.9	6	Z		13CZ-PF IeDA
DBH DBH	-May-18 07:45 1		08-May-18	B8E0024	definer of a chief and the action of the act			0.0		5	dollare des despesares de la presenta de la companya del companya de la companya de la companya del companya de la companya del companya de la companya de la companya de la companya de la companya del companya de la companya del companya del companya del companya de la companya del companya de	ISC2-PFD0A
Data	may 10 07.70		00 16 10	ויייסטיייס			20 120	0.6		TC		12C3 DED-A
Data	May-18 07-45		08-May-18	R8F0024				2		3		d5-EtFOSAA
Data	May-18 07:45 1		08-May-18	B8E0024				2.3	8	IS		13C2-PFUnA
Datis Dati	May-18 07:45 1		08-May-18	B8E0024			50 - 150	2.6	9	5		d3-MeFOSAA
Delity D	May-18 07:45 1		08-May-18	B8E0024			60 - 130	9.0	7	5		13C2-PFDA
Data	May-18 07:45 1		08-May-18	B8E0024				22		Į.		13C3-PFNA
Delta Delt	·iviay-18 07:45 1		06-1418y-16	D6EUU24	and the second s	A Company of the Comp			Personal development of the	OT OT		TOCO-TIOD
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Delta Delt	_		08-May-18	B8E0024				05	_	IS		1802-PFHxS
Data			08-May-18	B8E0024				02		IS		13C4-PFHpA
Date Eastern Analytical, Inc. Eastern Analytical, Inc. Eastern Analytical, Inc. CAS Number Comc. (ng/L) Aqueous Laboratory Data Laboratory	May-18 07:45 1		08-May-18	B8E0024			70 - 130	7.4	9	SI		13C2-PFHxA
Data Eastern Analytical, Inc. Matrix: Aqueous	May-18 07:45 1		08-May-18	B8E0024			60 - 150	80		S		I3C3-PHBS
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Data Laboratory Data Lab	May-18:07:45 1		08-May-18	B8E0024		4.18		ŧ		2991-50-6		EtFOSAA
Data	May-18 07:45 1		08-May-18	B8E0024		4.18		Ð		2058-94-8		PFUnA
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Data Laboratory Data Laboratory Data Laboratory Data Laboratory Data Eastern Analytical, Inc. Laboratory Data Laboratory Data Laboratory Data Eastern Analytical, Inc. Lab Sample: 1800778-13 Column: BEH C18 t: 181058 NH 4912 CAS Number Conc. (ng/L) RL Qualifiers Batch Extracted Samp Size Analyzed te CAS Number Conc. (ng/L) RL Qualifiers Batch Extracted Samp Size Analyzed 27706-90-3 68.1 4.18 B8E0024 08-May-18 0.120 L 23-May-18 07-45 307-24-4 104 4.18 B8E0024 08-May-18 0.120 L 23-May-18 07-45 355-46-4 116 4.18 B8E0024 08-May-18 0.120 L 23-May-18 07-45	May-18 07:45 1		08-May-18	B8E0024		4.18		380	K	335-67-1		PFOA
Data Eastern Analytical, Inc. Eastern Analytical, Inc. CAS Number Conc. (ng/L) Eastern Analytical S75-22-4 S75-73-5 S07-24-4 104 S75-85-9 6615 S66 S75-73-5 S66 S66 S75-73-5 S66 S66	May-18 07:45 1		08-May-18	B8E0024		4.18	ediodes en l'enforce des Maries (Vallande) de l'annoise de l'annoise de l'annoise de l'annoise de l'annoise de	[16]	_	355-46-4	decounted for the third the test of and satisfies the field of	PFHxS
PAS Isotope Dilution N Data Laboratory Data Laboratory Data Laboratory Data Laboratory Data Eastern Analytical, Inc. Matrix: Aqueous Lab Sample: 1800778-13 Column: BEH C18 Et: 181058 NH 4912 CAS Number Conc. (ng/L) RL Qualifiers Batch Extracted Samp Size Analyzed te CAS Number Conc. (ng/L) RL Qualifiers Batch Extracted Samp Size Analyzed te B8E0024 08-May-18 0.120 L 23-May-18 07:45 375-73-5 30.6 418 B8E0024 08-May-18 0.120 L 23-May-18 07:45 307-24-4 104 418 B8E0024 08-May-18 0.120 L 23-May-18 07:45	May-18 07:45 1		08-May-18	B8E0024		4.18		15	6	375-85-9		PFHpA
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n Analytical, Inc. Matrix: Matrix: Aqueous Laboratory Data Lab Sample: 1800778-13 8 NH 4912 Date Collected: 24-Apr-18 15:45 Date Received: 27-Apr-18 10:32	ŀ	Samn Size		Ratch	Onglifiere	<u>.</u>		no/L)	Conc.	CAS Number		Analyta
Analytical Inc. Matrix: Aqueous Laboratory Data	BEH CIO	Condina.	10:32	27-Apr-18		Dat	24-Apr-18 15:45	ollected:		•	181058 NH 4912	Project:
		2	,	1800778-1	oratory Data	Lab	Armeons	Matrix:		76	Fastern Analytical Ti	Client Data
		1										-
	e Dilution Method	PFAS Isotop									PH-B5	Sample ID: D



									Sugue dibaday	Darata
Sample ID: DP-105	P-105							PFAS Iso	PFAS Isotope Dilution Method	lethod
Client Data					Laboratory Data					
Name:	Eastern Analytical, Inc.		Matrix:	Aqueous	Lab Sample:	1800778-15	5	Column:	BEH C18	
Project:	181058 NH 4912		Date Collected:	Date Collected: 24-Apr-18 13:55	Date Received:	27-Apr-18 10:32	10:32			
Analyte		CAS Number	Conc. (ng/L)		RL Qualifiers	Batch	Qualifiers Batch Extracted Samp Size	Samp Size	Analyzed Dilution	Dilution
PFBA		375-22-4	53.8		4.14	B8E0024	08-May-18	0.121 L	B8E0024 08-May-18 0.121 L 23-May-18 08:30 1	
-	entre de la contrata	2706-90-3				B8E0024	08-May-18	0.121 L	23-May-18 08:30	_
PFBS		375-73-5	36,5	4.14		B8E0024	08-May-18	0,121 L	23-May-18 08:30	

•	and Commented Rockholds.	her analytes.	Only the linear isomer is reported for all other analytes.	inear isomer is r	Only the li		to RL.	Results reported to RL.	•		
	When reported PFHxS. PFOA and PFOS include both linear and branched isomers	ichide both lines	FOA and PFOS in	orted PFHxS. P	When repo	per control limit	CL-UCL- Lower control limit - upper control limit	LCL-UCL- Low	RL - Reporting limit	RL	
	23-May-18 08:30		08-May-18			20 - 150		58,7	\mathbf{IS}		13C2-PFTeDA
	23-May-18 08:30	$0.121\mathrm{L}$	08-May-18	B8E0024		30 - 130	And the first of t	79.7		destroyer on the rote or travel otherwise extensive texts and humanismeter space	13C2-PFDoA
	23-May-18 08:30	0.121 L	08-May-18	B8E0024		50 - 150		94,2			d5-EtFOSAA
1	23-May-18 08:30	0.121 L	08-May-18	B8E0024		60 - 130		75.0	SI		13C2-PFUnA
-	23-May-18 08:30	0.121 L	08-May-18	B8E0024		2000		85.4	S		d3-MeFOSAA
<u>,</u>	23-May-18 08:30	0.121 L	08-May-18	B8E0024		60 - 130		74.1	SI	The first of the species of the second control of the second contr	13C2-PFDA
-	23-May-18 08:30	0.121 L	08-May-18	B8E0024				80,6	15		13C5-PFNA
_	23-May-18 08:30	$0.121~\mathrm{L}$	08-May-18	B8E0024	dender odere fan til of til bod a soder G	60 - 130	Control to the Arthresian States and Control		SI	a Marchael Marchael Committee O'Sonbridg's in Smorther Marchael Ma	13C8-PFOS
,	23-May-18 08:30	0.121 L	08-May-18	B8E0024		60 - 130		85,0	S		13C2-PFOA
_	23-May-18 08:30	$0.121\mathrm{L}$	08-May-18	B8E0024		60 - 130		103	SI	and and the state of the state	1802-PFHxS
	23-May-18 08:30	0.121 L	08-May-18	B8E0024		60 + 150		105	S		13C4-PFHpA
_	23-May-18 08:30	0.121 L	08-May-18	B8E0024		70 - 130		98.3	SI		13C2-PFHxA
	23-May-18 08:30	0.121 L	08-May-18	B8E0024		60 - 150		118	IS	A Committee of the Comm	13C3-PFBS
_	23-May-18 08:30		08-May-18	B8E0024	where he of the former and belond to be a	60 - 150	adding the education days of explanate the condition	104	IS	Weekly he have been been as the four changes of the factor	13C3-PFPeA
1	23-May-18 08:30		08-May-18	B8E0024		60 - 130		91,4	S		13C3-PFBA
Dilution		Samp Size	Extracted	Batch	Qualifiers	Limits		% Recovery	Type	lards	Labeled Standards
	23-May-18 08:30	$0.121\mathrm{L}$	08-May-18	B8E0024		4.14		ND	376-06-7		PFTeDA
-	23-May-18 08:30	$0.121\mathrm{L}$	08-May-18	B8E0024		4.14		Ŋ	72629-94-8		PFTrDA
_	23-May-18 08:30	0.121 L	08-May-18	B8E0024		4.14		ND	307-55-1	and the second s	PFD ₀ A
	23-May-18 08:30	0.121 L	08-May-18	B8E0024		4,14		D	2991-50-6		EtFOSAA
_	23-May-18 08:30		08-May-18	B8E0024		4.14		ND	2058-94-8		PFUnA
_	23-May-18 08:30	0.121 L	08-May-18	B8E0024		4,14		ŊD	2355-31-9		MeFOSAA
_	23-May-18 08:30	0.121 L	08-May-18	B8E0024		4.14		ND	335-76-2	Book of the court	PFDA
-	23-May-18 08:30	0.121 L	08-May-18	B8E0024		4.14		6.73	375-95-1		PFNA
_	23-May-18 08:30	$0.121~\mathrm{L}$	08-May-18	B8E0024		4,14		579	1763-23-1	Company of the first and the form of the first of the fir	PFOS
	23-May-18 08:30		08-May-18	B8E0024		4.14		286	335-67-1		PFOA
_	23-May-18 08:30		08-May-18	B8E0024		4.14		127	355-46-4	el VII control Changon della francia con del condustra della colonia como con con con con con con con con con co	PFHxS
+	23-May-18 08:30		08-May-18	B8E0024		4,14		72.4	375-85-9		PFHpA
_	23-May-18 08:30		08-May-18	B8E0024		4.14		150	307-24-4		PFHxA
	23-May-18 08:30	0,121 L	08-May-18	B8E0024		4.14		36.5	375-73-5		PFBS
_	23-May-18 08:30		08-May-18	B8E0024		4.14		85.1	2706-90-3	monthematical properties and the contraction of the	PFPeA
	23-May-18 08:30	0.121 L	08-May-18	B8E0024		4,14		53.8	375-22-4		PFBA
Dilution	Analyzed L	Samp Size	Extracted	Batch	Qualifiers	ŔĹ		Conc. (ng/L)	CAS Number	,	Analyte
			10:32	27-Apr-18 10:32	Date Received:		ed: 24-Apr-18 13:55	Date Collected:		181058 NH 4912	Project:
	BEH C18	Column:	ر	CI-0//0001	Jau Sampie.	Laur	Aqueous	TATOMIA.	č	maniferent i kniert i troent, an	i contract.

Page 22 of 29

DATA QUALIFIERS & ABBREVIATIONS

B This compound was also detected in the method blank

Conc. Concentration

D Dilution

DL Detection limit

E The associated compound concentration exceeded the calibration range of

the instrument

H Recovery and/or RPD was outside laboratory acceptance limits

I Chemical Interference

J The amount detected is below the Reporting Limit/LOQ

LOD Limits of Detection

LOQ Limits of Quantitation

M Estimated Maximum Possible Concentration (CA Region 2 projects only)

NA Not applicable

ND Not Detected

Q Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)

TEQ Toxic Equivalency

U Not Detected (specific projects only)

* See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.



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Page 1

Sample ID	Date Sampled Matrix	ix aParameters 180778	0.0% Sampl	Sample Notes	, (1)
DPH-WW1-17	4/24/2018 aquec 16:00	aqueous Subcontract - Perfluorinated Compounds EPA Method 537			
DPH-MW2-17	4/24/2018 aqueo 14:50	aqueous Subcontract:- Perfluorinated Compounds EPA Method 537			
DPH-WW3-17	4/24/2018 aque	aqueous Subcontract - Perfluorinated Compounds EPA Method 537			
DPH-WW4-17	4/24/2018 aque	aqueous Subcontract - Perfluorinated Compounds EPA Method 537			:

		Account #
16 Compo	El Dorado Hills, CA 95762	Address
Email login confi	1104 Windfield Way	Address
Notes about pr	Company Vista Analytical Laboratory	Company
QC Deliverable	Project ID: 4912	
	81058 Project State: NH	EAI ID# 181058

Results Needed: Preferred Date: Standard		
RUSH Due Date:	PO#.47922	EALID# 181058
QC Deliverables		
⊠A □A+ □B □B+ □C □PC	If RUSH charges wi	If RUSH charges will be applied, please call prior to
Notes about project:	analyzing.	
Email login confirmation, pdf of results and		
invoice to customerservice@easternanalytical.com.	Samples Collected by:	
16 Compound List	When Lylman	John Jelonary 4/20/18 1530 UPS
	Relinguished by	wished by Date/Time Received by

6

Phone # (916) 673-1520

Relinquished by

Date/Time

Received by



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Sample ID	Date Sampled Matrix	od Matrix aParameters (象の子子の	EAI ID# 181058 Sample Notes	Page 2
DPH-MW5-17	4/24/2018 13:25	aqueous Subcontract - Perfluorinated Compounds EPA Method 537		
DPH-MW8-17	4/24/2018 12:45	aqueous Subcontract - Perfluorinated Compounds EPA Method 537		AMAZAR EGA APPARETTAR FOR APPARETTAR
DPH-MW9-17	4/24/2018: 9:40	aqueous Subcontract - Perfluorinated Compounds EPA Method 537		
DPH-MW10-17	4/24/2018	aqueous Subcontract - Perfluorinated Compounds EPA Method 537		

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

1-800-287-0525

customerservice@easternanalytical.com

As a subcontract lab to EAL, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of your appropriate lab, your officers, agents or employees



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professional laboratory and drilling services

EAID# 181058

Page 3

Sample ID	Date Sampled Matrix	aParameters	1800778	The state of the s	Sample Notes	e e
DPH-Ireland	4/24/2018 aqueous \$ 11:00	aqueous Subcontract - Perfluorinated Compounds EPA Method 537	Methad 537			
DPH #1	4/24/2018 aqueous S 11:25	aqueous Subcontract - Perfluorinated Compounds EPA Method 537	Method 537			Reform transfer statement
EX4	4/24/2018 aqueous 8 9:33	aqueous Subcontract - Perfluorinated Compounds EPA Method 537	Method 537			
DPH-WW1	4/25/2018 aqueous 5	aqueous Subcontract - Perfluorinated Compounds EPA Method 537	Method 537			Commence of the Commence of th

		Results Needed: Preferred Date: Standard		
EMID# 101030	Project State: NH	RUSH Due Date:	PO #:4/922 EAI ID# 181058	1058
		QC Deliverables		
	Flojectio: 4912	⊠A □A+ □B □B+ □C □PC	If RUSH charges will be applied, please call prior to	vlease call prior to
Company	Vista Analytical Laboratory	Notes about project:	analyzing.	
Address	1104 Windfield Way	Email login confirmation, pdf of results and		
Address	El Dorado Hills, CA 95762	mxorce to customerservice@easternanalyucal.com.	Samples Collected by:	1
Account #		To compound List	Relinquished by Date/Time Received	Received by
Phone #	Phone # (916) 673-1520		UPS outstill use that went	Wild March

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

1-800-287-0525

Relinquished by

customerservice@easternanalytical.com

Date/Time

Received by

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of your as 8000/99 intract lab; your officers, agents or employees Page 27 of 29



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professional laboratory and drilling services

EAI ID# 181058

Page 4

Sample ID	Date Sampled Matrix aParameters (ものの子子的	Sample Notes
DPH-B5	4/24/2018 aqueous Subcontract - Perfluorinated Compounds EPA Method 537	
DPH-B7	4/25/2018 aqueous Subcontract - Perfluorinated Compounds EPA Method 537 8:20	
DP-105	4/24/2018 aqueous Subcontract - Perfluorinated Compounds EPA Method 537	

EAI ID# 181058	81058 Project State: NH	Results Needed: Preferred Date: Standard	PO #-47922 FAI ID# 181058
	Ť	RUSH Due Date:	TO #, 4/922 EAI ID# 101030
	Project ID: 4912	MA DA+ DB DB+ DC DPC	If RUSH charges will be applied, please call prior to
Company	Vista Analytical Laboratory	Notes about project:	analyzing.
	1104 Windfield Way	Email login confirmation, pdf of results and invoice to customerservice@easternanelytical.com.	Samples/Collected by:
Address	El Dorado Hills, CA 95/62	16 Compound List	Mon Johns 4/26/18 1530 UPS
Account #			Relinquished by Date/Time Received by
Phone #	Phone # (916) 673-1520	_	11115 04/23/18 1423 /3/8 Ad Bunco

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

1-800-287-0525

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customerservice@easternanalytical.com

Date/Time

Received by

As a subcontract lab to EAL, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions. On the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions. On the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions. Page 28 of 29



Sample Log-in Checklist

Vista Work Orde	or#:180	<u> </u>			тат <u></u> Я	
Samples	Date/Time 04/	27/18	Initials:	L	ocation: We-2	
Arrival:	04/26/as 1	032	YNB	9	Shelf/Rack: <i>NA</i>	·
	Date/Time		Initials:	L	ocation: WE-2	}
Logged In:	04/27/10 1	437	BLB	5	Shelf/Rack: F3	>
Delivered By:	FedEx UPS	On Tra	c GSO	DHL	Hand Delivered	Other
Preservation:	(Ice)	Blu	e Ice		Dry Ice	None
Temp °C: 0.1	(uncorrected) T	ime: /	116			in 4
Temp °C: 0.0	(corrected) P	robe use	d: Yes□ I	Note	hermometer ID:	IK-4

				11110	YES	NO	NA
Adequate Sample Volume Re	ceived?	•					
Holding Time Acceptable?							
Shipping Container(s) Intact?					V		/
Shipping Custody Seals Intac	t?		V		,		
Shipping Documentation Pres	ent?						
Airbill Trk#	12×4650	190199	765 68 7	16	/سا	<i>t</i> .	
Sample Container Intact?					V		
Sample Custody Seals Intact	?						
Chain of Custody / Sample Do	ocumentation Pre	sent?			V		
COC Anomaly/Sample Accep	tance Form comp	leted?				V	1
If Chlorinated or Drinking Wat	er Samples, Acce	ptable Pres	servation?				
Preservation Documented:	Na₂S₂O₃	Trizma	None		Yes	No	NA
Shipping Container	Vista (Client	Retain	Ret	urn	Disp	ose

Comments:

181058

4000	REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR GWP, OIL FUND, BROWNFIELD OR OTHER:	STATE: (NH) MA ME VT	76.01 Task	SITE NAME:	0	PHONE (603) 279-4425	2006	ADDRESS: 56 May, St	John 1	PRESERVATIVE: H-HCL; N-HNO; S-H ₂ SO; Na-NaOH; M-MEOH	MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER;	DPH - MW 10-17 4/0	DON - MW9- 17 4	1/4 TI-8 MM - HIZ	2/4 t1-5 mm - MdC	12 1 - HMW - HGD	7911-MW3-17 4/29	7 + 1-10M-HAG	DPH-MW1-17	SAMPLE I.D. ST			Page of
	OTHER:	OTHER:	2				STATE: NH ZI	th Goundwittes Laussigation/QC	11,	t; M-MEOH	JRFACE WATER; DW-DRINKIN	20:18 @ 11:05	74/18 @ 9:40	4/24/18 @ 12:45	15:15	1 6 12:05	4/11 @ 8:30	124/18 @ 14:50	74/10 @ 14:20 CM	*IF COMPOSITE, INDICATE BOTH START & FINISH DATE / TIME			2000
						EXT.:	Ş	1			G WATE	+							3	Matrix (SI	EE BELOW OMPOSITI	_	SOLD
	= 14						IP: 03253	nust gath	\ <u></u>		η;	x	×	×	X	×	œ	æ	*(524.2 524.2 BTEX 524	1.2 MTBE ONLY TICS HALOS	VOC	BOLD FIELDS REQUIRED.
DELINOHIGHED DV	RELINQUISHED BY:	RELINQUISHED BY:	SAMPLER(S): Jos Enk	7	Presumptive Certainty		>	QA/QC REPORTING LEVEL	DATE NEEDED:											8015 GRO MAVI		_(0)	EQUII
	ELINQUISHED BY:	UISHEI	<i>ا</i> م څ	=	APTIVE	Q _R	_		Z											8270 625 SYTIC ABN A BN	S EDB DBC Pah	P	RED.
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Ì	2	E	Cal		TAINT.		0			-										8015 DRO MAE PEST 608 PC	B 608	10	PLEASE CIRCLE REQU
DATE.	DATE:	DATE:	1	_	~															PEST 8081 PC OIL & GREASE 1664	TPH 1664		CER
	: 3	1/2		\	E-MAIL	ELECT		PREPO												TCLP 1311 ABN VOC PEST HE	METALS RB	ТСГЪ	C
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IME.	13:05 20:61	11.55 TIME:	tal	•	¥	OPT		OPTIC OR NO												TOTAL METALS (LIST	BELOW)	ALS	UES
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	h	Z 6	1 of	ì			,		0											pH T. Res. CHLOR		GAL	SIS.
	8	of Liter	246					8												COD PHENOLS	TOC DOC	VIICS	
		ىد	12	<u>.</u>				<u> </u>	<u></u>												AL SULFIDE	S	
	SITE HISTORY: Suspected Co					Notes:	SAMP	OTHER	METALS:			<u> </u>								Flashpoint Ignita	REACTIVE SULFIDE BILITY . COLI		
EIEID BEADINGS	SITE HISTORY:SUSPECTED CONTAMINATION:					(IE: SPE	SAMPLES FIELD	Other Metals:	LS:											FECAL COLIFORM ENTEROCOCCI		MICRO	l _
ŕ	MIMATINA					CIAL DE	ELD	Ï	8 RCRA	-		4	+	4	*	+	ታ	*	4	HETEROTROPHIC PLATE		õ O	ŀ
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						INFO, II	YES		₹ 											ME Z			
						NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)	NS NS		PB, CU							_				Notes MeOH Vial #			4 O _l

professional laboratory and drilling services Eastern Analytical, Inc.

25 CHENELL DRIVE CONCORD, NH 03301 Tel: 603.228.0525 1.800.287.0525 E-Mail: CustomerService@EasternAnalytical.com www.EasternAnalytical.com

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

181058

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

	QUOTE #:	REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR GWP, OIL FUND, BROWNFIELD OR OTHER:	MA ME	PROJECT #: 26.01 Task	iii	E-MAIL: eggiococy: .com	PHONE: (603) 277 - 6		ADDRESS: 56 Mada St	5	Preservative: H-HCL; N-HNO3; S-H2SO4; Na-NaOH; M-MEOH	MATRIX: A-AIR; S-Soil; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER			DP-105	78- M34	DAN- B5	_	EXA	3PH #1	DAH-TRELAND	SAMPLE I.D.		
	P0 #:	POTW STORMWATER OR FIELD OR OTHER:	VT OTHER:	ch 2		3	4425	TATE: VE	surrell Groundwater Investigation	Broks	Na-NaOH; M-MEOH	R; SW-SURFACE WATER; DW-DRINKI		(6)	4/24/18 1355	16/25/18 a 8:00	1/24/18 @ 15:4/5	4/25/18 @ 8:25	4/24/10 @ 9.33	4/21/18 @ 11:08	(00:11 @ b) 12 12	INDICATE BOTH START & FINISH DATE/TIME	SAMPLING DATE / TIME	
							EXT.:	IP: 03 253	Inves			NG WATER;		+	£ 1						E.		SEE BELOW) COMPOSITE	
								ස							×	×	メ	ン	×	*	× (8260 624 I, 4 DIOXANE	24.2 MTBE ONLY VTICs	VOC
RELINQUISHED BY:	WELLINGOLDHED DI.	Street by		SAMPLER(S): Joy-Ene		PRESUMPTIVE CERTAINTY	•	>	QA/QC REPORTING LEVEL	DATE NEEDED:			F									8021 BTEX 8015 GRO MA 8270 625 SVT ABN A BN	HALOS VPH ICs EDB DBCP PAH	
ED BY:		_		2,20	f i	E CERTAI	O _R	,	Level	EDED:												TPH8100 LI	L2 EPH	SVOC
DATE:		1-25-)8	125 - 125	100/2	4			<u></u>														PEST 608 P PEST 8081 P OIL & GREASE 166	CB 608 CB 8082 4 TPH 1664	0
			85	1025100		E-MAIL	ELECTRONIC OPTIONS		REPORTING OPTION PRELIMS: YES OR NO													TCLP 1311 AB VOC PEST DISSOLVED METALS	HERB	TCLP METAI
Time:	į	20.05	11:85			PDF	іс ОРТІ	:	G OPTIONS													TOTAL METALS (LIST		TALS
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RECEIVED BY:	Ġ	NACENTED DE		7	Ú	EXCEL	•		ICE?	TEMP													T. ALK. PHOS. O. PHOS.	ORG/
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=		Sın	C B	2 6	7			15		^ 												REACTIVE CYANIDE	OTAL SULFIDE REACTIVE SULFIDE	S
FIELD READINGS:	SUSPECTED CONTAMINATION:	SITE HISTORY:)TES: (IE: SI	SAMPLES FIELD FILTERED?	Other Metals:	METALS:												Total Coliform Fecal Coliform	TABILITY E. Coli	MIC
ହି 	ANIMATNO.						ecial Dei	FIELD	 	8 RCRA	-				>	メ	*	*	メ	7		ENTEROCOCCI HETEROTROPHIC PLAT		8
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							IF DIFFEREN	N N		PB, CI												NEOH VIAL #		

Eastern Analytical, Inc. professional laboratory and drilling services

25 Chenell Drive | Concord, NH 03301 | Tel: 603.228.0525 | 1.800.287.0525 | E-Mail: CustomerService@EasternAnalytical.com | www.EasternAnalytical.com

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)



John Brooks
Emery & Garrett Groundwater Investigations, LLC
56 Main Street
Meredith, NH 03253



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 181987

Client Identification: DPH | 33.0083021.00 Task 5

Date Received: 5/16/2018

Dear Mr. Brooks:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

6.7.18

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE



EAI ID#: 181987

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH | 33.0083021.00 Task 5

Temperature upon receipt (°C): 4.1

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

						•
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Matrix W	•	Exceptions/Comments (other than thermal preservation)
181987.01	DPH-105	5/16/18	5/15/18	aqueous		Adheres to Sample Acceptance Policy
181987.02	DPH-B5	5/16/18	5/15/18	aqueous		Adheres to Sample Acceptance Policy
181987.03	DPH-MW6	5/16/18	5/15/18	aqueous		Adheres to Sample Acceptance Policy
181987.04	DPH-6	5/16/18	5/16/18	aqueous		Adheres to Sample Acceptance Policy
181987.05	DPH-4	5/16/18	5/16/18	aqueous		Adheres to Sample Acceptance Policy
181987.06	DPH-MW2D	5/16/18	5/16/18	aqueous		Adheres to Sample Acceptance Policy
181987.07	Trip Blank	5/16/18	3/30/18	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992

LABORATORY REPORT



EAI ID#: **181987**

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH | 33.0083021.00 Task 5

Sample ID:	DPH-MW6	DPH-MW2D	Trip Blank	
l ah Camula ID:	181987.03	181987.06	181987.07	
Lab Sample ID:	101907.03	101907.00	10.1901.01	
Matrix:	aqueous	aqueous	aqueous	
Date Sampled:	5/15/18	5/16/18	3/30/18	
Date Received:	5/16/18	5/16/18	5/16/18	
Units:	ug/L	ug/L	ug/L	
Date of Analysis:	5/17/18	5/17/18	5/17/18	
Analyst:	VG	VG	VG	
Method:	8260B SIM	8260B SIM	8260B SIM	
Dilution Factor:	1	1	1	
1,4-Dioxane 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	< 0.25 104 %R 101 %R	< 0.25 103 %R 101 %R	< 0.25 103 %R 101 %R	

\mathcal{M}

LABORATORY REPORT

EAI ID#: 181987

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH | 33.0083021.00 Task 5

Sample ID:	DPH-4	DPH-6	
Lab Sample ID:	181987.05	191097.04	
•	161967.05	181987.04	
Matrix:	aqueous	aqueous	
Date Sampled:	5/16/18	5/16/18	Analysis
Date Received:	5/16/18	5/16/18	Units Date Time Method Ana
Sulfate	70	58	mg/L 5/21/18 19:57 300.0 k
Chloride	48	59	mg/L 5/17/18 9:47 4500CIE-97 K
Nitrite-N	< 0.5	< 0.5	mg/L 5/17/18 9:47 353.2 K
Nitrate-N	0.76	0.98	mg/L 5/17/18 9:47 353.2 K

LABORATORY REPORT



EAI ID#: 181987

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH | 33.0083021.00 Task 5

Sample ID:	DPH-105	DPH-B5	DPH-MW6					
Lab Sample ID:	181987.01	181987.02	181987.03					
Matrix:	aqueous	aqueous	aqueous					
Date Sampled:	5/15/18	5/15/18	5/15/18	Analytical		Date of		
Date Received:	5/16/18	5/16/18	5/16/18	Matrix	Units	Analysis	Method	Analyst
Arsenic	0.002	0.001	< 0.001	AqDis	mg/L	5/17/18	200.8	DS
Barium	0.058	0.028	0.003	AqDis	mg/L	5/17/18	200.8	DS
Cadmium	< 0.001	< 0.001	< 0.001	AqDis	mg/L	5/17/18	200.8	DS
Chromium	< 0.001	< 0.001	0.002	AqDis	mg/L	5/17/18	200.8	DS
Iron	1.4	1.1	< 0.05	AqDis	mg/L	5/17/18	200.8	DS
Lead	< 0.001	< 0.001	< 0.001	AqDis	mg/L	5/17/18	200.8	DS
Manganese	0.52	0.28	< 0.005	AqDis	mg/L	5/17/18	200.8	DS
Mercury	< 0.0001	< 0.0001	< 0.0001	AqDis	mg/L	5/17/18	200.8	DS
Selenium	< 0.001	< 0.001	< 0.001	AqDis	mg/L	5/17/18	200.8	DS
Silver	< 0.001	< 0.001	< 0.001	AqDis	mg/L	5/17/18	200.8	DS
Sample ID:	DPH-6	DPH-4						
Lab Sample ID:	181987.04	181987.05						
Matrix:	aqueous	aqueous						
Date Sampled:	5/16/18	5/16/18		Analytical		Date of		
Date Received:	5/16/18	5/16/18		Matrix	Units	Analysis	Method	Analyst
Arsenic	0.004	0.002		AqDis	mg/L	5/17/18	200.8	DS
Sodium	25	26		AqDis	mg/L	5/17/18	200.8	DS
Zinc	0.031	< 0.005		AqDis	mg/L	5/17/18	200.8	DS



June 06, 2018

Vista Work Order No. 1801000

Ms. Jennifer Laramie Eastern Analytical, Inc. 25 Chennell Drive Concord, NH 03301

Dear Ms. Laramie,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 18, 2018. This sample set was analyzed on a rush turn-around time, under your Project Name '181987 NH 4912'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.vista-analytical.com

Vista Work Order No. 1801000 Case Narrative

Sample Condition on Receipt:

One aqueous sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

PFAS Isotope Dilution Method

The sample was extracted and analyzed for a selected list of PFAS using Modified EPA Method 537. The results for PFHxS, PFOA and PFOS include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The sample was extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
B8E0173-BLK1	B8E0173-BLK1	PFAS Isotope Dilution Method	13C2-PFDA	Н	139

H = Recovery was outside laboratory acceptance criteria.

6

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Case Narrative	
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Certifications	10
Sample Receipt	11

Sample Inventory Report

Vista Sample ID Client Sample ID

1801000-01 DPH-MW6

Sampled

Received

Components/Containers

15-May-18 15:00 18-May-18 11:10 HDPE Bottle, 125 mL

HDPE Bottle, 125 mL

Vista Project: 1801000

Client Project: 181987 NH 4912

ANALYTICAL RESULTS



Client Data Name: Project:	Eastern Analytical, Inc. 181987 NH 4912		Matrix:	Aqueous	Lab Sample:	B8E0173-BLK1	BLK1	Column:	BEH C18	
Analyte		CAS Number	Conc. (ng/L)		RL Qualifiers	Batch	Extracted	Samp Size	Analyzed D	Dilution
PFBA	With the state of	375-22-4	UN		4.00	B8E0173	29-Mav-18	0.250 L	5	
PFPeA	a de limitalie estadad de mai esta establecada de la como	2706-90-3	ND	e examinado e e e e e e e e e e e e e e e e e e e	4.00	B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	_
PFBS		375-73-5	Ä		4.00	B8E0173	29-May-18	0,250 L	04-Jun-18 07:05	
PFHxA		307-24-4	ND	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4.00	B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	-
РЕНрА		375-85-9	Ä		4.00	B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	1
PFHxS		355-46-4	ND		4.00	B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	<u></u>
PFOA		335-67-1	Ä		4.00	B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	
PFOS		1763-23-1	ND		4.00	B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	-
PFNA		375-95-1	ď		4.00	B8E0173	29-May-18		04-Jun-18 07:05	_
PFDA		335-76-2	ND		4.00	B8E0173	29-May-18		04-Jun-18 07:05	_
MeFOSAA		2355-31-9	ď		4,00	B8E0173	29-May-18	0.250 L	04-Jun-18 07;05	-4
PFUnA		2058-94-8	ND		4.00	B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	
EtFOSAA		2991-50-6	ð		4,00	B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	
PFDoA		307-55-1	ND		4.00	B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	
PFTrDA		72629-94-8	ð	N. T.	4.00	B8E0173	29-May-18	$0.250\mathrm{L}$	04-Jun-18 07:05	-
PFTeDA		376-06-7	ND		4.00	B8E0173	29-May-18	$0.250\mathrm{L}$	04-Jun-18 07:05	1
Labeled Standards	ds	Type	% Recovery	Limits	Qualifiers	Batch	1	Samp Size		Dilution
13C3-PFBA		SI	110	60 - 130		B8E0173	·	0.250 L	04-Jun-18 07:05	1
13C3-PFPeA		SI	107	60 - 150		B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	_
13C3-PFBS		S	125	60 - 150		B8E0173	29-May-18	0,250 L	04-Jun-18 07:05	
13C2-PFHxA		IS	108	70 - 130		B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	_
13C4-PFHpA		IS	108	60 - 150		B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	
1802-PFHxS		IS	121	60 - 130		B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	1
13C2-PFOA		SI	105	60 - 130		B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	-
13C8-PFOS	Andrews and whether the control of t	IS	110	60 - 130	e literación deministrativa en el destable continuo el deministra elmonde est. Addital.	B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	1
13C5-PFNA		IS	101			B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	
13C2-PFDA		IS	139	60 - 130		B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	_
d3-MeFOSAA		IS	98.9	50- 150		B8E0173	29-May-18	$0.250\mathrm{L}$	04-Jun-18 07:05	
13C2-PFUnA		IS	83.2	60 - 130		B8E0173	29-May-18	$0.250\mathrm{L}$	04-Jun-18 07:05	_
d5-EtFOSAA		IS	96,6	50 - 150		B8E0173	29-May-18	0.250 L	04-J _{un} -18 07:05	
13C2-PFDoA	n skravinger i Turk fabruar dilan na sa i Turk dalimark a turk	SI	125	30 - 130	nderbestalberschaft frankladerer franklaften erklädelsket i flassisket for forgeneradelsk	B8E0173	29-May-18	$0.250\mathrm{L}$	04-Jun-18 07:05	_
13CO_PETADA		SI	65,4	20 - 150		B8E0173	29-May-18	0.250 L	04-Jun-18 07:05	

Page 6 of 12



Sample ID: OPR									PFAS Iso	PFAS Isotope Dilution Method	Method
Client Data					Labo	oratory Data					
Name: Eastern Analytical, Inc Project: 181987 NH 4912	·	Matrix:	Aqueous		Lal	Lab Sample:	B8E0173-BS1	-BS1	Column:	BEH C18	
Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	40.8	40.0	102	70-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	1
PFPeA	2706-90-3	40.4	40.0	101	70-130	Total Control of the	B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	-
PEBS	375-73-5	41.0	40.0	102	70-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	
PFHxA	307-24-4	45.0	40.0	113	70-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	_
PFHpA	375-85-9	42.3	40.0	106	70-130		B8E0173	29-May-18	$0.250\mathrm{L}$	04-Jun-18 06:54	
PFHxS	355-46-4	40.9	40.0	102	70-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	
PFOA	335-67-1	43,0	40.0	107	70-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	<u> </u>
PFOS	1763-23-1	40.6	40.0	101	70-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	_
PENA	375-95-1	37.6	40.0	94.1	70-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	
PFDA	335-76-2	37.0	40.0	92.4	70-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	—
MeFOSAA	2355-31-9	39.5	40.0	98.8	70-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	
PFUnA	2058-94-8	49.5	40.0	124	70-130		B8E0173	29-May-18	$0.250\mathrm{L}$	04-Jun-18 06:54	
EtFOSAA	2991-50-6	33.6	40.0	83.9	70-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	
PFDoA	307-55-1	37.9	40.0	94.8	70-130		B8E0173	29-May-18	$0.250\mathrm{L}$	04-Jun-18 06:54	
PFTrDA	72629-94-8	33.9	40.0	84.7	60-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	1
PFTeDA	376-06-7	47.1	40.0	118	70-130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	1
Labeled Standards		Туре		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		S		102	60- 130		B8E0173	29-May-18	$0.250\mathrm{L}$	04-Jun-18 06:54	
13C3-PFPeA	TO A COMPANY OF THE C	IS		97.7	60- 150		B8E0173	29-May-18	$0.250\mathrm{L}$	04-Jun-18 06:54	1
13C3-PFBS		IS		111	60- 150		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	
13C2-PFHxA		SI		92.9	70- 130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	1
13С4-РЕНрА		ĪS		98.9			B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	
18O2-PFH _x S	Commence of the commence of th		and a second of the second of	105	60- 130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	1
13C2-PFOA		IS		96.4			B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	
13C8-PFOS		IS		102			B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	1
13C5-PFNA		SI		106	50- 130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	
13C2-PFDA	oniunismus diamera e de traditario e e minare restruturale ce e de	IS		97.5	60- 130	in minute minute principality in minute minu	B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	_
d3-MeFOSAA		ĮŞ		83.3	50- 150		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	
13C2-PFUnA		IS		63.8	60- 130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	-
d5-EtFOSAA		IS		92,7	50 150		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	حر
13C2-PFDoA		SI		79.1	30- 130		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	1
13C2-PFTeDA				64.4	20- 150		B8E0173	29-May-18	0.250 L	04-Jun-18 06:54	



Clust Dist Clu	ÿ	and orangement isomer	ther analytes.	Only the linear isomer is reported for all other analytes.	linear isomer is	Only the l	L.	Results reported to RL.	coporting mine		
be ID: DPH-MW6 PFAS Isotope Dilation Method bus Eastern Analytical, Inc. Mularic: Aquacous Laboratory Data Laboratory Data Laboratory Data End (CAS) Deficient Section Bell CLS Bell CLS Bell CLS Bell CLS Laboratory Data Laboratory Data Laboratory Data Laboratory Data Laboratory Data Laboratory Data End (CAS) Column: Bell CLS Bell CLS Laboratory Data Laboratory) La	or and branched iconor	include both line	DEO A and DEOS	orted DEHvS I	When ren	ntrol limit - unper control limit	I.CII ICI Lower co	enortino limit	RI - F	
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ple ID: DPH-MW6 PFAS Isotope Dilution Method ## Data Laboratory Data Laboratory Data Column: BEH C18 BEH C18 Dilution Method e: Eastern Analytical, Inc. Matrix: Aqueous Lab Sample: 1801000-01 Column: BEH C18 BEH C18 BEH C18 BEH C18 BEH C18 BEH C18 Analyzed Dilution PFAS Isotope Dilution Method May-18 11:10 BEH C18 Analyzed Dilution BEH C18 Analyzed Dilution Analyzed		05-Jun-18 02:20	$0.103\mathrm{T}$	29-May-18	B8E0173	Ġ	4.8	Z	375-85-9		PFHpA
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						Laboratory Data					Client Data
	Method	tope Dilution N	PFAS Iso							JPH-MW6	затріе іД: 1

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DATA QUALIFIERS & ABBREVIATIONS

B This compound was also detected in the method blank

Conc. Concentration

D Dilution

DL Detection limit

E The associated compound concentration exceeded the calibration range of

the instrument

H Recovery and/or RPD was outside laboratory acceptance limits

I Chemical Interference

J The amount detected is below the Reporting Limit/LOQ

LOD Limits of Detection

LOQ Limits of Quantitation

M Estimated Maximum Possible Concentration (CA Region 2 projects only)

NA Not applicable

ND Not Detected

Q Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)

TEQ Toxic Equivalency

U Not Detected (specific projects only)

* See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.



professional laboratory and drilling services

Sample Notes

Page 1

EAIID# 181987

DPH-MW6 15:00 5/15/2018 aqueous | Subcontract - Perfluorinated Compounds EPA Method 537

Sample ID

Date Sampled Matrix

aParameters

				J		
EAI ID# 181987		Project State: NH	Results Needed: Preferred Date: Standard RUSH Due Date:	PO #:48057	EAI ID# 181987	7
		Project ID: 4912	QC Deliverables ☑ A ☐ A+ ☐ B ☐ B+ ☐ C ☐ MA MCP	If RUSH charges will be applied, please call prior to	e applied, pleas	s call prior to
Company	Vista Analytical Laboratory	al Laboratory	Notes about project:	analyzing.		
Address	1104 Windfield Way	d Way	Email login confirmation, pdf of results and invoice to customerservice@easternanalufical com			
Address	El Dorado Hills, CA 95762	ls, CA 95762		Samples Soulested by.)
Account #				Relinquished by	ţ	Received by
Phone #	Phone # (916) 673-1520	20		7 18 50 SIN		
				Relinquished by	Date/Time	Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

1-800-287-0525

customerservice@easternanalytical.com

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages are against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subgrated lab, your officers, agents or employees

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Sample Log-in Checklist

Analytic	al Laboratory	rwarer mes	, ,,, ,,,,,,	1,1100				1.6
Vista Work Orde	er#: <u>1801</u>	000_			TAT_	21	4 65	8/18
Samples Arrival:	Date/Time	110	Initials:		Location: Shelf/Racl	¥		
Logged In:	Date/Time 05 8 8	450	Initials:		Location: Shelf/Rack	WD-7		
Delivered By:	FedEx UPS	On Trac	GSO	DHL	Han Delive	1	Other	
Preservation:	(Ice)	Blue	e Ice		Dry Ice		None	
Temp °C: 0 U	(uncorrected) T	ime: 👭	シ	,i	and c			
Temp °C: () 2	1:	robe used		VO[]	Thermome	eter ID:	R-4	

				YES	NO	NA
Adequate Sample Volume R	eceived?			10		
Holding Time Acceptable?				160		
Shipping Container(s) Intact?).			166	,	
Shipping Custody Seals Intac	 7					Ke
Shipping Documentation Pre	sent?			XG)		
Airbill Trk#	12×46599	01 9973	9076	4		
Sample Container Intact?				16		-
Sample Custody Seals Intact	?					K8
Chain of Custody / Sample D	ocumentation Pre	esent?		KE	ł	
COC Anomaly/Sample Accep	otance Form com	oleted?			6	FG.
If Chlorinated or Drinking Wa	ter Samples, Acce	eptable Prese	rvation?			Ka
Preservation Documented:	Na ₂ S ₂ O ₃	Trizma	None	Yes	Νo	(NA)
Shipping Container	Vista	Client	Retain	Return	Disp	ose

Comments:

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED

)	1 Z	FAMIL FEETCECES.COM SITE NAME DYH PROJECT #: 33.6083021.00	11 124346W 11 124346W	GER: 50/W	MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; DW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER ファージ きゅうしょうしょ 13・500 PRESERVATIVE: H-HCL; N-HNO;; S-H,504; Na-NaOH; M-MEOH ゆきっくしゅりき	02 MM-HAG	4-4140	001466	DOH-MUCO	58 - Hda	DrH=105	SAMPLE I.D.	
	VT OTHER: POTW STORMWATER OR HIELD OR OTHER: PO #:	. COM-	224 WW SHAIF	BXOOKS	SW-Surface Water; DW-Drinkin ~~ EMT 315018 13 a-NaOH; M-MEOH Pa- 511	1 016 A	35,	2/8/2/2/2/2	W051 N	1309	5-15-18 1250 F	SAMPLING DATE / TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE / TIME	
		9	IIP: 0325		G WATER;	-					and 1	MATRIX (SEE BELOW) RAS /* COMPOSITE	
			W			×		,	×			524.2 524.2 BTEX 524.2 MTBE ONLY 8260 624 VTICS 1, 4 DIOXAND	VOC
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JISHED	UISHED UISHED	IPTIVE	ING LET B OR	Z								8270 625 SYTICS EDB DBCP ABN A BN PAH	
BY:	By Brief	CERTA	VEL	DED:								TPH8100 LI L2 8015 DRO MAEPH	SV :
	\$	ALNI'	Ω									PEST 608 PCB 608 PEST 8081 PCB 8082	VOC
DATE:	DATE 1		E P	2								OIL & GREASE 1664 TPH 1664 TCLP 1311 ABN METALS	
	6-/8	E-MAIL PDF	PRELIMS: YES OR NO ELECTRONIC OPTIONS	REPORTING O			メ	×	Y	×		TCLP 1311 ABN METALS VOC PEST HERB DISSOLVED METALS (LIST BELOW)	ICLP METALS
TIME:	'I ⊒ "** : = L	7 = =		ଜ 0			,	,	<i>></i> \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		-	TOTAL METALS (LIST BELOW)	METALS
	# 30 M	E QUIS	No No	PTIONS								TS TSS TDS SPEC. CON.	
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	The same	6554		10								COD PHENOLS TOC DOC	NICS
		4)		ໍ່ຕໍ່							-	Total Cyanide Total Sulfide	Š
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FIELD READINGS:	SUSPECTED CO	H 2 6	PLES S: (IE: SI	METALS:								TOTAL COLIFORM E. COLI FECAL COLIFORM	MIC
S	MANE SALAS SITE HISTORY: SUSPECTED CONTAMINATION:	STROY STROY	FIELD	METALS: RCRA								ENTEROCOCCI HETEROTROPHIC PLATE COUNT	R O
	inolital S. Z.	CHONTOC, SONT	SAMPLES FIELD FILTERED? NOTES: (IE: SPECIAL DETECTION LIMIT						×			*FAS VISTA 16	MICRO OTHER
		NO.	N LIMIT) 13 PP									
	2 2	ZK' 7		75		N	~	7	5		<u>ر</u>	# of Containers	
	WHY SEX METT BOES. HAVE DEXECUTE CONTAMINATION:	SOUTUM, AREN	SAMPLES FIELD FILTERED? XYES NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT	FE, MN					•			3 2	
	75 %0	972										ZOTES MeOH Vial #	
	0	50		PB, CL								# s	

Eastern Analytical, Inc. professional laboratory and drilling services

25 CHENELL DRIVE CONCORD, NH 03301 Tel: 603.228.0525 1.800.287.0525 E-Mail: CUSTOMERSERVICE@EASTERNANALYTICAL.COM www.Easternanalytical.com

(WHITE: ORIGINAL GREEN: PROJECT MANAGER) John Brooks
Emery & Garrett Groundwater Investigations, LLC
56 Main Street
Meredith, NH 03253



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 181984

Client Identification: DPH | 33.0083025.00 Task 1

Date Received: 5/16/2018

Dear Mr. Brooks:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE



EAI ID#: 181984

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH | 33.0083025.00 Task 1

Temperature upon receipt (°C): 3.4

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Acceptable to	simperature range (O). 0-0				
Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	 Exceptions/Comments (other than thermal preservation)
181984.01	DPH-MW6	5/16/18	5/15/18	aqueous	Adheres to Sample Acceptance Policy
181984.02	DPH-6	5/16/18	5/16/18	aqueous	Adheres to Sample Acceptance Policy
181984.03	DPH-4	5/16/18	5/16/18	aqueous	Adheres to Sample Acceptance Policy
181984.04	DPH-MW2D	5/16/18	5/16/18	aqueous	Adheres to Sample Acceptance Policy
181984.05	Trip Blank	5/16/18	4/6/18	aqueous	Adheres to Sample Acceptance Policy
					·

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



EAI ID#: 181984

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH | 33.0083025.00 Task 1

Sample ID:	DPH-MW6	DPH-6	DPH-4	DPH-MW2D	Trip Blank	
Lab Sample ID:	181984.01	181984.02	181984.03	181984.04	181984.05	
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous	
		•			•	
Date Sampled:	5/15/18	5/16/18	5/16/18	5/16/18	4/6/18	
Date Received:	5/16/18	5/16/18	5/16/18	5/16/18	5/16/18	
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	
Date of Analysis:	5/17/18	5/17/18	5/17/18	5/17/18	5/17/18	
Analyst:	. BAM	BAM	BAM	BAM	BAM	
Method:	8260C	8260C	8260C	8260C	8260C	
Dilution Factor:	1	1	1	1	1	
	_					
Dichlorodifluoromethane	< 5	< 5	< 5	< 5	< 5	
Chloromethane Vinyl chloride	< 2 < 2	< 2 < 2	< 2 < 2	< 2 < 2	< 2 < 2	
Bromomethane	< 2	< 2	< 2	< 2	< 2	
Chloroethane	< 5	< 5	< 5	< 5	< 5	
Trichlorofluoromethane	< 5	< 5	< 5	< 5	< 5	
Diethyl Ether	< 5	< 5	< 5	< 5	< 5	
Acetone	< 10	< 10	< 10	< 10	< 10	
1,1-Dichloroethene	< 1	< 1	< 1	< 1	< 1	
tert-Butyl Alcohol (TBA)	< 30	< 30	< 30	< 30	< 30	
Methylene chloride	< 5	< 5	< 5	< 5	< 5	
Carbon disulfide	< 2	< 2	< 2	< 2	< 2	
Methyl-t-butyl ether(MTBE) Ethyl-t-butyl ether(ETBE)	< 1 < 5	< 1 < 5	< 1 < 5	< 1 < 5	< 1 < 5	
Isopropyl ether(DIPE)	< 5 < 5	< 5 < 5	< 5	< 5 < 5	< 5 < 5	
tert-amyl methyl ether(TAME)	< 5	< 5	< 5	< 5	< 5	
trans-1,2-Dichloroethene	<.1	< 1	< 1	< 1	< 1	
1,1-Dichloroethane	< 1	< 1	< 1	< 1	< 1	
2,2-Dichloropropane	< 1	< 1	< 1	< 1	< 1	
cis-1,2-Dichloroethene	< 1	< 1	< 1	< 1	< 1	
2-Butanone(MEK)	< 10	< 10	< 10	< 10	< 10	
Bromochloromethane	< 1	< 1	< 1	< 1	< 1	
Tetrahydrofuran(THF) Chloroform	< 10 < 1	< 10 < 1	< 10 < 1	< 10 < 1	< 10 < 1	
1,1,1-Trichloroethane	< 1	< 1	<1	< 1	< 1	
Carbon tetrachloride	< 1	< 1	< 1	< 1	< 1	
1,1-Dichloropropene	< 1	< 1	< 1	< 1	< 1	
Benzene	< 1	< 1	< 1	< 1	< 1	
1,2-Dichloroethane	< 1	< 1	< 1	< 1	< 1	
Trichloroethene	< 1	< 1	< 1	< 1	< 1	
1,2-Dichloropropane Dibromomethane	< 1 < 1	< 1	< 1 < 1	< 1	< 1	
Bromodichloromethane	< 0.5	< 1 < 0.5	< 0.5	< 1 < 0.5	< 1 < 0.5	
1,4-Dioxane	< 50	< 50	< 50.5	< 50.5	< 50	
4-Methyl-2-pentanone(MIBK)	< 10	< 10	< 10	< 10	< 10	
cis-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene	< 1	< 1	< 1	< 1	< 1	
trans-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
1,1,2-Trichloroethane	< 1	< 1	< 1	< 1	< 1	
2-Hexanone Tetrachloroethene	< 10	< 10	< 10	< 10	< 10	
i etracnioroetnene 1,3-Dichloropropane	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	
Dibromochloromethane	< 1	< 1	< 1	< 1	< 1	
1,2-Dibromoethane(EDB)	< 2	< 2	< 2	< 2	< 2	
Chlorobenzene	< 1	< 1	< 1	< 1	< 1	
1,1,1,2-Tetrachloroethane	< 1	< 1	< 1	< 1	< 1	
Ethylbenzene	< 1	< 1	< 1	< 1	< 1	



EAI ID#: 181984

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH | 33.0083025.00 Task 1

Sample ID:	DPH-MW6	DPH-6	DPH-4	DPH-MW2D	Trip Blank	
Lab Sample ID:	181984.01	181984.02	181984.03	181984.04	181984.05	
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous	
ate Sampled:	5/15/18	5/16/18	5/16/18	5/16/18	4/6/18	
Date Received:	5/16/18	5/16/18	5/16/18	5/16/18	5/16/18	
Inits:	ug/L	ug/L	ug/L	ug/L	ug/L	
Pate of Analysis:	5/17/18	5/17/18	5/17/18	5/17/18	5/17/18	
•	BAM	BAM	BAM	BAM	BAM	
nalyst:	8260C	8260C	8260C	8260C	8260C	
lethod:				1	1	
Dilution Factor:	1	1	1	ı	ı	
mp-Xylene	< 1	< 1	< 1	< 1	< 1	
-Xylene	< 1	< 1	< 1	< 1	< 1	
Styrene	< 1	< 1	< 1	< 1 < 2	< 1 < 2	
romoform	< 2 < 1	< 2 < 1	< 2 < 1	< 2 < 1	< 1	
oPropylbenzene romobenzene	< 1 < 1	< 1	< 1	< 1	< 1	
1,2,2-Tetrachloroethane	< 1	< 1	< 1	< 1	< 1	
2,3-Trichloropropane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Propylbenzene	< 1	< 1	< 1	< 1	< 1	
Chlorotoluene	< 1	< 1	< 1	< 1	< 1	
Chlorotoluene	< 1	< 1	< 1	< 1	< 1	
3,5-Trimethylbenzene	< 1	< 1	< 1	< 1	< 1	
rt-Butylbenzene	< 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	
2,4-Trimethylbenzene	< 1 < 1	< 1	< 1 < 1	< 1	< 1	
ec-Butylbenzene 3-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1	
-Isopropyltoluene	< 1	< 1	< 1	< 1	< 1	
,4-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1	
,2-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1	
Butylbenzene	< 1	< 1	< 1	< 1	< 1	
2-Dibromo-3-chloropropane	< 2	< 2	< 2	< 2	< 2 < 1	
3,5-Trichlorobenzene	< 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1	
2,4-Trichlorobenzene	< 1 < 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
exachlorobutadiene aphthalene	< 5	< 5	< 5	< 5	< 5	
,2,3-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1	
1-Bromofluorobenzene (surr)	90 %R	86 %R	90 %R	92 %R	88 %R	
1,2-Dichlorobenzene-d4 (surr)	117 %R	117 %R	120 %R	135 %R	118 %R	
Toluene-d8 (surr)	97 %R	94 %R	94 %R	96 %R	96 %R	
1,2-Dichloroethane-d4 (surr)	124 %R	123 %R	126 %R	124 %R	119 %R	

DPH-MW2D: The surrogate 1,2-Dichlorobenzene-d4 (surr) in the sample resulted in recovery outside of the acceptance control limits of 70-130%R. There is no impact to the date as no analytes are present.

Bromomethane, tert-Butyl Alcohol (TBA), Carbon tetrachloride and Bromodichloromethane exhibited recovery outside acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).

181984

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

	GWP, OIL FUND, BROWNFIELD OR OTHER:	ATORY PROGRAM: NPDES: RGP POTW	NH MA ME VT OTHER:	33,6083025.00		E-MAIL: EGGTQ-EGGT.COM	TAY:	ショイト・メイン・なる Junit	CITY: MSASAETH STATE A	ADDRESS: 56 MAIN ST	COMPANY. SCL	Project Manager: SUHAL BROOKS	PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; Na-NaOH; M-MEOH	Matrix: A-Air; S-Soil; GW-Ground Water; SW-Surface Water; DW-Drinking Water; WW-Waste water				BAH-MUZO V	ł .	81-11-S	31-51-5 SAW- 44B	* F COMPOSITE. INDICATE BOTH START & FINISH DATE / TIME	SAMPLING DATE / TIME
		R OR		TASK I		2	·		114 IP 0325					r; DW-Drinking Wati				910 44	035	015)	1500 @	MATRIX (SE	E BELOW)
		•			×.				325 3									ンメ	×	×	2	524.2 524.2 BTEX 524 8260 624 VT I, 4 DIOXANE	.2 MTBE ONLY
BELINOHISHED BY-	RELINQUISHED BY:	RELINQUISHED BY:	P	SAMPLER(S): MECHAEC		PRESUMPTIVE CERTAINTY	OR.		A B	QA/QC Reporting Level		DATE NEEDED:										8015 GRO MAVP 8270 625 SVTICE ABN A BN	S EDB DBCP Pah
₽v.				ECHAL .		CERTAINTY	70		ດ ເ			DED:										8015 DRO MAEP	H 608 88082
DATE:			5-16-18	STYP,O		E-MAIL	ELECTRONIC O		I NELITO. 1ES ON	REPORTING O												OIL & GREASE 1664 TCLP 1311 ABN VOC PEST HE	TPH 1664 Metals
TIME:	TIME C	IME:	1026	57EV		PDF Equis	NIC OPTIONS			Vec OF NO						-						DISSOLVED METALS (LIST E TOTAL METALS (LIST E TS TSS TDS	SPEC. CON.
RECEIVED RV-	RECEIVED BY:	RECEIVED BY:		3 11-70	j j	S EXCEL				ICE?	TEMP.											BR CI F S NO ₂ NO ₃ NO ₃ BOD CBOD T. TKN NH ₃ T. F	NO ₂ . Alk.
	No.		MARKENT	262-4559	, ,					YES No	3,4%	116										pH T. Res. Chlori	
FIELD READINGS.	SUSPECTED CO	9,24,		100		7	- Noice (in	Notes: (IE:	SAMPLE	OTHER METALS:		METALS:										REACTIVE CYANIDE I FLASHPOINT IGNITAB	AL SULFIDE REACTIVE SULFIDE ILITY COLI
nings.	SUSPECTED CONTAMINATION:	اهماد			,	VOC XX	. SECUAL DETECT	Special Detecti	SAMPLES FIELD FILTERED?	TALS:		: 8 RCRA										ENTEROCOCCI HETEROTROPHIC PLATE	Соинт
		コンプロ					ON LITHIS, DILL	ON LIMITS BILL	ERED?			IJ ₽₽						N	2	N	بر	# of Containers	
		416/18 11:36				20070	MOLES. (IL. SI CUME DEI CCITON EIRITS, DILLING INFO, IF DIFFEREN)	ING INFO IS DIFFERE	YES NO			Fe, Mn Pb, Cu								14	,-	MEOH VIAL #	

Eastern Analytical, Inc. professional laboratory and drilling services

25 CHENELL DRIVE | CONCORD, NH 03301 | Tel: 603.228.0525 | 1.800.287.0525 | E-MAIL: CUSTOMERSERVICE@EASTERNANALYTICAL.COM | WWW.EASTERNANALYTICAL.COM



John Brooks
Emery & Garrett Groundwater Investigations, LLC
56 Main Street
Meredith, NH 03253



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 184677

Client Identification: DPH - 26.01 Task 2

Date Received: 7/25/2018

Dear Mr. Brooks:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

B. 24. (B)

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE



EAI ID#: 184677

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH - 26.01 Task 2

Temperature upon receipt (°C): 2.3

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

7 toooptable to	Simporatare range (6). 0-0	Date	Date	Sample	% Dry		
Lab ID	Sample ID		Sampled	Matrix	-	Exceptions/Comments (other than thermal preservation)	
184677.01	DPH-EX4	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	
184677.02	DPH-105	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	
184677.03	DPH-MW9-17	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	
184677.04	DPH-MW10-17	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	
184677.05	DPH-MW8-17	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	
184677.06	DPH-MW5-17	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	
184677.07	DPH-MW4-17	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	
184677.08	DPH-MW3-17	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	
184677.09	DPH-MW2-17	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	
184677.1	DPH-B5	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	
184677.11	DPH-MW1-17	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	
184677.12	DPH-B7	7/25/18	7/24/18	aqueous		Adheres to Sample Acceptance Policy	

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the

All results contained in this report relate only to the above listed samples.

References include:

1) EPA 600/4-79-020, 1983

recommended 15 minute hold time.

- 2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 4th edition, 1992

\(\) LABORATORY REPORT

EAI ID#: 184677

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH - 26.01 Task 2

Sample ID:	DPH-105		
Lab Sample ID:	184677.02		
Matrix:	aqueous		
	•		
Date Sampled:	7/24/18		
Date Received:	7/25/18		
Units:	ug/L		
Date of Analysis:	7/28/18		
Analyst:	BAM		
Method:	8260C		
Dilution Factor:	1		
Dichlorodifluoromethane	< 5		
Chloromethane	< 2		
Vinyl chloride	< 2		
Bromomethane	< 2		
Chloroethane	< 5		
Trichlorofluoromethane	< 5		
Diethyl Ether Acetone	< 5		
1,1-Dichloroethene	< 10 < 1		
tert-Butyl Alcohol (TBA)	< 30		
Methylene chloride	< 5		
Carbon disulfide	< 2		
Methyl-t-butyl ether(MTBE)	7.9		
Ethyl-t-butyl ether(ETBE)	< 5		
Isopropyl ether(DIPE) tert-amyl methyl ether(TAME)	· < 5 < 5		
trans-1,2-Dichloroethene	<1		
1,1-Dichloroethane	< 1		
2,2-Dichloropropane	< 1		
cis-1,2-Dichloroethene	< 1		
2-Butanone(MEK)	< 10		
Bromochloromethane Tetrahydrofuran(THF)	< 1 < 10		
Chloroform	<1		
1,1,1-Trichloroethane	< 1		
Carbon tetrachloride	< 1		
1,1-Dichloropropene	< 1		
Benzene	< 1		
1,2-Dichloroethane Trichloroethene	< 1 < 1		
1,2-Dichloropropane	< 1		
Dibromomethane	< 1		
Bromodichloromethane	< 0.5		
1,4-Dioxane	< 50		
4-Methyl-2-pentanone(MIBK)	< 10		
cis-1,3-Dichloropropene Toluene	< 0.5 < 1		
trans-1,3-Dichloropropene	< 0.5		
1,1,2-Trichloroethane	< 1		
2-Hexanone	< 10		
Tetrachloroethene	< 1		
1,3-Dichloropropane	< 1		
Dibromochloromethane 1,2-Dibromoethane(EDB)	< 1 < 2		
Chlorobenzene	< 1		
1,1,1,2-Tetrachloroethane	< 1		
Ethylbenzene	< 1		o ·



EAIID#: 184677

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH - 26.01 Task 2

Sample ID:	DPH-105	
Lab Sample ID:	184677.02	
Matrix:	aqueous	
Date Sampled:	7/24/18	
Date Received:	7/25/18	
Units:	ug/L	
Date of Analysis:	7/28/18	
Analyst:	BAM	
Method:	8260C	
Dilution Factor:	1	
mp-Xylene o-Xylene	<1 <1	
Styrene	< 1	
Bromoform	< 2	
IsoPropylbenzene	< 1	
Bromobenzene	< 1	
1,1,2,2-Tetrachloroethane	< 1	
1,2,3-Trichloropropane n-Propylbenzene	< 0.5 < 1	
2-Chlorotoluene	< 1	
4-Chlorotoluene	< 1	
1,3,5-Trimethylbenzene	<1	
tert-Butylbenzene	< 1	
1,2,4-Trimethylbenzene	<1	
sec-Butylbenzene	<1	
1,3-Dichlorobenzene	< 1	
p-Isopropyltoluene 1,4-Dichlorobenzene	< 1 < 1	
1,4-Dichlorobenzene 1,2-Dichlorobenzene	<1	
n-Butylbenzene	< 1	
1,2-Dibromo-3-chloropropane	< 2	
1,3,5-Trichlorobenzene	<1	
1,2,4-Trichlorobenzene	<1	
Hexachlorobutadiene	< 0.5	
Naphthalene	< 5	
1,2,3-Trichlorobenzene	< 1 99 %R	
4-Bromofluorobenzene (surr) 1,2-Dichlorobenzene-d4 (surr)	99 %R 101 %R	
Toluene-d8 (surr)	101 %R	
1,2-Dichloroethane-d4 (surr)	117 %R	

Chloroethane, Diethyl Ether and 2,2-Dichloropropane exhibited recovery outside acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).



EAI ID#: 184677

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH - 26.01 Task 2

Sample ID:	DPH-105
Lab Sample ID:	184677.02
Matrix:	aqueous
Date Sampled:	7/24/18
Date Received:	7/25/18
Units:	ug/L
Date of Analysis:	7/30/18
Analyst:	VG
Method:	8260B SIM
Dilution Factor:	1
1,4-Dioxane 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	3.9 114 %R 106 %R



EAI ID#: 184677

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH - 26.01 Task 2

Sample ID:	DPH-B5	
Lab Sample ID:	184677.1	
Matrix:	aqueous	
Date Sampled:	7/24/18	
Date Received:	7/25/18	
Units:	ug/L	
Date of Analysis:	7/30/18	
Analyst:	VG	
Method:	8260B SIM	
Dilution Factor:	1	
1,4-Dioxane 4-Bromofluorobenzene (surr)	1.9 104 %R	
Toluene-d8 (surr)	· 101 %R	



August 24, 2018

Vista Work Order No. 1802057

Ms. Jennifer Laramie Eastern Analytical, Inc. 25 Chennell Drive Concord, NH 03301

Dear Ms. Laramie,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 27, 2018 under your Project Name '184677 NH 5136'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.vista-analytical.com

Vista Work Order No. 1802057 Case Narrative

Sample Condition on Receipt:

Twelve aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

PFAS Isotope Dilution Method

The following samples contained particulate and were centrifuged prior to extraction.

Sample Name
DPH-EX4
DPH-MW9-17
DPH-MW4-17
DPH-B5
DPH-MW1-17

The samples were extracted and analyzed for a selected list of PFAS using the PFAS Isotope Dilution Method. This method is listed on Vista's NELAP certificate as Modifed EPA Method 537. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria. A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis Analyte	Flag	%Rec
B8H0001-BLK1	B8H0001-BLK1	PFAS Isotope Dilution Method 13C2-PFDA	Н	58.7

H = Recovery was outside laboratory acceptance criteria.

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Sample Receipt	22

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1802057-01	DPH-EX4	24-Jul-18 11:25	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1802057-02	DPH-105	24-Jul-18 12:05	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1802057-03	DPH-MW9-17	24-Jul-18 09:30	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1802057-04	DPH-MW10-17	24-Jul-18 10:10	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1802057-05	DPH-MW8-17	24-Jul-18 10:50	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1802057-06	DPH-MW5-17	24-Jul-18 11:20	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1802057-07	DPH-MW4-17	24-Jul-18 12:00	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1802057-08	DPH-MW3-17	24-Jul-18 12:45	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1802057-09	DPH-MW2-17	24-Jul-18 13:40	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1802057-10	DPH-B5	24-Jul-18 14:15	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1802057-11	DPH-MW1-17	24-Jul-18 14:40	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1802057-12	DPH-B7	24-Jul-18 15:20	27-Jul-18 11:56	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

Client Project: 184677 NH 5136

ANALYTICAL RESULTS

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,	When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both	FOSAA and EtF	PFOA, PFOS, Mel	orted, PFHxS,	When rep		d to RL.	Results reported to RL	RL - Reporting limit	RL - Re	
-	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		150	20 -	72.4	IS		13C2-PFTeDA
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		130	30-	61,5	S		13C2-PHDoA
_	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		130	- 00	75.7	1 5		13CZ-PFUNA
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		150	50-	71.6	ī.		13Ch PEUSAA
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		150	50 -	68.3	5		ds EtEOs v v
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001	Н	130		58.7	. IS		13 MaFOS A A
-	07-Aug-18 06:52	$0.250\mathrm{L}$	02-Aug-18	B8H0001	with the standard from a substance of an endown	130		95.6	5	And the second designation of the second sec	13C3 DED A
##	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		130		81.5	. IS		13Co-PFNA
—	07-Aug-18 06:52	$0.250\mathrm{L}$	02-Aug-18	B8H0001		130	- 00		7 2		13C2-PFOA
	07-Aug-18 06:52	$0.250\mathrm{L}$	02-Aug-18	B8H0001		150	60 -	80,9			13C4-PFHpA
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		130	70-	103	5		13C4 PEIT A
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		150		100	T6		13C3-PFBS
_	07-Aug-18 06:52	$0.250\mathrm{L}$	02-Aug-18	B8H0001	and the state of t	150		94.0	2		13C3-PFPeA
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		130	60-	88.7	IS		13C3-PFBA
Dilution	Analyzed	Samp Size	Extracted	Batch	Qualifiers	its	Limits	% Kecovery	Lype		Labeled Standards
1	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00		ND	3/6-06-/		Fr IeDA
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00		j	72629-94-8		PF ITUA
-	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00		ND	307-55-1		PHD0A
+	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00		i	2058-94-8		PFUnA
1	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00		ND	2991-50-6		EtFOSAA
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00		ND	2355-31-9		MeFOSAA
_	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00		AD.	335-76-2		PFDA
	07-Aug-18 06:52	$0.250\mathrm{L}$	02-Aug-18	B8H0001		4.00		A A	1763-23-1		PFOS
-	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00	off street and second streets and second streets and second secon	ND	375-95-1		PHNA
-	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00		A.	335-67-1		PFOA
_	07-Aug-18 06:52	$0.250\mathrm{L}$	02-Aug-18	B8H0001	CONTRACTOR OF THE PROPERTY OF	4.00	The statement and an experience of the section of	ND	355-46-4		PFHxS
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00		, UD	375-85-9		PFHpA
-	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00		ND	307-24-4		PFHxA
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4,00		ND	375-73-5		PEBS
1	07-Aug-18 06:52	$0.250\mathrm{L}$	02-Aug-18	B8H0001		4.00	the state of the s	ND	2706-90-3	The second secon	PFPeA
	07-Aug-18 06:52	0.250 L	02-Aug-18	B8H0001		4.00		B	375-22-4		PFBA
Dilution	Analyzed	Samp Size	Extracted	Batch	Qualifiers	ŔL		Conc. (ng/L)	CAS Number		Analyte
	BEH C18	Column:	·BLK1	B8H0001-BLK1	Lab Sample:	Lab	Aqueous	Matrix:		Eastern Analytical, Inc. 184677 NH 5136	Name: Project:
						T.ahora					Client Data
Method	PFAS Isotope Dilution Method	PFAS Iso								Sample ID: Method Blank	Sample ID:]

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

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Client Data Client Data Campon	Sample ID: OPR								DEAS ISO	tona Dilution Mi	thod
Emistrn Amilytical, Inc. Matrice Matrice	Client Data									-	
c CAS Number Amt Found (ng/L) Spike Ame % Rec Linit Qualifiers Batch Extracted Samp Size Analyzed Dilution 2705-29-3 49.3 40.0 108 70-130 B819001 02-Aug-18 0.250 07-Aug-18 06441 1 2705-29-3 40.0 118 70-130 B819001 02-Aug-18 0.250 07-Aug-18 06441 1 3707-24-4 39.3 40.0 121 70-130 B819001 02-Aug-18 0.250 07-Aug-18 06441 1 4 375-54-3 48.4 40.0 121 70-130 B819001 02-Aug-18 0.250 07-Aug-18 06441 1 4 4.2 40.0 121 70-130 B819001 02-Aug-18 0.250 07-Aug-18 06441 1 4 4.2 40.0 111 70-130 B819001 02-Aug-18 0.250 07-Aug-18 06441 1 4 4.2 40.0 110 70-130 B819001 02-Aug-18 </th <th></th> <th>l, Inc.</th> <th>Matrix:</th> <th>Aqueous</th> <th></th> <th></th> <th>B8H0001</th> <th>·BS1</th> <th>Column:</th> <th>BEH C18</th> <th></th>		l, Inc.	Matrix:	Aqueous			B8H0001	·BS1	Column:	BEH C18	
	Analyte	CAS Number	Amt Found (ng/L)				Batch	- 1	Samp Size		ution
	PFBA	375-22-4	43.2			130	В8Н0001				
	PFPeA	2706-90-3	40.3			130	B8H0001	02-Aug-18	ĺ	07-Aug-18 06:41	-
2072-44 2073-265-9 48.4 40.0 98.3 70-130 B8H0001 Q2-Aug-18 0.2501 07-Aug-18 06.41 1 1 1 1 1 2 2 2 2	PFBS	375-73-5	47.3			130	B8H0001	02-Aug-18		07-Aug-18 06:41	-
	PFHxA	307-24-4	39.3			130	B8H0001	02-Aug-18	-	07-Aug-18 06:41	1
	РЕНДА	375-85-9	48,4			130	B8H0001	02-Aug-18		07-Aug-18 06:41	
	PFHxS	355-46-4	37.9		70 -	130	B8H0001	02-Aug-18		07-Aug-18 06:41	
	PFOA	335-67-1	41.9			130	B8H0001	02-Aug-18		07-Aug-18 06:41	1
	PFNA	375-95-1	44.4			130	B8H0001	02-Aug-18		07-Aug-18 06:41	
	PFOS	1763-23-1	39,9			130	B8H0001	02-Aug-18		07-Aug-18 06:41	→
2335-31-9 31.9 40.0 79.8 70-130 B8H0001 02-Aug-18 0.250 07-Aug-18 0.641 1 2991-50-6 44.2 40.0 95.5 70-130 B8H0001 02-Aug-18 0.250 07-Aug-18 0.641 1 2058-94-8 44.1 40.0 110 70-130 B8H0001 02-Aug-18 0.250 07-Aug-18 0.641 1 307-55-1 44.1 40.0 110 70-130 B8H0001 02-Aug-18 0.250 07-Aug-18 0.641 1 1 1 1 1 1 1 1 1	PFDA	335-76-2	44.5			130	B8H0001	02-Aug-18		07-Aug-18 06:41	1
	MeFOSAA	2355-31-9	31,9			130	B8H0001	02-Aug-18		07-Aug-18 06:41	
	EtFOSAA	2991-50-6	44.2			130	B8H0001	02-Aug-18		07-Aug-18 06:41	
307-55-1 44.1 40.0 110 70-130 B8H0001 02-Aug-18 0.250 L 07-Aug-18 06.41 1 1 1 1 1 1 1 1 1	PFUnA	2058-94-8	38.2			130	B8H0001	02-Aug-18		07-Aug-18 06:41	-
	PFD ₀ A	307-55-1	44.1			130	B8H0001	02-Aug-18		07-Aug-18 06:41	_
	PFTrDA	72629-94-8	42.9			130	B8H0001	02-Aug-18		07-Aug-18 06:41	
	PFTeDA	376-06-7	43.1			130	B8H0001	02-Aug-18		07-Aug-18 06:41	_
S S6.9 60- 130 B8H0001 02-Aug-18 0.250 L 07-Aug-18 0.641 1 1 1 1 1 1 1 1 1	Labeled Standards		Туре	%	.]		Batch		- 1		ution
IS 88.5 60- 150 B8H0001 02-Aug-18 0.250 L 07-Aug-18 06.41 1 IS 89.2 60- 150 B8H0001 02-Aug-18 0.250 L 07-Aug-18 06.41 1 IS 86.1 70- 130 B8H0001 02-Aug-18 0.250 L 07-Aug-18 06.41 1 IS 76.1 60- 150 B8H0001 02-Aug-18 0.250 L 07-Aug-18 06.41 1 IS 102 60- 130 B8H0001 02-Aug-18 0.250 L 07-Aug-18 06.41 1 IS 70.9 50- 130 B8H0001 02-Aug-18 0.250 L 07-Aug-18 06.41 1 IS 80.0 60- 130 B8H0001 02-Aug-18 0.250 L 07-Aug-18 06.41 1 A 1S 80.0 60- 130 B8H0001 02-Aug-18 0.250 L 07-Aug-18 06.41 1 A 1S 65.2 60- 130 B8H0001 02-Aug-18 0.250 L 07-Aug-18 06.41 1 A 1S 78.3	13C3-PFBA		SI			130	B8H0001	02-Aug-18			
IS 89.2 60-150 B8H0001 02-Aug-18 0.250 L IS 86.1 70-130 B8H0001 02-Aug-18 0.250 L IS 76.1 60-150 B8H0001 02-Aug-18 0.250 L IS 76.1 50-130 B8H0001 02-Aug-18 0.250 L IS 70.9 50-130 B8H0001 02-Aug-18 0.250 L IS 80.0 60-130 B8H0001 02-Aug-18 0.250 L IS 65.2 60-130 B8H0001 02-Aug-18 0.250 L IS 78.3 50-150 B8H0001 02-Aug-18 0.250 L IS 78.3 50-150 B8H0001 02-Aug-18 0.250 L IS 75.5 20-150 B8H0001 02-Aug-18 0.250 L	13C3-PFPeA		IS	~		150	B8H0001	02-Aug-18			
IS 86.1 70- 130 B8H0001 02-Aug-18 0.250 L IS 102 60- 130 B8H0001 02-Aug-18 0.250 L IS 102 60- 130 B8H0001 02-Aug-18 0.250 L IS 80.0 60- 130 B8H0001 02-Aug-18 0.250 L IS 80.0 60- 130 B8H0001 02-Aug-18 0.250 L IS 78.3 50- 150 B8H0001 02-Aug-18 0.250 L IS 78.3 50- 150 B8H0001 02-Aug-18 0.250 L IS 79.4 50- 130 B8H0001 02-Aug-18 0.250 L IS 79.4 50- 130 B8H0001 02-Aug-18 0.250 L IS 80.8 60- 130 B8H0001 02-Aug-18 0.250 L BSH0001 02-Aug-18 0.250 L	13C3-PFBS		Is				B8H0001	02-Aug-18		07-Aug-18 06:41	
IS 76.1 60- 150 B8H0001 02-Aug-18 0.250 L IS 102 60- 130 B8H0001 02-Aug-18 0.250 L IS 80.0 60- 130 B8H0001 02-Aug-18 0.250 L IS 80.0 60- 130 B8H0001 02-Aug-18 0.250 L IS 63.2 60- 130 B8H0001 02-Aug-18 0.250 L IS 78.3 50- 150 B8H0001 02-Aug-18 0.250 L IS 74.4 50- 150 B8H0001 02-Aug-18 0.250 L IS 80.8 60- 130 B8H0001 02-Aug-18 0.250 L IS 80.8 60- 130 B8H0001 02-Aug-18 0.250 L	13C2-PFH _x A		SI	-		130	B8H0001	02-Aug-18	•	07-Aug-18 06:41	
IS 102 60- 130 B8H0001 02-Aug-18 0.250 L IS 70.9 50- 130 B8H0001 02-Aug-18 0.250 L IS 80.0 60- 130 B8H0001 02-Aug-18 0.250 L IS 63.2 60- 130 B8H0001 02-Aug-18 0.250 L IS 78.3 50- 150 B8H0001 02-Aug-18 0.250 L IS 78.4 50- 150 B8H0001 02-Aug-18 0.250 L IS 80.8 60- 130 B8H0001 02-Aug-18 0.250 L IS 80.8 60- 130 B8H0001 02-Aug-18 0.250 L	13C4-PFHpA		IS			150	B8H0001	02-Aug-18		07-Aug-18 06:41	-
IS 70.9 50-130 B8H0001 02-Aug-18 0.250 L IS 80.0 60-130 B8H0001 02-Aug-18 0.250 L IS 65.2 60-130 B8H0001 02-Aug-18 0.250 L IS 78.3 50-150 B8H0001 02-Aug-18 0.250 L IS 78.4 50-150 B8H0001 02-Aug-18 0.250 L IS 80.8 60-130 B8H0001 02-Aug-18 0.250 L IS 80.8 60-130 B8H0001 02-Aug-18 0.250 L	13C2-PFOA	The side of the state of the st	IS			130	B8H0001	02-Aug-18		07-Aug-18 06:41	
IS 80.0 60-130 B8H0001 02-Aug-18 0.250 L 1S 65.2 60-130 B8H0001 02-Aug-18 0.250 L 1S 78.3 50-150 B8H0001 02-Aug-18 0.250 L 1S 79.4 50-150 B8H0001 02-Aug-18 0.250 L IS 80.8 60-130 B8H0001 02-Aug-18 0.250 L 1S 80.8 60-130 B8H0001 02-Aug-18 0.250 L 1S 80.5 50-150 B8H0001 02-Aug-18 0.250 L 1S 80.5 50-150 B8H0001 02-Aug-18 0.250 L 1S 80.5 50-150 B8H0001 02-Aug-18 0.250 L	13C5-PENA		IS			130	B8H0001	02-Aug-18		07-Aug-18 06:41	-
1S 65.2 60-130 B8H0001 02-Aug-18 0.250 L 1S 78.3 50-150 B8H0001 02-Aug-18 0.250 L 1S 78.3 50-150 B8H0001 02-Aug-18 0.250 L 1S 80.8 60-130 B8H0001 02-Aug-18 0.250 L 1S 80.8 60-130 B8H0001 02-Aug-18 0.250 L 1S 65.6 30-130 B8H0001 02-Aug-18 0.250 L 1S 65.6 30-150 B8H0001 02-Aug-18 0.250 L	13C8-PFOS	de bonomidas basa del deponsión e con o e a desen considerar mainril e o copo e o e no	IS			130	B8H0001	02-Aug-18		07-Aug-18 06:41	_
A IS 78.3 50- 150 B8H0001 02-Aug-18 0.250 L IS 74.4 50- 150 B8H0001 02-Aug-18 0.250 L IS 80.8 60- 130 B8H0001 02-Aug-18 0.250 L A 1S 65.6 30- 130 B8H0001 02-Aug-18 0.250 L A 1S 75.5 20- 150 B8H0001 02-Aug-18 0.250 L	13C2-PFDA		IS			130	B8H0001	02-Aug-18		07-Aug-18 06:41	-
IS 74.4 50- 150 B8H0001 02-Aug-18 0.250 L IS 80.8 60- 130 B8H0001 02-Aug-18 0.250 L S 80.8 60- 130 B8H0001 02-Aug-18 0.250 L S 65.6 30- 130 B8H0001 02-Aug-18 0.250 L A 1S 75.5 20- 150 B8H0001 02-Aug-18 0.250 L	d3-MeFOSAA	in more carried by the contract of the carried more carried by the contract of	IS			150	B8H0001	02-Aug-18		07-Aug-18 06:41	—
IS 80.8 60- 130 B8H0001 02-Aug-18 0.250 L IS 65.6 30- 130 B8H0001 02-Aug-18 0.250 L A IS 75.5 20- 150 B8H0001 02-Aug-18 0.250 L	d5-EtFOSAA		IS			150	B8H0001	02-Aug-18		07-Aug-18 06:41	
IS 65.6 30-130 B8H0001 02-Aug-18 0.250 L IS 75.5 20-150 B8H0001 02-Aug-18 0.250 L	13C2-PFUnA		SI			130	B8H0001	02-Aug-18		07-Aug-18 06:41	-
IS 75.5 20- 150 B8H0001 02-Aug-18 0.250 L	13C2-PFDoA		IS				B8H0001	02-Aug-18		07-Aug-18 06:41	
	13C2-PF IeDA		IS			150	B8H0001	02-Aug-18	1	07-Aug-18 06:41	_



Client Data	1		L	Laboratory Data					
Project:	184677 NH 5136	Matrix: Date Collected:	Aqueous L 24-Jul-18 12:05 D	Lab Sample: Date Received:	1802057-02 27-Jul-18 11:56	1:56	Column:	BEH C18	
Analyte	CAS Number	Conc. (ng/L)	RL PL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	47.7	426		B8H0001	02-Amo-18		23-Ang-18 06:03	
PFPeA	2706-90-3	85.3	4.26		B8H0001	02-A ₁₁ σ-18		23-Ang-18 06:03	- 1
PFBS	375-73-5	40.0	4,26		B8H0001	02-Aug-18		23-Aug-18 06:03	
PFHxA	307-24-4	139	4.26		B8H0001	02-Aug-18	0.117 L	23-Aug-18 06:03	
PFHpA	375-85-9	77.2	4,26		B8H0001	02-Aug-18		23-Aug-18 06:03	
PFHxS			4.26		B8H0001	02-Aug-18		23-Aug-18 06:03	~ 1 1
PFOA	335-67-1	317	4.26		B8H0001	02-Aug-18		23-Aug-18 06:03	-
PFNA	375-95-1	5.71	4.26	man or original property of the property of th	B8H0001	02-Aug-18		23-Aug-18 06:03	_
PFOS	17,63-23-1	571	4.26		B8H0001	02-Aug-18	0.117L	23-Aug-18 06:03	_
PFUA		ND	4.26		B8H0001	02-Aug-18		23-Aug-18 06:03	_
MerUSAA	2355-31-9	ND	4.26		B8H0001	02-Aug-18	0.117L	23-Aug-18 06:03	-
EtFOSAA	2991-50-6	ND	4.26		B8H0001	02-Aug-18		23-Aug-18 06:03	— ·
PFUnA	2058-94-8	ND	4.26		B8H0001	02-Aug-18	ij.	23-Aug-18 06:03	
PFDoA	307-55-1	ND	4.26	THE TAX TO SELECT THE TAX TO S	B8H0001	02-Aug-18		23-Aug-18 06:03	
PF IrDA	72629-94-8	j	4.26		B8H0001	02-Aug-18		23-Aug-18 06:03	-
PF IeDA		ND	4.26		B8H0001	02-Aug-18	0.117 L	23-Aug-18 06:03	1
Labeled Standards	rds Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	SI	92.8	60 - 130		B8H0001	02-Aug-18	0.117L	23-Aug-18 06:03	
13C3-PFPeA	and the first of the section $\mathbf{S}_{\mathbf{S}}$	88.6	60 - 150		B8H0001	02-Aug-18		23-Aug-18 06:03	1
13C3-PFBS	IS	100	60 - 150		B8H0001	02-Aug-18		23-Aug-18 06:03	—
13C2-PFHxA	IS	90.6	70 - 130		B8H0001	02-Aug-18		23-Aug-18 06:03	_
13C4-PFHpA	IS	96,8	60 + 150		B8H0001	02-Aug-18		23-Aug-18 06:03	
1802-PFHxS	The most function of $lpha$. The first transformation of modern is the first transformation of the first of ${ m SI}$	94.7	60 - 130		B8H0001	02-Aug-18		23-Aug-18 06:03	
13C2-PFOA	15	91.9	60 - 130		B8H0001	02-Aug-18		23-Aug-18 06:03	
I3C5-PFNA	orden dende Sastanda en	84.9	50 - 130	er Vill Africa Mars I come Contra de Demonto de Mars de Canada en Canada	B8H0001	02-Aug-18		23-Aug-18 06:03	<u></u>
13C8-PFOS		84.7	60 = 130		B8H0001	02-Aug-18	0.117L	23-Aug-18 06:03	
I3C2-PFDA	SI	82.4	60 - 130		B8H0001	02-Aug-18		23-Aug-18 06:03	—
d3-MerUSAA	3	85.4	50 + 150		B8H0001	02-Aug-18		23-Aug-18 06:03	
do-EUFOSAA		80.6			B8H0001	02-Aug-18	$0.117\mathrm{L}$	23-Aug-18 06:03	
13C2-PFUnA		78.9	60 - 130		B8H0001	02-Aug-18	0.117 L	23-Aug-18 06:03	
13C2-PFDoA	same and same statement of the statement of	78.4		And the first description of the control of the con	B8H0001	02-Aug-18		23-Aug-18 06:03	_
13CZ-PF IeDA	15	70.8	20 - 150		B8H0001	02-Aug-18	0.117L	23-Aug-18 06:03	

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Client Data Name:	Eastern Analytical, Inc	•	Matrix:	Aqueous	Laboratory Data Lab Sample:	1802057-10	Column:	BEH C18	
				27-941-10 17.15	Date Necelyeu.	2/-Jul-18 11:30			
Analyte		CAS Number	Conc. (ng/L)		RL Qualifiers	Batch Extracted	Samp Size	Analyzed	Dilution
PFBA		375-22-4	27.3		4,44	B8H0001 02-Aug-18	0.113 L	1.28	
PFPeA		2706-90-3	56.7		4.44		0.113 L	23-Aug-18 07·28	_ ;
PFBS		375-73-5	24.2		4.44		0.113 L	23-Aug-18 07:28	,
PFHxA		307-24-4	88.5		4.44	B8H0001 02-Aug-18	0.113 L	23-Aug-18 07:28	
PFHpA		375-85-9	54.9		4,44	B8H0001 02-Aug-18	0.113 L	23-Aug-18 07:28	-
PFHxS		355-46-4	85.5		4.44	B8H0001 02-Aug-18	$0.113\mathrm{L}$	23-Aug-18 07:28	_
PEN'A		335-0/-1 375-05-1	240 5 0/		4.44	1111	0.113 L	23-Aug-18 07:28	
PFOS		1763-73-1			4,44		0.113 L	23-Aug-18 0/:28	
PFDA		335-76-2	ND		4.44	B8H0001 02-Aug-18	0.1131.	23-Aug-18 07:28	
MeFOSAA		2355-31-9	ď		4.44		0 113 7	73-Ang-18 07:78	-4 -
EtFOSAA		2991-50-6	ND	Control control control of the Control control of the control	4.44	- 1	0.113 L	23-Aug-18 07:28	
PFUnA		2058-94-8	ਰੋ		4.44		0.113 L	23-Aug-18 07-28	
PFDoA		307-55-1	ND	AND THE RESIDENCE OF THE PROPERTY OF THE PROPE	4.44		0.113 L	23-Aug-18 07:28	<u></u> ;
PF LrDA		72629-94-8	J		4.44	B8H0001 02-Aug-18	0.113 L	23-Aug-18 07:28	-
Laheled Standards	de	3/6-06-/	ND ND	Time	4.44	-		23-Aug-18 07:28	-
		Type	70 Necovery	Limits	Qualifiers	Batch Extracted	Samp Size	Analyzed I	Dilution
13C3-PFBA		IS	91.9	60 - 130		B8H0001 02-Aug-18	0.113 L	23-Aug-18 07:28	—
13C3-PFPeA	Confession of Management (1997) and the confession of the confessi	SI	89.4	60 - 150	oder dem 1911 - Franciski sidd Karakoskad Karakoska, stokodoska tiski markadanda karakoskada.	B8H0001 02-Aug-18		23-Aug-18 07:28	1
I3C3-PFBS		IS	103			B8H0001 02-Aug-18	0.113 L	23-Aug-18 07:28	_
I3CZ-PFHXA			89.0	70 - 130			0.113 L 2	23-Aug-18 07:28	
L3C4-PFHpA		15	92,6	60 - 150		B8H0001 02-Aug-18	0.113 L	23-Aug-18 07:28	
18O2-PFHXS	A control of the cont	15	90.3	60 - 130	olika usha ili Shaka a serendi ili bahadi Sasada saba mata saba mushka baka garaja.	B8H0001 02-Aug-18	0.113 L 2	23-Aug-18 07:28	_
I3C5 DENIA			82.8			B8H0001 02-Aug-18	0.113 L 2	23-Aug-18 07:28	
13Co DEOS	1 days of 1 days ordered a second control of the second control of	5	19.6/	50 - 130	The state of the s	B8H0001 02-Aug-18	0.113 L 2	23-Aug-18 07:28	1
13C3 PED A		7 b	83.0			B8H0001 02-Aug-18	0.113 L	23-Aug-18 07:28	
IOCZ-FFDA		5	0.7.7.	60 - 130		B8H0001 02-Aug-18	0.113 L 2	23-Aug-18 07:28	_
ds-inierosaa de taeosaa		T 5	82.7			B8H0001 02-Aug-18	0.113 L	23-Aug-18 07:28	-
d3-EUFOSAA		5	79.8			B8H0001 02-Aug-18	0.113 L 2	23-Aug-18 07:28	_
13C2-FFUIIA		12	301 301 301 301 301 301 301 301 301 301	60-130		B8H0001 02-Aug-18	0.113 L 2	23-Aug-18 07:28	-
13C2-PFD0A	Country School of the Country School of School	P	5.08		hender det Stemetrus uden met bloke mit Strats skriudamet 100 met 100	B8H0001 02-Aug-18	$0.113\mathrm{L}$ 2	23-Aug-18 07:28	_
L3CZ-FF IeDA		Č	73.3	20 - 150		B8H0001 02-Aug-18	0.113 L	23-Aug-18 07:28	_

DATA QUALIFIERS & ABBREVIATIONS

B This compound was also detected in the method blank

Conc. Concentration

D Dilution

DL Detection limit

E The associated compound concentration exceeded the calibration range of

the instrument

H Recovery and/or RPD was outside laboratory acceptance limits

I Chemical Interference

J The amount detected is below the Reporting Limit/LOQ

LOD Limits of Detection

LOQ Limits of Quantitation

M Estimated Maximum Possible Concentration (CA Region 2 projects only)

NA Not applicable

ND Not Detected

Q Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)

TEQ Toxic Equivalency

U Not Detected (specific projects only)

* See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

Eastern Analytical, Inc.29

professional laboratory and drilling services

1802057 -0.1°C

EAI ID# 184677

Page 1

Sample (D DPH-EX4	Date Sampled Matrix aParameters 7/24/2018	Sample Notes
DPH-105	7/24/2018 aqueous Subcontract - Perfluorinated Compounds EPA Method 537	PA Method 537
DPH-MW9-17	7/24/2018 aqueous Subcontract - Perfluorinated Compounds EPA Method 537	PA Method 537
DPH-MW10-17	7/24/2018 aqueous Subcontract - Perfluorinated Compounds EPA Method 537	PA Method 537
EAI ID# 184677	Project State: NH Project ID: 5136 Results Needed: Preferred Date: Standard RUSH Due Date:	Standard PO #: 48484 EAI ID# 184677
Company Vista A Address 1104 W Address El Dora Account# Phone # (916) 6	<u>project:</u> infirmation, pdf of resultomerservice@easternana d List	Call prior to analyzing, if RUSH charges with Samples Collected by 127/126/18 / 56 Relinquished by Date/Time UPS 4/27/19 12.03
		ned by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

1-800-287-0525 customerservice@easternanalytical.com



professional laboratory and drilling services

EAI ID# 184677

Page 2

Sample ID	Date Sampled Matrix aParameters	Sample Notes
DPH-MW8-17	7/24/2018 aqueous Subcontract - Perfluorinated Compounds EPA Method 537	
DPH-MW5-17	7/24/2018 aqueous Subcontract - Perfluorinated Compounds EPA Method 537	्व च ^{के} लाप्त्रे
DPH-MW4-17	7/24/2018 aqueous Subcontract - Perfluorinated Compounds EPA Method 537	
DPH-WW3-17	7/24/2018 aqueous Subcontract - Perfluorinated Compounds EPA Method 537	
EAI ID# 184677 Company Vista An	Results Needed: Preferred Date: Standard PO:#: RUSH Due Date: Project ID: 5136 □ A □ A+ □ B □ B+ □ C □ MA MCP Notes about project: Email login confirmation, pdf of results and Call p	PO #:48484 EAI ID# 184677 <u>Data Deliverable</u> (circle) Excel NH EMD EQuIS ME EGAD Call prior to analyzing, if RUSH charges will be applied.
Phone # (916) 673-1520		Wellinguished by Date/Time Received by 127/18 1203 MAL

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

1-800-287-0525

Relinquished by

Date/Time

customerservice@easternanalytical.com

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees Work Order 1802057

professional laboratory and drilling services museors dialytical, most

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Sample ID	Date Sampled Matrix aParameters	Sample Notes	r aye u
DPH-MW2-17	7/24/2018 aqueous: Subcontract - Perfluorinated Compounds EPA Method 537		HARMAN AND AND AND AND AND AND AND AND AND A
DPH-B5	7/24/2018 Subcontract - Perfluorinated Compounds EPA Method 537		
DPH-MW1-17	7/24/2018 aquéous Subcontract - Perfluorinated Compounds EPA Method 537		
DPH-B7	7/24/2018 aqueous Subcontract - Perfluorinated Compounds EPA Method 537		

Company EAI ID# 184677 Address Address Phone # (916) 673-1520 Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 Project State: NH Project ID: 5136 RUSH Due Date: Results Needed: Preferred Date: Standard invoice to customerservice@easternanalytical.com Email login confirmation, pdf of results and MA MA DB DB+ DC DMAMOP 16 Compound List Notes about project: PO#:48484 Excel NHEMD EQUIS MEEGAD Data Deliverable (circle) Call prior to analyzing, if RUSH charges will be applied. Relinquished by Relinquished by Date/Time EAIID# 184677 Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525 1-800-287-0525

arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees

Port Order 1802057 As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages customerservice@easternanalytical.com



Sample Log-in Checklist

Vista Work Orde	r#:	8020	57	,			. Daniel School	TAT_\$\frac{1}{3}			
Samples Arrival:	Date/Tim		156	Initi				nelf/Rack:			
Logged In:	Date/Tim 07/28/18			Initia INUS			Lo	ocation: <i>WK</i> nelf/Rack: <u></u>	7		
Delivered By:	FedEx	(UPS)) On Tra	c GSO DH			-	Hand Delivered	Other		
Preservation:	lo	e)	Blu	ue Ice			Dry Ice None				
Temp °C: 0.0 Temp °C: -0.			Time: Probe use	<i>115</i> ed; Y		No)X	Th	ermometer ID:	IR-4		

	YES	NO	NA
Adequate Sample Volume Received?	BUB		
Holding Time Acceptable?	82		
Shipping Container(s) Intact?	SIL		
Shipping Custody Seals Intact?			54
Shipping Documentation Present?	SP		
Airbill Trk# 17 X46 599 01 9163 5915	SR		
Sample Container Intact?	BUB		
Sample Custody Seals Intact?		Ų	20
Chain of Custody / Sample Documentation Present?	84		
COC Anomaly/Sample Acceptance Form completed?		Шб	Wb-
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			mps
Preservation Documented: Na₂S₂O₃ — Trizma None None	Yes) No	NA
	eturn	Disp	ose

Comments:

ID.: LR - SLC

Rev No.: 0

Rev Date: 05/18/2017

Page: 1 of 1

184677

	QUOTE #:	REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR GWP, OIL FUND, BROWNFIELD OR OTHER:	STATE: NH MA ME	PROJECT #: BPH- 76.01	SITE NAME:	E-MAIL: PHICE EAGLICON		52.47 54.62 54.67 CM: 100 MG 11111	dr st	COMPANY: Grapy and Ga	PROJECT MANAGER:	PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; Na-NaOH; M-MEOH	WW-Waste water	DPH-BS	41-2 mm - Mdd	11-5 MW- H3d	4-17 mm-1196	DPM-MW5-17	DPH -MW8- 17	DPH-MW10-14	DPH-MW9-17	Dr.11-105	NX3-HIU	SAMPLE I.D.			ageO
	P0 #:	POTW STORMWATER OR HELD OR OTHER:	VT OTHER:	TAISK 2			LAI:.	SIAIE: LV 17		faireth Goundwater Tovergations	John Brooks	a-NaOH; M-MEOH	C SVY-SURFACE WATER; DVY-DRINKING V	7/24/10 14:15 4	124/18 13:40	5h:21 N1/h2/t	1/24/18 12:00	7/24/18 11:20	7/W/18 10.50	1/11/18 But	7/W/18 9:30	5021 BL-42-2	1-24-18 1125 GM	START & FINISH DATE/TIME MATERIAL			D)
77	G	k / 1/2	5	SA				IP: O3 C3 S					VATER;	×	×	¥	X	7	4	74	×	y		524.2 524.2 BTEX 52 8260 624 VT			OLD FIELDS R
RELINQUISHED BY:	REMICOIONED DE	RELINQUISHED BY:	TI WANTED DE	SAMPLER(S): Jon-Ente	.	MA MCP	O _R	> ₩	S	OA/OC	Date Needed:		·											8015 GRO MAV 8270 625 SYTIC ABN A BN TPH8100 LI 8015 DRO MAE	PH s edb dbcp pah l2	SVO	BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS
DATE:		7-25-6 /		Trythosters		E-MAIL	ELECTRONIC O		PRELIMS: YES OR	S COOPTI	Morne													OIL & GREASE 1664 TCLP 1311 ABN	METALS ERB	TCLP METALS	ASE CIRCLE R
TIME: RECEIVED BY:	IME: NECEIVED DIS			and Miles		PDF Equis Ex	IIC OPTIONS		ES OR NO	NG OBTIONS	01													TOTAL METALS (LIST TS TSS TDS BR CI F : NO ₂ NO ₃ NO		TALS	EQUESTED A
ED BY:	בט סו:	The state of the s		O. Brien	<u>)</u>	EXCEL			ICE? (TES NO		<i>ئ</i> ا ئە													TKN NH3 T. pH T. Res. Chlor COD PHENOLS	PHOS. O. PHOS	ORGANICS	NALYSIS.
FIELD READINGS:	SUSPECTED CONTAMINATION:	SITE HISTORY:	<u> </u>	1	-		NOTES: (IE: SPECIAL	SAMPLES FIELD FILTERED?	OTHER METALS:	O	METALS:													Reactive Cyanide Flashpoint Ignita	. Сош	Micro	-
	NATION:						NOIES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)) FILTERED?	1		8 RCRA 13 PP F			\$ \$	X	× 6	٨	9 + 6	2 x	× ×	4 t	9 8 8	X X 6	VOCS L PYTS VX # of Containers	k 8 7600 k fa 16	OTHER	
							G INFO, IF DIFFERENT)	YES _ No]		FE, MN PB, CU													ZOTES MEOH VIAL #		3	33 L

Eastern Analytical, Inc. professional laboratory and drilling services

25 CHENELL DRIVE | CONCORD, NH 03301 | TEL: 603.228.0525 | 1.800.287.0525 | E-MAIL: CUSTOMERSERVICE@EASTERNANALYTICAL.COM | WWW.EASTERNANALYTICAL.COM

SAMPLE 1.D. PPH-MW1-17 7	SAMPLING DATE / TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE / TIME *IF COMPOSITE, SEEE BELO *IF COMPOSITE, SE	524.2 524.2 BTEX 524.2 MTBE ONLY 8260 624 VTICS 4 DIOXAGE	8015 GRO MAVPH 8270 625 SYTICS EDB DBCP ABN A BN PAH TPH8100 LI L2 8015 DRO MAEPH PEST 608 PCB 608	OIL & GREASE 1664 TPH 1664 TCLP 1311 ABN METALS VOC PEST HERB DISSOLVED METALS (LIST BELOW) TOTAL METALS (LIST BELOW)	BR CI F SO ₄ NO ₂ NO ₃ NO ₃ NO ₂ BOD CBOD T. ALK. CORRESPONDENT OF THE CORRESPOND	COD PHENOLS TOC DOC TOTAL CYANIDE TOTAL SULFIDE REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY TOTAL COLIFORM E. COLI FECAL COLIFORM ENTEROCOCCI HETEROTROPHIC PLATE COUNT ** ** ** ** ** ** ** ** ** ** ** **	e # of Containers	Notes MeOH Vial #
	124/18 14:40 124/18 14:40	*					* *	
MATRIX: A-AIR; S-SOII; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER PRESERVATIVE: H-HCL; N-HNO; S-H ₂ SO ₄ ; Na-NaOH; M-MEOH	W-SURFACE WATER; DW-DRINKING W NAOH; M-MEOH	ATER:						
sha Bro	Brooks		DATE NEEDED:	Nonal	in Signature	°C METALS: 8 RCRA	VA 13 PP FE, MN	N Рв, Ci
COMPANY: Emery and Gastett ADDRESS: 56 Main St CIT: Marzith NH CIT: Marzith NH	STATE THE DISUSS		QA/QC REPORTING LEVEL A B C	REPORTING OPTIONS PRELIMS: YES OR NO	ICE? (ES)	<u> </u>	ILTERED? YES	N N
289			OK PRESUMPTIVE CERTAINTY	E-MAIL PDF	EQUIS EXCEL			
	Mall 2		SAMPLER(S): Jon-Lisily Tryggested	Tryggestod (603)	9485- £88 (E			
RY PROGRAM: NPDES: RGP GWP, OIL FUND, BROWNE	OTW STORMWATER OR d or Other:		RELIMOUISHED BY:	DATE TIME	RECEIVED BY:	SITE HISTORY:		
Quote #:	P0 #:		RELINQUISHED BY:	DATE: TIME:	RECEIVED BY:	Suspected Contamination: Field Readings:	TION:	



James Wieck
Emery & Garrett Groundwater Investigations, LLC
56 Main Street
Meredith, NH 03253



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 185935

Client Identification: Dover Pudding Hill

Date Received: 8/28/2018

Dear Mr. Wieck:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

9.6.18

of pages (excluding cover letter)





EAI ID#: 185935

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Dover Pudding Hill

Temperature upon receipt (°C): 3.1

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received		Sample Matrix	Exceptions/Comments (other than thermal preservation)
185935.01	DPH-4	8/28/18	8/28/18	aqueous	Adheres to Sample Acceptance Policy
185935.02	DPH-6	8/28/18	8/28/18	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 4th edition, 1992



EAI ID#: 185935

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	DPH-4	DPH-6	
Lab Sample ID:	185935.01	185935.02	
Matrix:	aqueous	aqueous	
	•	8/28/18	
Date Sampled:	8/28/18	8/28/18	
Date Received:	8/28/18		
Units:	ug/L	ug/L	
Date of Analysis:	8/29/18	8/29/18	
Analyst:	VG	VG	
Method:	8260C	8260C	
Dilution Factor:	1	1	
Bridger F dotor.			
Dichlorodifluoromethane	< 5	< 5	
Chloromethane	< 2	< 2	
Vinyl chloride	< 2 < 2	< 2 < 2	
Bromomethane	< 2 < 5	< 2 < 5	
Chloroethane Trichlorofluoromethane	< 5 < 5	< 5	
Diethyl Ether	< 5	< 5	
Acetone	< 10	< 10	
1,1-Dichloroethene	< 1	< 1	
tert-Butyl Alcohol (TBA)	< 30	< 30	
Methylene chloride	< 5	< 5	
Carbon disulfide	< 2	< 2	
Methyl-t-butyl ether(MTBE)	< 1	< 1	
Ethyl-t-butyl ether(ETBE)	< 5 < 5	< 5 < 5	
Isopropyl ether(DIPE) tert-amyl methyl ether(TAME)	< 5 < 5	< 5	
trans-1,2-Dichloroethene	< 1	< 1	
1,1-Dichloroethane	< 1	< 1	
2,2-Dichloropropane	< 1	< 1	
cis-1,2-Dichloroethene	< 1	< 1	
2-Butanone(MEK)	< 10	< 10	
Bromochloromethane	< 1	< 1	
Tetrahydrofuran(THF)	< 10	< 10	
Chloroform	< 1	< 1	
1,1,1-Trichloroethane	< 1 < 1	< 1 < 1	
Carbon tetrachloride 1,1-Dichloropropene	< 1	< 1	
Benzene	< 1	< 1	
1,2-Dichloroethane	< 1	< 1	
Trichloroethene	< 1	< 1	
1,2-Dichloropropane	< 1	< 1	
Dibromomethane	< 1	< 1	
Bromodichloromethane	< 0.5	< 0.5	
1,4-Dioxane	< 50	< 50	
4-Methyl-2-pentanone(MIBK)	< 10	< 10 < 0.5	
cis-1,3-Dichloropropene Toluene	< 0.5 < 1	< 0.5	
trans-1,3-Dichloropropene	< 0.5	< 0.5	
1,1,2-Trichloroethane	< 1	< 1	
2-Hexanone	< 10	< 10	
Tetrachloroethene	< 1	< 1	
1,3-Dichloropropane	< 1	< 1	
Dibromochloromethane	< 1	< 1	
1,2-Dibromoethane(EDB)	< 2	< 2	
Chlorobenzene	< 1	< 1	
1,1,1,2-Tetrachloroethane	< 1 < 1	< 1 < 1	
Ethylbenzene	- 1	- 1	2
			in the second



EAI ID#: 185935

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	DPH-4	DPH-6
	405005.04	105025 00
Lab Sample ID:	185935.01	185935.02
Matrix:	aqueous	aqueous
Date Sampled:	8/28/18	8/28/18
Date Received:	8/28/18	8/28/18
Units:	ug/L	ug/L
Date of Analysis:	8/29/18	8/29/18
•	VG	VG
Analyst:		
Method:	8260C	8260C
Dilution Factor:	1	1
mp-Xylene	< 1	< 1
o-Xylene	< 1	< 1
Styrene	< 1	< 1
Bromoform	< 2	< 2
IsoPropylbenzene	< 1	< 1
Bromobenzene	< 1	< 1
1,1,2,2-Tetrachloroethane	< 1	< 1
1,2,3-Trichloropropane	< 0.5	< 0.5
n-Propylbenzene	< 1	< 1
2-Chlorotoluene	< 1	< 1
4-Chlorotoluene	< 1	< 1
1,3,5-Trimethylbenzene	< 1	< 1
tert-Butylbenzene	< 1	< 1
1,2,4-Trimethylbenzene	< 1	< 1
sec-Butylbenzene	< 1	< 1
1,3-Dichlorobenzene	< 1	< 1
p-Isopropyltoluene	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1
n-Butylbenzene	< 1	< 1
1,2-Dibromo-3-chloropropane	< 2	< 2
1,3,5-Trichlorobenzene	< 1	< 1
1,2,4-Trichlorobenzene	< 1	< 1
Hexachlorobutadiene	< 0.5	< 0.5
Naphthalene	< 5	< 5
1,2,3-Trichlorobenzene	< 1	< 1
4-Bromofluorobenzene (surr)	93 %R	93 %R
1,2-Dichlorobenzene-d4 (surr)	105 %R	105 %R
Toluene-d8 (surr)	97 %R	99 %R
1,2-Dichloroethane-d4 (surr)	107 %R	108 %R



EAI ID#: 185935

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	DPH-4	DPH-6	
Lab Sample ID:	185935.01	185935.02	
Matrix:	aqueous	aqueous	
Date Sampled:	8/28/18	8/28/18	Analysis
Date Received:	8/28/18	8/28/18	Units Date Time Method Analyst
Chloride	35	13	mg/L 8/29/18 9:34 4500CIE-11 KD
Nitrite-N	< 0.5	< 0.5	mg/L 8/29/18 9:34 353.2 KD
Nitrate-N	0.88	0.57	mg/L 8/29/18 9:34 353.2 KD



EAI ID#: 185935

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	DPH-4	DPH-6	
Lab Sample ID:	185935.01	185935.02	
Matrix:	aqueous	aqueous	
Date Sampled:	8/28/18	8/28/18	Analytical Date of
Date Received:	8/28/18	8/28/18	Matrix Units Analysis Method Analyst
Arsenic	0.0011	0.0039	AqDis mg/L 8/30/18 200.8 DS
Sodium	24	10	AqDis mg/L 8/30/18 200.8 DS
Zinc	< 0.005	0.0058	AqDis mg/L 8/30/18 200.8 DS

f Different)	NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT)	V LIMITS, BI	DETECTION	SPECIAL D	Es: (IE: S	Note					5		; >		T.				ဋ္ဌ						i .	_ Ext.:			۲	PHONE: 603-278-4425	44	2	27	3.	6	ONE:	ヱ
□ No	XX YES	RED?	SAMPLES FIELD FILTERED?	FIELD	(PLES	SAM						3		F			C	F	B		> 5	-	23	IIP:0325	0	_ ZIP	MI	10	STATE:			F/3	7	MEXCOLSH	37		CITY: _
200	11357	y M	OTHER METALS: SOPEAH	ALS:	ER META	HITO HE	No		\wedge	ICE?	K)PTIONS	ି ବି ତ୍ର	REPORTING O				7	- -	QA/QC	QA/QC									7	8	COMPANY: EGGI ADDRESS: SG MAIN	22	COMPANY: ECC	18 E)MPAI	8 0
PB, CU	Fe, MN	I3 PP	8 RCRA		METALS:	ME	c	<u>a</u>	TEMP.	_	1	1	2.	12	12	Standar		5	E	DATE NEEDED:	DAT						7	6	WICCK	S	3	H		PROJECT MANAGER:	MA	OJEC	· <u>-</u>
																								ER;	WAT	RINKING	DW-DI	WATER;	RFACE \	MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER PRESERVATIVE: H-HCL; N-HNO ₃ ; S-H ₂ SO ₄ ; Na-NaOH; M-MEOH	WATER;	ROUND '	GW-G ATER N-HNO	S-SOIL; ASTE W. HCL; 1	A-AIR;	TRIX: /	⊋ ≊
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Notes MeOH Vial #	# of Containers			ENTEROCOCCI HETEROTROPHIC PLATE COUNT	Total Coliform E. Coli Fecal Coliform	REACTIVE CYANIDE REACTIVE SULFIDE FLASHPOINT IGNITABILITY	COD PHENOLS TOC DOC TOTAL CYANIDE TOTAL SULFIDE	pH T. Res. CHLORINE	TKN NH ₃ T. Phos. O. Phos.	BOD CBOD T. ALK.	BR CD F SO ₄ NO ₂ NO ₂ NO ₂	TS TSS TDS SPEC. CON.	TOTAL METALS (LIST BELOW)	VOC PEST HERB DISSOLVED METALS (LIST BELOW)	TCLP 1311 ABN Metals VOC PEST HERB	OIL & GREASE 1664 TPH 1664	PEST 608 PCB 608 PEST 8081 PCB 8082	8015 DRO MAEPH	ABN A BN PAH TPH8100 LI L2	8270 625 SYTICS EDB DBCP	8015 GRO MAVPH	1, 4 DIOXANE 8021 BTEX HALOS	524.2 524.2 BTEX 524.2 MTBE ONLY 8260 - 624 VTICs	GRAB/*COMPOSITE 524.2	Matrix (see below)		SITE, SITE, VISH	MPO MPO MPO MPO MPO MPO MPO MPO MPO MPO	SAMPLING DATE / TIME *IF COMPOSITE, INDICATE BOTH START & FINISH DATE / TIME	_SZ≛⊜			•	SAMPLE I.D.	SA		
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	<u>ა</u>	185935	_ •									Ű	CHAIN-OF-CUSTODY RECORD	70 m	¥	TOD	LSA	Ö	Ö	Ź	Ĭ	0											h)		ļ •	7

#:PO #:	REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR GWP, OIL FUND, BROWNFIELD OR OTHER:	PROJECT #: NH MA ME VT OTHER:	SITE NAME DOUGK PMADITUG HYCL		DHONE CO3-776-4475 STATE NH IP-03253	ADDRESS: SG MAIN S!	PROJECT MANAGER: TIM WIECK
Qиоте #:	REGULATORY F	Project #: Ni	E-MAIL:	FAX:	CITY: 1	ADDRESS: 5	PROJECT M

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FIELD READINGS:

SUSPECTED CONTAMINATION:

SITE HISTORY:



professional laboratory and drilling services

James Wieck
Emery & Garrett Groundwater Investigations, LLC
56 Main Street
Meredith, NH 03253



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 185983

Client Identification: Dover Pudding Hill / 33.0083025.00 Task 1

Date Received: 8/29/2018

Dear Mr. Wieck:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

"less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

9.7.18

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE



EAI ID#: 185983

Client: Emery & Garrett Groundwater Investigations, LLC (NH)
Client Designation: Dover Pudding Hill / 33.0083025.00 Task 1

Temperature upon receipt (°C): 1.1

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample % Dry Matrix Weight	Exceptions/Comments (other than thermal preservation)
185983.01	DPH-MW6	8/29/18	8/29/18	aqueous	Adheres to Sample Acceptance Policy
185983.02	DPH-MW2D	8/29/18	8/29/18	aqueous	Adheres to Sample Acceptance Policy
185983.03	DPH-B5	8/29/18	8/29/18	aqueous	Adheres to Sample Acceptance Policy
185983.04	DP-105	8/29/18	8/28/18	aqueous	Adheres to Sample Acceptance Policy
185983.05	Trip Blank - VOC	8/29/18	8/2/18	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 4th edition, 1992



Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Dover Pudding Hill / 33.0083025.00 Task 1

Sample ID:	DPH-MW6	DPH-MW2D	DPH-B5	DP-105	Trip Blank - VOC	
Lab Sample ID:	185983.01	185983.02	185983.03	185983.04	185983.05	
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous	
	•	•	•	•	•	
Date Sampled:	8/29/18	8/29/18	8/29/18	8/28/18	8/2/18	
Date Received:	8/29/18	8/29/18	8/29/18	8/29/18	8/29/18	
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	
Date of Analysis:	8/31/18	8/31/18	8/31/18	8/31/18	8/31/18	
Analyst:	BAM	BAM	BAM	BAM	BAM	
Method:	8260C	8260C	8260C	8260C	8260C	
			1	1	1	
Dilution Factor:	1	1		ı	1	
Dichlorodifluoromethane	< 5	< 5	< 5	< 5	< 5	
Chloromethane	< 2	< 2	< 2	< 2	< 2	
Vinyl chloride	< 2	< 2	< 2	< 2	< 2	
Bromomethane	< 2 < 5					
Chloroethane Trichlorofluoromethane	< 5	< 5 < 5	< 5 < 5	< 5 < 5	< 5	
Diethyl Ether	< 5	< 5	< 5	< 5	< 5	
Acetone	< 10	< 10°	< 10	< 10	< 10	
1,1-Dichloroethene	< 1	< 1	< 1	< 1	< 1	
tert-Butyl Alcohol (TBA)	< 30	< 30	< 30	< 30	< 30	
Methylene chloride	< 5	< 5	< 5	< 5	< 5	
Carbon disulfide	< 2	< 2	< 2	< 2	< 2	
Methyl-t-butyl ether(MTBE)	< 1	< 1	3.7	7.4	< 1	
Ethyl-t-butyl ether(ETBE)	< 5	< 5	< 5	< 5	< 5	•
Isopropyl ether(DIPE)	< 5	< 5	< 5	< 5	< 5	
tert-amyl methyl ether(TAME)	< 5	< 5 < 1	< 5 < 1	< 5 < 1	< 5 < 1	
trans-1,2-Dichloroethene	< 1 < 1	< 1	< 1	< 1	< 1	
1,1-Dichloroethane 2,2-Dichloropropane	<1	< 1	< 1	< 1	< 1	
cis-1,2-Dichloroethene	< 1	< 1	< 1	< 1	< 1	
2-Butanone(MEK)	< 10	< 10	< 10	< 10	< 10	
Bromochloromethane	< 1	< 1	< 1	< 1	< 1	
Tetrahydrofuran(THF)	< 10	< 10	< 10	< 10	< 10	
Chloroform	< 1	< 1	< 1	< 1	< 1	
1,1,1-Trichloroethane	< 1	< 1	< 1	< 1	< 1	
Carbon tetrachloride	< 1	< 1	< 1	< 1	< 1	
1,1-Dichloropropene	< 1	< 1	< 1	< 1	< 1	
Benzene	< 1 < 1					
1,2-Dichloroethane Trichloroethene	< 1	< 1	< 1	< 1	< 1	
1,2-Dichloropropane	< 1	< 1	< 1	< 1	< 1	
Dibromomethane	< 1	< 1	< 1	< 1	< 1	
Bromodichloromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
1,4-Dioxane	< 50	< 50	< 50	< 50	< 50	
4-Methyl-2-pentanone(MIBK)	< 10	< 10	< 10	< 10	< 10	
cis-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene	< 1	< 1	< 1	< 1	< 1	
trans-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
1,1,2-Trichloroethane	< 1	< 1	< 1	< 1	< 1	
2-Hexanone Totrachloroothone	< 10 < 1					
Tetrachloroethene 1,3-Dichloropropane	< 1	< 1	< 1	< 1	< 1	
ון, אוסוכורוסיים וויאטורים וויאטורים וויאטורים וויאטורים וויאטורים וויאטורים וויאטורים וויאטורים וויאטורים ווי Dibromochloromethane	< 1	< 1	< 1	< 1	< 1	
1,2-Dibromoethane(EDB)	< 2	< 2	< 2	< 2	< 2	
Chlorobenzene	< 1	< 1	< 1	< 1	< 1	
1,1,1,2-Tetrachloroethane	< 1	< 1	< 1	< 1	< 1	

EAI ID#: 185983



EAI ID#: 185983

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Dover Pudding Hill / 33.0083025.00 Task 1

Sample ID:	DPH-MW6	DPH-MW2D	DPH-B5	DP-105	Trip Blank - VOC
Lab Sample ID:	185983.01	185983.02	185983.03	185983.04	185983.05
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous
Date Sampled:	8/29/18	8/29/18	8/29/18	8/28/18	8/2/18
Date Received:	8/29/18	8/29/18	8/29/18	8/29/18	8/29/18
Units:	ug/L	ug/L	ug/L	ug/L	ug/L
Date of Analysis:	8/31/18	8/31/18	8/31/18	8/31/18	8/31/18
Analyst:	BAM	BAM	BAM	BAM	BAM
Method:	8260C	8260C	8260C	8260C	8260C
Dilution Factor:	1	1	1	1	1
mp-Xylene	< 1	< 1	< 1	< 1	< 1
o-Xylene	< 1	< 1	< 1	< 1	< 1
Styrene	< 1	< 1	< 1	< 1	< 1
Bromoform	< 2 < 1	< 2 < 1	< 2 < 1	< 2 < 1	< 2 < 1
IsoPropylbenzene Bromobenzene	< 1 < 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	< 1	< 1	< 1	< 1	< 1
1,2,3-Trichloropropane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
n-Propylbenzene	< 1	< 1	< 1	< 1	< 1
2-Chlorotoluene	< 1	< 1	< 1	< 1	< 1
4-Chlorotoluene	< 1	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	< 1	< 1	< 1	< 1	< 1
tert-Butylbenzene	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene sec-Butylbenzene	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1
1,3-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1
p-Isopropyltoluene	< 1	< 1	< 1	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1
n-Butylbenzene	< 1	< 1	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane	< 2	< 2	< 2	< 2	< 2
1,3,5-Trichlorobenzene	< 1	< 1	< 1	< 1 < 1	< 1 < 1
1,2,4-Trichlorobenzene Hexachlorobutadiene	< 1 < 0.5	< 1 < 0.5	< 1 < 0.5	< 0.5	< 0.5
Naphthalene	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1
4-Bromofluorobenzene (surr)	92 %R	91 %R	89 %R	89 %R	91 %R
1,2-Dichlorobenzene-d4 (surr)	98 %R	101 %R	97 %R	99 %R	98 %R
Toluene-d8 (surr)	100 %R	97 %R	97 %R	95 %R	101 %R
1,2-Dichloroethane-d4 (surr)	110 %R	112 %R	109 %R	110 %R	109 %R

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

	owr, oil rund, brownfield or oiler: PO≠	8	احيا			Mail: Michael Obries O	**************************************	M. MIRENETH	DDRESS: 56 MASM	OMPANY: CGCT	ROJECT MANAGER: STA	RESERVATIVE: H-HCL; N-HNO3; S-H2SO4; Na-NaOH; M-MEOH	ATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WWW-WATER WATER	8	72	Imp Blank Voc	100 - 10 MANA	س ۱۰۱ ۵۸ - صحاطه	18 - F(AB	074-MW20	アントイプ	SAMPLE I.D.			
	PO #:	POTW STORMWATER OR		0	21	226	1 V 2 S Ext.:	F. 28 1	1		WIECK	va-NaOH; M-MEOH	R; SW-SURFACE WATER; DW-DRINKING			5-2-18 1345	Q-191.01	10.10	1000	1300	8-29-18 1140 CW		SAMPLING DATE/TIME * F COMPOSITE		
				7		CO	F:	IIP: 0525 5					WATER;									MATRIX (GRAB/*(524.2 524.2 BTEX 8260B 624 1, 4 DIOXANY	COMPOS	SITE ONLY	
7	RELIN	NELIN		SAMPLE	i	PRESI	-	\ <u>\</u>	1 1	2	DAT					7		X	X	メ	×	8021B BTEX	HALOS MAVPH		
RELINOUISHED BY:	RELINQUISHED BY:	NELINQUISHED DY:	Months Br	SAMPLER(S): MICKGE		PRESUMPTIVE CERTAINTY	O _R	В	REPORTING LEVEL	5	DATE NEEDED:											8270D 625 S ABN A B TPH8100 LI	VTICS EDB N PAH	DBCP	7
	-	_	10	14/10	•	RTAINTY		0	•														MAEPH PCB 608 PCB 8082 664 TPH 1		
DATE:	DATE:	Jes-1		1018	- -	E-MAIL	ELECTRON		PRELIMS: Y	7500													BN METALS Herb		
TIME:	F	6	Tur	1811en		PDF Equis	PI		PRELIMS: YES OR NO	Option												TOTAL METALS (L	IST BELOW) DS Spec. Co		
RECEIVED BY:	RECEIVED BY:		Dronwing Du.	571-262		JIS EXCEL			ICE?		Trup											BOD CBOD	SO ₄ NO ₃ NO ₂ T. ALK. T. PHOS. O). Phos.	
		A		2-7545					YES NO	"	7.7											pH T. RES. C	TOC D	OC	
Field	Suspec	SITE HISTORY:		7	_		NOTES:	SAMP	OTHER		METALS:											TOTAL CYANIDE REACTIVE CYANIDE FLASHPOINT TOTAL COLIFORM	TOTAL SULFIDE REACTIVE SU ENITABILITY E. COLI		
FIELD READINGS:	SUSPECTED CONTAMINATION:	ISTORY:				NOC BY & 7600	(IE: SPECIAL DI	SAMPLES FIELD FILTERED?	OTHER METALS:		LS: 8 RCRA											FECAL COLIFORM ENTEROCOCCI HETEROTROPHIC P			1 0 : 0 1
	ATION:					ダグ	ETECTION LIMIT	FILTERED?			TRA 13 PP														
						32 K	ts, Billing It]		P FE, MN		,									# of Containers			
						0	NOTES: (IE: SPECIAL DETECTION LIMITS, BILLING INFO, IF DIFFERENT	YES]		MN PB, CI											N OTES			

Eastern Analytical, Inc. professional laboratory and drilling services

25 CHENELL DRIVE | CONCORD, NH 03301 | Tel: 603.228.0525 | I.800.287.0525 | E-Mail: CustomerService@EasternAnalytical.com | www.EasternAnalytical.com

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

James Wieck
Emery & Garrett Groundwater Investigations, LLC
56 Main Street
Meredith, NH 03253



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 185984

Client Identification: Dover Pudding Hill / 33.0083021.01 Task 1

Date Received: 8/29/2018

Dear Mr. Wieck:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.easternanalytical.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269), Vermont (VT1012) and New York (12072).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample (s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

9.24.18

25 72 72 72

of pages (excluding cover letter)





EAI ID#: 185984

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Dover Pudding Hill / 33.0083021.01 Task 1

Temperature upon receipt (°C): 1.1

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

	- toporataro (ago (o), o o				
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Dr Matrix Weig	*
185984.01	DPH-MW6	8/29/18	8/29/18	aqueous	Adheres to Sample Acceptance Policy
185984.02	2 DPH-MW2D	8/29/18	8/29/18	aqueous	Adheres to Sample Acceptance Policy
185984.03	B DPH-B5	8/29/18	8/29/18	aqueous	Adheres to Sample Acceptance Policy
185984.04	DP-105	8/29/18	8/28/18	aqueous	Adheres to Sample Acceptance Policy
185984.05	Trip Blank - 1,4 Dioxane	8/29/18	4/25/18	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th, 21st, 22nd & 23rd Edition or noted Revision year.
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 4th edition, 1992



EAI ID#: 185984

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Dover Pudding Hill / 33.0083021.01 Task 1

Sample ID:	DPH-MW6	DPH-MW2D	Trip Blank - 1,4 Dioxane
Lab Sample ID:	185984.01	185984.02	185984.05
Matrix:	aqueous	aqueous	aqueous
Date Sampled:	8/29/18	8/29/18	4/25/18
Date Received:	8/29/18	8/29/18	8/29/18
Units:	ug/L	ug/L	ug/L
Date of Analysis:	8/30/18	8/30/18	8/30/18
Analyst:	VG	VG	VG
Method:	8260B SIM	8260B SIM	8260B SIM
Dilution Factor:	1	1	1
1,4-Dioxane 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	< 0.2 92 %R 98 %R	< 0.2 98 %R 99 %R	< 0.2 100 %R 100 %R



EAI ID#: 185984

Client: Emery & Garrett Groundwater Investigations, LLC (NH) Client Designation: Dover Pudding Hill / 33.0083021.01 Task 1

Sample ID:	DPH-MW6	DPH-B5	DP-105				
Lab Sample ID:	185984.01	185984.03	185984.04				
Matrix:	aqueous	aqueous	aqueous				
Date Sampled:	8/29/18	8/29/18	8/28/18	Analytical		Date of	
Date Received:	8/29/18	8/29/18	8/29/18	Matrix	Units	Analysis	Method Analyst
Arsenic	0.0010	0.0015	0.0017	AqDis	mg/L	8/30/18	200.8 DS
Barium	0.0033	0.022	0.057	AqDis	mg/L	8/30/18	200.8 DS
Cadmium	< 0.001	< 0.001	< 0.001	AqDis	mg/L	8/30/18	200.8 DS
Chromium	0.0023	< 0.001	< 0.001	AqDis	mg/L	8/30/18	200.8 DS
Iron	< 0.05	1.4	1.8	AqDis	mg/L	8/30/18	200.8 DS
Lead	< 0.001	< 0.001	< 0.001	AqDis	mg/L	8/30/18	200.8 DS
Manganese	< 0.005	0.39	0.43	AqDis	mg/L	8/30/18	200.8 DS
Mercury	< 0.0001	< 0.0001	< 0.0001	AqDis	mg/L	8/30/18	200.8 DS
Selenium	< 0.001	< 0.001	< 0.001	AqDis	mg/L	8/30/18	200.8 DS
Silver	< 0.001	< 0.001	< 0.001	AqDis	mg/L	8/30/18	200.8 DS



September 23, 2018

Vista Work Order No. 1802850

Ms. Jennifer Laramie Eastern Analytical, Inc. 25 Chennell Drive Concord, NH 03301

Dear Ms. Laramie,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on August 31, 2018 under your Project Name '185984 NH 4912'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.vista-analytical.com

Vista Work Order No. 1802850 Case Narrative

Sample Condition on Receipt:

One aqueous sample was received in good condition and within the method temperature requirements. The sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

PFAS Isotope Dilution Method

The sample was extracted and analyzed for a selected list of PFAS using Modified EPA Method 537. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The sample was extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The recoveries of all internal standards in the QC and field samples were within the acceptance criteria.

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Case Narrative	
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Qualifiers	9
Certifications	10
Sample Receipt	13

Sample Inventory Report

Vista Sample ID

1802850-01

Client Sample ID

DPH-MW6

Sampled

Received

Components/Containers

29-Aug-18 11:40 31-Aug-18 09:30

HDPE Bottle, 125 mL HDPE Bottle, 125 mL

Vista Project: 1802850 Client Project: 185984 NH 4912

Work Order 1802850 Page 4 of 14

ANALYTICAL RESULTS

Work Order 1802850 Page 5 of 14





both	FOSAA include b	FOSAA and Eti	When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both	orted, PFHxS,	When rep		Results reported to RL.	Result	Reporting limit	RL-R	
18:23	19-Sep-18 18:23	0,250 L	10-Sep-18	B8I0028		20 - 150		75.9	IS		13C2-PFTeDA
18:23	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		30 - 130		75.9	IS		13C2-PFDoA
8:23	19-Sep-18 18:23	0,250 L	10-Sep-18	B8I0028		60 - 130		75.5	IS		13C2-PFUnA
18:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		50 - 150		77.7	SI		d5-EtFOSAA
8:23	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		50 - 150		77.3	SI		d3-MeFOSAA
8:23 1	19-Sep-18 18:23	$0.250\mathrm{L}$	10-Sep-18	B8I0028	ANDREA AND AND AND AND AND AND AND AND AND AN	60 - 130	and situated and situated and situated and security and situated and s	79.7	SI		13C2-PFDA
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		60 - 130		101	S		13C8-PFOS
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028	and Minness or an fact of American SEC Constant College	50 - 130	out, 177 est Teoremines Cadelidae et model tare Ca	91.0	SI	2007 surfit the authors bear described by the forms in the order fact or bear in	13C5-PFNA
8:23	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		60 - 130		97.3	IS		13C2-PFOA
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028	Anni Taba delimination Control distance (* 7.5)	60 - 130		112	SI	oskoro odskistanje odstativanje i satisticaka – i poskovita i stalika i satistica i sa	1802-PFHxS
[8:23 1]	19-Sep-18 18:23	0,250 L	10-Sep-18	B8I0028		60 - 150		108	IS		13C4-PFHpA
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		70 - 130		105	SI		13C2-PFHxA
[8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		60 - 150		111	IS		13C3-PFBS
18:23 1	19-Sep-18 18:23	$0.250\mathrm{L}$	10-Sep-18	B8I0028	make dammatan makandakan mendakan melama dari	60 - 150	mine dependence (Compositions Services	104	IS	where where it funds to concentrate the contrate where the	13C3-PFPeA
8:23	19-Sep-18 18:23	$0.250\mathrm{L}$	10-Sep-18	B8I0028		60 - 130		104	IS		13C3-PFBA
d Dilution	Analyzed	Samp Size	Extracted	Batch	Qualifiers	Limits	y	% Recovery	Туре	ards	Labeled Standards
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		4.00		ND	376-06-7		PFTeDA
8:23 1	19-Sep-18 18:23	$0.250\mathrm{L}$	10-Sep-18	B8I0028		4.00		ð	72629-94-8		PFTrDA
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028	orinnastand darinds radioticille bracedo	4.00	and the same advantagement of the control of the co	ND	307-55-1	alis i e alement alian ni vita na hari'adhan indo tann molait mananan na	PFDoA
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		4.00		A	2058-94-8		PFUnA
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		4.00		AP	2991-50-6		EtFOSAA
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		4,00		ND.	2355-31-9		MeFOSAA
8:23 1	19-Sep-18 18:23	$0.250\mathrm{L}$	10-Sep-18	B8I0028		4.00		ND	335-76-2		PFDA
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		4,00		Ä	1763-23-1		PFOS
,	19-Sep-18 18:23	$0.250\mathrm{L}$	10-Sep-18	B8I0028		4.00		ND	375-95-1		PFNA
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		4.00		Ą	335-67-1		PFOA
8:23 1	19-Sep-18 18:23	$0.250\mathrm{L}$	10-Sep-18	B8I0028		4.00		AN	355-46-4		PFHxS
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		4,00		Œ	375-85-9		PFHpA
	19-Sep-18 18:23	$0.250\mathrm{L}$	10-Sep-18	B8I0028		4.00		ND	307-24-4		PFHxA
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		4.00		ð	375-73-5		PFBS
,_	19-Sep-18 18:23	$0.250~\mathrm{L}$	10-Sep-18	B8I0028		4.00		. ND	2706-90-3		PFPeA
8:23 1	19-Sep-18 18:23	0.250 L	10-Sep-18	B8I0028		4.00		ND	375-22-4		PFBA
d Dilution	Analyzed	Samp Size	Extracted	Batch	Qualifiers	ŔĽ		Conc. (ng/L)	CAS Number		Analyte
· S	BEH C18	Column:	3LK1	B810028-BLK1	Lab Sample:		x: Aqueous	Matrix		Eastern Analytical, Inc. 185984 NH 4912	Name: Project:
					Laboratory Data	La	-				Client Data
PFAS Isotope Dilution Method	tope Diluti	PFAS Iso								Sample ID: Method Blank	Sample ID:

linear and branched isomers. Only the linear isomer is reported for all other analytes.

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Work Order 1802850



Sample ID: OPR									PFAS Is	PFAS Isotone Dilution Method	Method
Client Data					Labo	oratory Data					
Name: Easter Project: 18598	Eastern Analytical, Inc. 185984 NH 4912	Matrix:	Aqueous		Lab	Sample:	B8I0028-BS1	BS1	Column:	BEH C18	
Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	40.8	40.0	102	70 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	
PFPeA	2706-90-3	41.1	40.0	103	70 - 130	Chair air is ann tan the the sirie a	B8I0028	10-Sep-18	$0.250\mathrm{L}$	19-Sep-18 18:34	— ************************************
PFBS	375-73-5	40.4	40.0	101	70 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	1
PFHxA	307-24-4	40.8	40.0	102	70 - 130		B8I0028	10-Sep-18	$0.250\mathrm{L}$	19-Sep-18 18:34	1
PFHpA	375-85-9	40.0	40.0	100	70 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	
PFHxS	355-46-4	37.9	40.0	94.7	70 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	,
PFOA	335-67-1	40,0	40,0	100	70 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	-
PFNA	375-95-1	42.5	40.0	106	70 - 130		B8I0028	10-Sep-18	$0.250\mathrm{L}$	19-Sep-18 18:34	<u> </u>
PFOS	1763-23-1	42,8	40.0	107	70 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	
PFDA	335-76-2	41.9	40.0	105	70 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	_
MeFOSAA	2355-31-9	38,5	40.0	96.3	70 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	_
EtFOSAA	2991-50-6	38.2	40.0	95.4	70 - 130		B8I0028	10-Sep-18	$0.250\mathrm{L}$	19-Sep-18 18:34	,
PFUnA	2058-94-8	40.4	40.0	101	70 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	_
PFDoA	307-55-1	39.7	40.0	99.3	70 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	_
PFTrDA	72629-94-8	42.4	40.0	106	60 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	-
PFTeDA	376-06-7	36.6	40.0	91.6	70 - 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	_
Labeled Standards		Туре		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
I3C3-PFBA		SI		101	60- 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	1
13C3-PFPeA	on constitution is above upolicity to a constitution of the condition of the constitution of the constitution of		condition of the condition of the decrease of the condition of	95.7	60- 150	Act to the second of the secon	B8I0028	10-Sep-18	$0.250\mathrm{L}$	19-Sep-18 18:34	_
13C3-PFBS		Is		102	60- 150		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	
13C2-PFHxA		IS		97.8	70- 130		B8I0028	10-Sep-18	$0.250\mathrm{L}$	19-Sep-18 18:34	1
13C4-PFHpA		IS		109	60- 150		B8I0028	10-Sep-18	$0.250\mathrm{L}$	19-Sep-18 18:34	-
1802-PFHxS	de la company	IS		102	60- 130		B8I0028	10-Sep-18	$0.250\mathrm{L}$	19-Sep-18 18:34	1
13C2-PFOA		SI		100	60- 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	
13C5-PFNA		IS		91.3	50- 130		B8I0028	10-Sep-18	$0.250\mathrm{L}$	19-Sep-18 18:34	-
13C8-PFOS		IS		102	60- 130		B8I0028	10-Sep-18	$0.250\mathrm{L}$	19-Sep-18 18:34	1
13C2-PFDA	rian result i indices distribution decrea consequente manatementante e constanti pais sun ta care	IS	Filmster terminal state of the contract of the	74.3	60- 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	1
d3-MeFOSAA		IS		69.4	50- 150		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	-
d5-EtFOSAA		IS		74.7	50- 150		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	_
13C2-PFUnA		$_{ m IS}$		71.7	60- 130		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	-
13C2-PFD ₀ A	ado cinación tar de Samina de Carlos de Cambra dans conducado de Carlos antes de Anoma de Carlos antes de Anom	IS	And the second s	74.1	30- 130	Andrews Street Control of Street Stre	B8I0028	10-Sep-18	$0.250\mathrm{L}$	19-Sep-18 18:34	-
13C2-PFTeDA		IS		89.6	20- 150		B8I0028	10-Sep-18	0.250 L	19-Sep-18 18:34	,

Work Order 1802850 Page 7 of 14



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-	19-Sep-18 21:02	0.116L	10-Sep-18	B8I0028		20 - 150	74.7	S		13C2-PFTeDA
_	19-Sep-18 21:02	$0.116\mathrm{L}$	10-Sep-18	B8I0028		30 - 130	70.1	IS		13C2-PFDoA
	19-Sep-18 21:02	0,116 L	10-Sep-18	B810028		60 - 130	66.7	S		13C2-PFUnA
<u></u>	19-Sep-18 21:02	$0.116\mathrm{L}$	10-Sep-18	B8I0028		50 - 150	63.9	IS		d5-EtFOSAA
	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		50 - 150	64.1	IS		d3-MeFOSAA
1	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		60 - 130	70.2	IS	and their specialists of the contributions and of these decidations described.	13C2-PFDA
Н	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		60 - 130	911	Is		13C8-PFOS
1	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028	constitution of the seeding is the first constitution of the federal	50 - 130		IS		13C5-PFNA
	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		60 - 130	91.6	IS		13C2-PFOA
_	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028	And the second s	60 - 130	93.1	IS	The contract of the contract o	1802-PFH _x S
-	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		60 - 150	102	SI		13C4-PFHpA
_	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		70 - 130	97.0	SI		13C2-PFHxA
	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		60 - 150	105	SI		13C3-PFBS
_	19-Sep-18 21:02	$0.116\mathrm{L}$	10-Sep-18	B8I0028	And the second of the second o	60 - 150		SI	ed artiga en en en 190 metrockada artigat de eduar en 1900.	13C3-PFPeA
-	19-Sep-18 21:02	$0.116\mathrm{L}$	10-Sep-18	B8I0028		60 - 130	98.2	SI		13C3-PFBA
Dilution	Analyzed D	Samp Size	Extracted	Batch	Qualifiers	Limits	% Recovery	Type	dards	Labeled Standards
-	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		4.31	ND	376-06-7		PFTeDA
	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		43	ŊD	72629-94-8		PFTrDA
-	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028	offerment former out their columns for on	4.31	. The second continues are consistent and the continues of the second continues are second continues and the second continues are second continues and the second continues are	307-55-1	e company brinding prime para from cameraterial prime at the	PFDoA
	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		4.31	ND	2058-94-8		PFUnA
	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		4.31	ND	2991-50-6		EtFOSAA
	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		4.31	Ŋ	2355-31-9		MeFOSAA
<u></u>	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		4.31	ND	335-76-2		PFDA
_	19-Sep-18 21:02	$0.116\mathrm{L}$	10-Sep-18	B8I0028		4.31	ਰੋ	1763-23-1		PFOS
_	19-Sep-18 21:02	$0.116\mathrm{L}$	10-Sep-18	B8I0028		4.31	ND	375-95-1		PFNA
	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		4.31	ਰਿ	335-67-1		PFOA
1	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		4.31	ND	355-46-4		PFHxS
	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		4.31	ď	375-85-9		PFHpA
_	19-Sep-18 21:02	$0.116\mathrm{L}$	10-Sep-18	B8I0028		4.31	ND	307-24-4		PFHxA
	19-Sep-18 21:02	$0.116\mathrm{L}$	10-Sep-18	B8I0028		4.31	J	375-73-5		PFBS
—	19-Sep-18 21:02	$0.116\mathrm{L}$	10-Sep-18	B8I0028		4.31	ND	2706-90-3		PFPeA
+	19-Sep-18 21:02	0.116 L	10-Sep-18	B8I0028		4.31	ND	375-22-4	(A) Company of the Co	PFBA
Dilution	Analyzed E	Samp Size	Extracted	Batch	Qualifiers	RL	Conc. (ng/L)	CAS Number		Analyte
	BEH C18	Column:)1 8 09:30	1802850-01 31-Aug-18 09:30	Lab Sample: Date Received:	18 11:40	Matrix: Aqueous Date Collected: 29-Aug-	, Inc.	Eastern Analytical, Inc 185984 NH 4912	Name: Project:
					Laboratory Data	Lab				Client Data
ethod	PFAS Isotope Dilution Method	PFAS Ison							Sample ID: DPH-MW6	Sample ID:
	 	1								

Page 8 of 14

DATA QUALIFIERS & ABBREVIATIONS

B This compound was also detected in the method blank

Conc. Concentration

D Dilution

DL Detection limit

E The associated compound concentration exceeded the calibration range of

the instrument

H Recovery and/or RPD was outside laboratory acceptance limits

I Chemical Interference

J The amount detected is below the Reporting Limit/LOQ

LOD Limits of Detection

LOQ Limits of Quantitation

M Estimated Maximum Possible Concentration (CA Region 2 projects only)

NA Not applicable

ND Not Detected

Q Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)

TEQ Toxic Equivalency

U Not Detected (specific projects only)

* See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	18-008-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-009
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-18-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated	EPA 23
Dibenzofurans	

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B
Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by	EPA 1699
HRGC/HRMS	
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by	EPA 8280A/B
GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B
Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

MATRIX: Solids			
Description of Test	Method		
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613		
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B		
Dilution GC/HRMS			
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A		
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C		
by GC/HRMS			
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537		
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B		
Dibenzofurans by GC/HRMS			
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA		
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A		

Work Order 1802850 Page 12 of 14

CHAIN-OF-CUSTODY RECORD

Sample ID

Date Sampled Matrix

DPH-MW6

11:40



EAUD# 185984

Sample Notes

8/29/2018 aqueous. | Subcontract - Perfluorinated Compounds EPA Method 537

aParameters

1802850 0.60

Account#	Address El Dorado Hills, CA 95762	Address 1104 Windfield Way	Company Vista Analytical Laboratory	i	Project ID: 4912	EALID# 185984 Project State: NH
新書館の歌歌を記せられている。 ・ ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	PECs 16 compound list	Email login confirmation, pdf of results and	Notes about project:	ØA □A+ □B □B+ □C □MAMCP	QC Deliverables	RUSH Dire Date:
Relinguished by Date Time	Samples collected by:	Call prior to analyzing, if RUSH charges will	In Cally Wife, In Call	Excel NH EMD EDING ME EGAD	Data Deliverable (circle)	PO #:48678 EAI ID# 185984

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone # (916) 673-1520

Phone: (603)228-0525

1-800-287-0525

Relinquished by

Date/Time

Received by

be applied.

customerservice@easternanalytical.com

arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or plaims for injury or damages are caused by or result from the negligent or intentional As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages acts or omissions of you as a subcontract lab, your officers, agents or employees Work Order 1802850



Sample Log in Checklist

PAGE	#of	
WO#	1802850	
SDG#_		
TAT	std.	

			* University to the Control of the 	**************************************							
Section 1: Container Receipt											
Delivered By: ☐ FedEx ☑ UPS ☐ On Trac ☐ GSO ☐ DHL ☐ Hand Delivered ☐ Other:											
Number of Containers	Arrival D	ate	Arrival tir	пе	Cooler Received LR-SLC Initiated By/Date						
,	08/31	16	0930	7.	CR 8/31/19						
Section 2: Sample Receipt Condition and Initial Storage											
0:-4-10			Dection 2. Dampi	Preservation		Storage Initials/					
Container C	ondition	C	hain of Custody	Туре	Temperature	Location Date					
☐ Shipping container intact ☐ Shipping seals intact ☐ Custody Seals present ☐ Custody seals intact ☐ Custody seals intact ☐ Custody seals intact ☐ Coc present ☐ Coc pres				⊠ice □Blue lce □Dry lce □Other	Thermometer ID: IR-4 □ Probe used Temp (uncorrected): 0.7 Temp (corrected): 0.6	10, 10					
Section 3: Sample Log In											
Airbill/Trk# 1 Z X46 599 01 9860 9824											
Shipping con	tainer 🗆 '	Vista	⊠client □ Re	tain ⊡Retur	rn □ Dispose	By/date					
Log In Time:						KE MAINUIS					
SamSamTestSamColle	COC clearly identifies: Sample name Sample matrix Test method Sample collection date or time Collector's name										
All samples p	resent an	d acc	ounted for on COC			14 09 04 18					
Sample IDs a	ire legible					PR 09/04/18					
Samples con	form to the	e des	cription on the COC)	A	1/20 00 01/10					
Samples are	Samples are intact and suitable for testing										
Preservation documented as required: NA DNa ₂ S ₂ O ₃ DTrizma DOther Vie on DU 18											
Samples stored WR2 Shelf: DWF2 Shelf: DR1 Shelf: JCL Ug ON 18											
Comments:											

ID.: LR - SLC

Rev No.: 2

Rev Date: 08/29/18

Page: 1 of 1

<u>`</u>

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

	uote #: PO #	EGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR	TATE: (NJH) MA ME VT OTHER:	MOJECT #: 33,0083021.01	THE NAME: MOVEK MONTY			: :· l	IN: MEKENITH		OMPANY: 2662	ANAGER: 32M	RESERVATIVE: H-HCL; N-HNO3; S-H2SO4; Na-NaOH; M-MEOH	WW-WASTE WATER	MATERY. A-AIR. C. COII. C.W. GROUND WATER SW. CURRENCE WATER DW DRIVING WATER	IND Blank of the	>			0 PM-105	38	MIN-MOLD &		SAMPLE I.D.								
	PO #:	OT OTHER OR	,	21.01 TAJK 1	16 MICC	160 @ 92G.		1	STATE: Mold			WIECK	аОН; М-МЕОН	N-SUNFACE WATER; DW-DKINKING	M. SIIDEACE WATER. DW DRIVING	12 348 ESD				8-28-18 1345	8.19.18 1020	8-28-18 1300	8-29-18 1140	START & FINISH DATE/TIME MATRIX								
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77	RELIN	5	7	SAMPLE		PRESU			>	REPO	DA/OS	DAT					-							8021B BTEX	HALOS							
FILMOMISHED RY.	RELINQUISHED BY:	NELINCOISHED DI	Ollicus	SAMPLER(S): JULI CHLE	, ,	Presumptive Certainty	0		_	REPORTING LEVEL	รั	DATE NEEDED:					\dagger								ICs EDB PAH	DBCP						
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DATE.	DATE:	82976	711	6	`						25													OIL & GREASE 166	4 TPH							
	3	of		0 19 (10)	Š	E-MAIL	ELECTRONIC OPTIONS			Prelims: Yes or	TEO OF THE		<u> </u>		-		-	_					- 1	TCLP 1311 AB	N METALS IERB							
Tu.	` ≓	10 m		100	•	PDF	, XIC 0		:	YES OF			-		-	-	-	-		X				DISSOLVED METALS TOTAL METALS (LIST								
		, 0		3	4	Equis	PTION	PTION			R No	PTION	REPORTING OPTIONS													TS TSS TDS						
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		C	×	1)					0	-	5				+	+		-						OTAL SULFIDE							
5	SUSPE	fire !			4			NoTE	SAM	OIHE	2	MET													REACTIVE SU ABILITY	ILFIDE						
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Eastern Analytical, Inc. professional laboratory and drilling services

25 CHENELL DRIVE CONCORD, NH 03301 Tel: 603.228.0525 1.800.287.0525 E-Mail: CustomerService@EasternAnalytical.com www.EasternAnalytical.com GREEN: PROJECT MANAGER)

(WHITE: ORIGINAL



Sample Date: 6/14/17 Monitoring Wells VOCs, LGW Permit WQ

John Brooks
Emery & Garrett Groundwater Investigations, LLC
56 Main Street
Meredith, NH 03253

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 169946

Client Identification: DPH #1

Date Received: 6/14/2017



Dear Mr. Brooks:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

"less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

Lorraine Olashaw, Lab Director

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE

EAI ID#: 169946

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH #1

Temperature upon receipt (°C): 0.3

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Received		Matrix	Exceptions/Comments (other than thermal preservation)
169946.01	DPH-4	6/14/17	6/14/17	aqueous	Adheres to Sample Acceptance Policy
169946.02	DPH-6	6/14/17	6/14/17	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis. Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



EAIID#: 169946

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH #1

Sample ID:	DPH-4	DPH-6	
	400040.04	100046.00	
Lab Sample ID:	169946.01	169946.02	
Matrix:	aqueous	aqueous	
Date Sampled:	6/14/17	6/14/17	
Date Received:	6/14/17	6/14/17	
Units:	ug/L	ug/L	
Date of Analysis:	6/15/17	6/15/17	
	BML	BML	
Analyst:			
Method:	8260C	8260C	
Dilution Factor:	1	1	
Dichlorodifluoromethane	< 5	< 5	
Chloromethane	< 2	< 2	
Vinyl chloride	< 2	< 2	
Bromomethane	< 2	< 2	
Chloroethane	< 5	< 5	
Trichlorofluoromethane	< 5	< 5	
Diethyl Ether	< 5 < 10	< 5 < 10	
Acetone 1,1-Dichloroethene	< 1	< 1	
tert-Butyl Alcohol (TBA)	< 30	< 30	
Methylene chloride	< 5	< 5	
Carbon disulfide	< 2	< 2	
Methyl-t-butyl ether(MTBE)	< 1	< 1	
Ethyl-t-butyl ether(ETBE)	< 5	< 5	
Isopropyl ether(DIPE)	< 5	< 5	
tert-amyl methyl ether(TAME)	< 5	< 5	
trans-1,2-Dichloroethene	< 1	< 1	
1,1-Dichloroethane 2,2-Dichloropropane	< 1 < 1	< 1 < 1	
cis-1,2-Dichloroethene	< 1	< 1	
2-Butanone(MEK)	< 10	< 10	
Bromochloromethane	< 1	< 1	
Tetrahydrofuran(THF)	< 10	< 10	
Chloroform	< 1	< 1	
1,1,1-Trichloroethane	< 1	< 1	
Carbon tetrachloride	< 1	< 1	
1,1-Dichloropropene	< 1	< 1 < 1	
Benzene 1,2-Dichloroethane	< 1 < 1	< 1	
Trichloroethene	< 1	< 1	
1,2-Dichloropropane	< 1	< 1	
Dibromomethane	< 1	< 1	
Bromodichloromethane	< 0.5	< 0.5	
1,4-Dioxane	< 50	< 50	
4-Methyl-2-pentanone(MIBK)	< 10	< 10	
cis-1,3-Dichloropropene	< 0.5	< 0.5	
Toluene	< 1	< 1	
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	< 0.5 < 1	< 0.5 < 1	
2-Hexanone	< 10	< 10	
Tetrachloroethene	< 1	< 1	
1,3-Dichloropropane	< 1	< 1	
Dibromochloromethane	< 1	< 1	
1,2-Dibromoethane(EDB)	< 2	< 2	
Chlorobenzene	< 1	< 1	
1,1,1,2-Tetrachloroethane	< 1	< 1	
Ethylbenzene	< 1	< 1	2



EAI ID#: 169946

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH #1

Sample ID:	DPH-4	DPH-6
Lab Sample ID:	169946.01	169946.02
Matrix:	aqueous	aqueous
Date Sampled:	6/14/17	6/14/17
Date Received:	6/14/17	6/14/17
Units:	ug/L	ug/L
	6/15/17	6/15/17
Date of Analysis:		
Analyst:	BML	BML
Method:	8260C	8260C
Dilution Factor:	1	1
mp-Xylene	< 1	< 1
o-Xylene	< 1	< 1
Styrene	< 1	< 1 < 2
Bromoform IsoPropylbenzene	< 2 < 1	< 2 < 1
Bromobenzene	< 1	< 1
1,1,2,2-Tetrachloroethane	< 1	< 1
1,2,3-Trichloropropane	< 0.5	< 0.5
n-Propylbenzene 2-Chlorotoluene	< 1 < 1	< 1 < 1
4-Chlorotoluene	< 1	< 1
1,3,5-Trimethylbenzene	< 1	< 1
tert-Butylbenzene	< 1	< 1
1,2,4-Trimethylbenzene	< 1	< 1
sec-Butylbenzene 1,3-Dichlorobenzene	< 1 < 1	< 1 < 1
p-Isopropyltoluene	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1
n-Butylbenzene 1,2-Dibromo-3-chloropropane	< 1 < 2	< 1 < 2
1,3,5-Trichlorobenzene	< 1	< 1
1,2,4-Trichlorobenzene	< 1	< 1
Hexachlorobutadiene	< 0.5	< 0.5
Naphthalene	< 5	< 5
1,2,3-Trichlorobenzene 4-Bromofluorobenzene (surr)	< 1 99 %R	< 1 97 %R
1,2-Dichlorobenzene-d4 (surr)	95 %R	96 %R
Toluene-d8 (surr)	107 %R	107 %R
1,2-Dichloroethane-d4 (surr)	111 %R	111 %R

Vinyl chloride exhibited recovery outside acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).



EAI ID#: 169946

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: **DPH #1**

	-		
Sample ID:	DPH-4	DPH-6	
Lab Sample ID:	169946.01	169946.02	
Matrix:	aqueous	aqueous	
Date Sampled:	6/14/17	6/14/17	Analysis
Date Received:	6/14/17	6/14/17	Units Date Time Method Analyst
Chloride	40	14	mg/L 6/15/17 10:38 4500CIE-97 KD
Nitrite-N	< 0.5	< 0.5	mg/L 6/15/17 10:38 353.2 KD
Nitrate-N	0.9	1.7	mg/L 6/15/17 10:38 353.2 KD



EAI ID#: 169946

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: **DPH #1**

Sample ID:	DPH-4	DPH-6	
Lab Sample ID:	169946.01	169946.02	
Matrix:	aqueous	aqueous	
Date Sampled:	6/14/17	6/14/17	Analytical Date of
Date Received:	6/14/17	6/14/17	Matrix Units Analysis Method Analyst
Arsenic	0.004	0.006	AqDis mg/L 6/16/17 200.8 DS
Sodium	23	15	AqDis mg/L 6/16/17 200.8 DS
Zinc	0.021	0.041	AqDis mg/L 6/16/17 200.8 DS

CHAIN-OF-CUSTODY RECORD

04040

BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

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Eastern Analytical, Inc. 25 Ch professional laboratory and drilling services

25 CHENELL DRIVE CONCORD, NH 03301 Tel: 603.228.0525 | 1.800.287.0525 | E-Mail: CustomerService@EasternAnalytical.com | www.easternAnalytical.com

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)



Sample Date: 6/15/17 Monitoring Wells VOCs, 1,4-Dioxane, PFCs

John Brooks
Emery & Garrett Groundwater Investigations, LLC
56 Main Street
Meredith, NH 03253

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 169997

Client Identification: DPH #1

Date Received: 6/15/2017



Dear Mr. Brooks:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

"less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

7-13-17

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE



EAI ID#: 169997

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH #1

Temperature upon receipt (°C): 0.7

Received on ice or cold packs (Yes/No): Y

Acceptab	ie temperature range (*C): 0-6				
Lab ID	Sample ID	Date Received	Date I Sampled	Sample % Dry Matrix Weight	Exceptions/Comments (other than thermal preservation)
169997.0	1 DPH-MW6	6/15/17	6/15/17	aqueous	Adheres to Sample Acceptance Policy
169997.0	2 DPH-B5	6/15/17	6/15/17	aqueous	Adheres to Sample Acceptance Policy
169997.0	3 DPH-105	6/15/17	6/15/17	aqueous	Adheres to Sample Acceptance Policy3
169997.0	4 DPH-MW2d	6/15/17	6/15/17	aqueous	Adheres to Sample Acceptance Policy
169997.0	5 Trip Blank - 8260	6/15/17	5/19/17	aqueous	Adheres to Sample Acceptance Policy
169997.0	6 Trip Blank - 1,4 Dioxane	6/15/17	6/2/17	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



EAI ID#: 169997

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH #1

Sample ID:	DPH-MW6	DPH-B5	DPH-105	DPH-MW2d	Trip Blank - 8260	
Lab Sample ID:	169997.01	169997.02	169997.03	169997.04	169997.05	
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous	
Date Sampled:	6/15/17	6/15/17	6/15/17	6/15/17	5/19/17	
Date Received:	6/15/17	6/15/17	6/15/17	6/15/17	6/15/17	
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	
Date of Analysis:	6/19/17	6/16/17	6/16/17	6/16/17	6/16/17	
Analyst:	VG	VG	VG	VG	VG	
Method:	8260C	8260C	8260C	8260C	8260C	
Dilution Factor:	1	1	1	1	1	
Dichlorodifluoromethane	< 5	< 5	< 5	< 5	< 5	
Chloromethane	< 2	< 2	. < 2	< 2	< 2	
Vinyl chloride	< 2	< 2	< 2	< 2	< 2	
Bromomethane Chloroethane	< 2 < 5	< 2 < 5	< 2 < 5	< 2 < 5	< 2 < 5	
Trichlorofluoromethane	< 5	< 5		< 5	< 5	
Diethyl Ether	< 5	< 5	< 5	< 5	< 5	
Acetone	< 10	< 10	20	< 10	< 10	
1,1-Dichloroethene	< 1	< 1	< 1	< 1	< 1	
tert-Butyl Alcohol (TBA)	< 30 < 5	< 30 < 5	< 30 < 5	< 30 < 5	< 30 < 5	
Methylene chloride Carbon disulfide	< 2	< 2	< 2	< 2	< 2	
Methyl-t-butyl ether(MTBE)	< 1	2	11	< 1	< 1	
Ethyl-t-butyl ether(ETBE)	< 5	< 5	< 5	< 5	< 5	
Isopropyl ether(DIPE)	< 5	< 5	< 5	< 5	< 5	
tert-amyl methyl ether(TAME)	< 5	< 5	< 5	< 5	< 5	
trans-1,2-Dichloroethene 1,1-Dichloroethane	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	
2,2-Dichloropropane	< 1	< 1	< 1	< 1	< 1	
cis-1,2-Dichloroethene	< 1	< 1	< 1	< 1	< 1	
2-Butanone(MEK)	< 10	< 10	< 10	< 10	< 10	
Bromochloromethane	< 1	< 1	< 1	< 1	< 1	
Tetrahydrofuran(THF) Chloroform	< 10 < 1	< 10 < 1	< 10 < 1	< 10 < 1	< 10 < 1	
1,1,1-Trichloroethane	< 1	< 1	< 1	< 1	< 1	
Carbon tetrachloride	< 1	< 1	< 1	< 1	< 1	
1,1-Dichloropropene	< 1	< 1	< 1	< 1	< 1	
Benzene	< 1	< 1	< 1	< 1	< 1	
1,2-Dichloroethane	< 1	< 1	< 1	< 1	< 1	
Trichloroethene 1,2-Dichloropropane	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	
Dibromomethane	< 1	< 1	< 1	< 1	< 1	
Bromodichloromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
1,4-Dioxane	< 50	< 50	< 50	< 50	< 50	
4-Methyl-2-pentanone(MIBK)	< 10	< 10	< 10	< 10	< 10	
cis-1,3-Dichloropropene	< 0.5 < 1	< 0.5 < 1	< 0.5 < 1	< 0.5 · < 1	< 0.5 < 1	
Toluene trans-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
1,1,2-Trichloroethane	< 1	< 1	< 1	< 1	< 1	
2-Hexanone	< 10	< 10	< 10	< 10	< 10	
Tetrachloroethene	< 1	< 1	< 1	< 1	< 1	
1,3-Dichloropropane	< 1	< 1	< 1	< 1	< 1	
Dibromochloromethane	< 1 < 2	< 1 < 2	< 1 < 2	< 1 < 2	< 1 < 2	
1,2-Dibromoethane(EDB) Chlorobenzene	< 2 < 1	< 2 < 1	< 1	< 1	< 1	
1,1,1,2-Tetrachloroethane	< 1	< 1	< 1	< 1	< 1	
1,1,1,2 10000010100001010						



EAI ID#: 169997

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH #1

-					
Sample ID:	DPH-MW6	DPH-B5	DPH-105	DPH-MW2d	Trip Blank - 8260
Lab Sample ID:	169997.01	169997.02	169997.03	169997.04	169997.05
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous
Date Sampled:	6/15/17	6/15/17	6/15/17	6/15/17	5/19/17
Date Received:	6/15/17	6/15/17	6/15/17	6/15/17	6/15/17
Units:	ug/L	ug/L	ug/L	ug/L	ug/L
	6/19/17	6/16/17	6/16/17	6/16/17	6/16/17
Date of Analysis:					
Analyst:	VG	VG	VG	VG	VG
Method:	8260C	8260C	8260C	8260C	8260C
Dilution Factor:	1	. 1	1	1	1
np-Xylene	< 1	< 1	< 1	< 1	< 1
o-Xylene	< 1	< 1	< 1	< 1	< 1
Styrene	< 1	< 1	< 1	< 1	< 1
Bromoform	< 2	< 2	< 2	< 2	< 2
soPropylbenzene	< 1	< 1	< 1	< 1	< 1
romobenzene	< 1	< 1	< 1	< 1	< 1
1,2,2-Tetrachloroethane	< 1	< 1	< 1	< 1	< 1
2,3-Trichloropropane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Propylbenzene	< 1	< 1	< 1	< 1	< 1 < 1
Chlorotoluene	< 1	< 1	< 1 < 1	< 1 < 1	< 1
Chlorotoluene	< 1 < 1	< 1 < 1	< 1	< 1 < 1	< 1
3,5-Trimethylbenzene	< 1	< 1	< 1	< 1	< 1
ert-Butylbenzene ,2,4-Trimethylbenzene	< 1	< 1	< 1	< 1	< 1
ec-Butylbenzene	< 1	< 1	< 1	< 1	< 1
,3-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1
-lsopropyltoluene	< 1	< 1	< 1	< 1	< 1
.4-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1
,2-Dichlorobenzene	< 1	· < 1	< 1	· < 1	< 1
-Butylbenzene	< 1	< 1	< 1	< 1	< 1
,2-Dibromo-3-chloropropane	< 2	< 2	< 2	< 2	< 2
,3,5-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1
2,4-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1
exachlorobutadiene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
aphthalene	< 5	< 5	< 5	< 5	< 5
,2,3-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1
-Bromofluorobenzene (surr)	91 %R	92 %R	89 %R	90 %R	87 %R
,2-Dichlorobenzene-d4 (surr)	122 %R	121 %R	120 %R	134 %R	128 %R
Foluene-d8 (surr)	100 %R	97 %R	99 %R	99 %R	100 %R
1,2-Dichloroethane-d4 (surr)	113 %R	123 %R	103 %R	117 %R	121 %R

DPH-B5, DPH-105, DPH-MW2d, Trip Blank-8260: Vinyl chloride, 2,2-Dichloropropane, 1,1,1-Trichloroethane, Carbon tetrachloride, Bromodichloromethane, Dibromochloromethane, 1,1,1,2-Tetrachloroethane and Bromoform exhibited recovery outside acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).

DPH-MW6: Vinyl chloride, Trichlorofluoromethane, 1,1,1-Trichloroethane, Carbon tetrachloride, Bromodichloromethane, Dibromochloromethane, 1,1,1,2-Tetrachloroethane and Bromoform exhibited recovery outside acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).

DPH-MW2d: Surrogate recovery of 1,2-Dichlorobenzene-d4 (surr) is outside of the acceptance control limits of 70-130%R. The sample results were less than reporting limits therefore data is not impacted.



EAI ID#: 169997

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: **DPH #1**

Sample ID:	DPH-MW6	DPH-B5	DPH-105	DPH-MW2d	Trip Blank - 1,4 Dioxane	
Lab Sample ID:	169997.01	169997.02	169997.03	169997.04	169997.06	
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous	
Date Sampled:	6/15/17	6/15/17	6/15/17	6/15/17	6/2/17	
Date Received:	6/15/17	6/15/17	6/15/17	6/15/17	6/15/17	
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	
Date of Analysis:	6/20/17	6/20/17	6/20/17	6/20/17	6/20/17	
Analyst:	VG	VG	VG	VG	VG	
Method:	8260B SIM	8260B SIM	8260B SIM	8260B SIM	8260B SIM	
Dilution Factor:	1	1	1	1	1	
1,4-Dioxane 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	< 0.25 92 %R 96 %R	0.93 93 %R 97 %R	2.8 94 %R 96 %R	0.26 92 %R 96 %R	< 0.25 90 %R 96 %R	



EAI ID#: 169997

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: DPH #1

Sample ID:	DPH-MW6	DPH-B5	DPH-105					
Lab Sample ID:	169997.01	169997.02	169997.03					
Matrix:	aqueous	aqueous	aqueous					
Date Sampled:	6/15/17	6/15/17	6/15/17	Analytical		Date of		
Date Received:	6/15/17	6/15/17	6/15/17	Matrix	Units	Analysis	Method A	Analyst
Arsenic	0.004	0.003	0.007	AqDis	mg/L	6/19/17	200.8	DS
Barium	0.003	0.018	0.060	AqDis	mg/L	6/19/17	200.8	DS
Cadmium	< 0.001	< 0.001	< 0.001	AqDis	mg/L	6/19/17	200.8	DS
Chromium	< 0.001	< 0.001	< 0.001	AqDis	mg/L	6/19/17	200.8	DS
Iron	< 0.05	< 0.05	24	AqDis	mg/L	6/19/17	200.8	DS
Lead	< 0.001	< 0.001	< 0.001	AqDis	mg/L	6/19/17	200.8	DS
Manganese	0.10	0.18	0.58	AqDis	mg/L	6/19/17	200.8	DS
Mercury	< 0.0001	< 0.0001	< 0.0001	AqDis	mg/L	6/19/17	200.8	DS
Selenium	< 0.001	0.008	0.021	AqDis	mg/L	6/19/17	200.8	DS
Silver	< 0.001	< 0.001	< 0.001	AqDis	mg/L	6/19/17	200.8	DS

DPH-B5 and DPH-105: The values for Arsenic and Selenium may be elevated due to matrix interference.

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

ANALYTICAL RESULTS

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 Eastern Analytical 25 Chenell Drive Concord NH 03301

Report Date: June 30, 2017

Project: 169997

Submittal Date: 06/20/2017 Group Number: 1815435 PO Number: 46356 State of Sample Origin: NH

Lancaster Labs
(LL) #
9058020

Client Sample Description DPH-B5

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To

Eastern Analytical

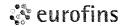
Attn: Customer Service

Respectfully Submitted,

Lyssa M. Longenecker

Specialist

(717) 556-7321



Lancaster Laboratories Environmental

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: DPH-B5

EAI ID# 169997

LL Sample # WW 9058020

LL Group # 1815435 Account # 11730

Project Name: 169997

Collected: 06/15/2017 10:54

Eastern Analytical

25 Chenell Drive

Concord NH 03301

Submitted: 06/20/2017 08:20 Reported: 06/30/2017 18:56

CAT No.	Analysis Name		CAS Number	Resul	t .	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Misc.	Organics	EPA 537	Rev. 1.1	ng/l		ng/l	ng/l	
	_	modified						
10954	NEtFOSAA		2991-50-6	N.D.		1	3	1
	NEtFOSAA is the a	cronvm for N-e	thyl perfluoro	octanesu	lfonamidoaceti	c Acid.		
10954	NMeFOSAA	-	2355-31-9	N.D.		1	3	1
	NMeFOSAA is the a	acronym for N-r	methyl perfluor	octanes	ulfonamidoacet	ic Acid.		
10954	Perfluorobutanesu	lfonate	375-73-5	15		0.8	3	1
10954	Perfluorodecanoio	acid	335-76-2	N.D.		0.5	2	1
10954	Perfluorododecano	oic acid	307-55-1	N.D.		0.5	2	1
10954	Perfluoroheptanoi	.c acid	375-85-9	27		0.5	2	1
10954	Perfluorohexanesu	lfonate	355-46-4	63		1	3	1
10954	Perfluorohexanoio	acid	307-24-4	52		0.6	2	1
10954	Perfluorononanoio	cacid .	375-95-1	1	J	0.6	2	1
10954	Perfluoro-octanes	ulfonate	1763-23-1	210		2	6	1
10954	Perfluorooctanoio	acid	335-67-1	130		0.6	2	1
10954	Perfluorotetradeo	anoic acid	376-06-7	N.D.		0.5	2	1
10954	Perfluorotridecar	noic acid	72629-94-8	N.D.		0.5	2	1
10954	Perfluoroundecand	oic acid	2058-94-8	N.D.		1	3	1
	stated QC limits a be obtained to cal			ient da	ta points			

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	ì	Analyst	Dilution Factor
10954	PFAS in Water by LC/MS/MS	EPA 537 Rev. 1.1 modified	1	17172002	06/24/2017 0	1:08	Jason W Knight	1
14091	PFAS Water Prep	EPA 537 Rev. 1.1	1	17172002	06/21/2017 0	7:55	Pamela Rothharpt	1

Lancaster Laboratories Environmental

Analysis Report

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Quality Control Summary

Client Name: Eastern Analytical

Group Number: 1815435

Reported: 06/30/2017 18:56

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ng/l	ng/l	ng/l
Batch number: 17172002	Sample number	(s): 90580	20
NETFOSAA	N.D.	1	3
NMeFOSAA	N.D.	1	3
Perfluorobutanesulfonate	N.D.	0.8	3
Perfluorodecanoic acid	N.D.	0.5	2
Perfluorododecanoic acid	N.D.	0.5	2
Perfluoroheptanoic acid	N.D.	0.5	2
Perfluorohexanesulfonate	N.D.	1	3
Perfluorohexanoic acid	N.D.	0.6	2
Perfluorononanoic acid	N.D.	0.6	2
Perfluoro-octanesulfonate	N.D.	2	6
Perfluorooctanoic acid	N.D.	0.6	2
Perfluorotetradecanoic acid	N.D.	0.5	2
Perfluorotridecanoic acid	N.D.	0.5	2
Perfluoroundecanoic acid	N.D.	1	3

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 17172002	Sample number	r(s): 90580	20						
NETFOSAA	200	204.48	200	169.2	102	85	70-130	19	30
NMeFOSAA	200	162.1	200	183.84	81	92	70-130	13	30
Perfluorobutanesulfonate	176.8	167.6	176.8	159.4	95	90	70-130	5	30
Perfluorodecanoic acid	200	184.18	200	199.42	92	100	70-130	8	30
Perfluorododecanoic acid	200	210.43	200	194.71	105	97	70-130	8	30
Perfluoroheptanoic acid	200	202.73	200	190.65	101	95	70-130	6	30
Perfluorohexanesulfonate	189.2	178.85	189.2	188.44	95	100	70-130	5	30
Perfluorohexanoic acid	200	196.14	200	189.28	98	95	70-130	4	30
Perfluorononanoic acid	200	182.71	200	171.82	91	86	70-130	6	30
Perfluoro-octanesulfonate	191.2	200.7	191.2	192.48	105	101	70-130	4	30
Perfluorooctanoic acid	200	198.91	200	206.83	99	103	70-130	4	30
Perfluorotetradecanoic acid	200	201.74	200	195.53	101	98	70-130	3	30
Perfluorotridecanoic acid	200	194.56	200	188.74	97	94	70-130	3	30
Perfluoroundecanoic acid	200	211.32	200	178.56	106	89	70-130	17	30

^{*-} Outside of specification

P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

Lancaster Laboratories Environmental

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Quality Control Summary

Group Number: 1815435 Client Name: Eastern Analytical

Reported: 06/30/2017 18:56

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ng/l	MS Spike Added ng/l	MS Conc ng/l	MSD Spike Added ng/l	MSD Conc ng/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 17172002	Sample numb	er(s): 9058	3020 UNSP	K: 9058020						
NETFOSAA	N.D.	200.22	191.19			95		70-130		
NMeFOSAA	N.D.	200.22	177.48			89		70-130		
Perfluorobutanesulfonate	14.59	177	184.6			96		70-130		
Perfluorodecanoic acid	N.D.	200.22	180.47			90		70-130		
Perfluorododecanoic acid	N.D.	200.22	184.18			92		70-130		
Perfluoroheptanoic acid	27.02	200.22	215.71			94		70-130		
Perfluorohexanesulfonate	63.2	189.41	229.43		•	88		70-130		
Perfluorohexanoic acid	52.09	200.22	254.39			101		70-130		
Perfluorononanoic acid	1.19	200.22	186.81			93		70-130		
Perfluoro-octanesulfonate	207.67	191.41	427.3			115		70-130		
Perfluorooctanoic acid	130.87	200.22	294.18			82		70-130		
Perfluorotetradecanoic acid	N.D.	200.22	186.47			93		70-130		
Perfluorotridecanoic acid	N.D.	200.22	192.45			96		70-130		
Perfluoroundecanoic acid	N.D.	200.22	191.25			96		70-130		

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Water by LC/MS/MS

	13C3-PFBS	13C5-PFHxA	13C3-PFHxS	13C4-PFHpA	13C8-PFOA	13C8-PFOS
	1303-PFB3	13C3-PFRXA	1303-FFRX3	1304-РГПРА	13C0-FFOA	1300-F103
9058020	89	72	66*	76	70	90
Blank	76	107	96	97	86	79
LCS	74	77	76	74	69*	66*
LCSD	77	93	82	84	. 78	78
MS	75	57*	61*	61*	64*	74
Limits:	70-130	70-130	70-130	70-130	70-130	70-130
	13C9-PFNA	13C6-PFDA	d3-NMeFOSAA	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDoDA
9058020	83	80	60*	87	75	81
Blank	88	87	60*	80	73	83
LCS	79	71	64*	72	62*	72
LCSD	81	74	70	98	71	90
MS	84	70	56*	69*	55*	69*
Limits:	70-130	70-130	70-130	70-130	70-130	70-130

Page 4 of 8 9

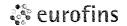
^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.



Lancaster Laboratories Environmental

Analysis Report

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Quality Control Summary

Client Name: Eastern Analytical

Reported: 06/30/2017 18:56

Group Number: 1815435

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PFAS in Water by LC/MS/MS Batch number: 17172002

13C2-PFTeDA

9058020 74

Blank 77

LCS 74

LCSD 86

MS 73

70-130

Limits:

*- Outside of specification

Page 5 of 8 10

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ.

⁽²⁾ The unspiked result was more than four times the spike added.

P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

11770/18/5475/ 9058020

CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services EAI ID# 169997

Page 1

Sample ID	Date Sampled Matrix	aParameters	Sample Notes	-
DPH-B5	6/15/2017 aqueou 10:54	s Subcontract - Perfluorinated Compounds EPA 537 (14 Compound List)		

EALID# 169997

Company

Project State: NH

Project ID: 4912

Lancaster Labs aka Eurofins

2425 New Holland Pike PO Address

Lancaster, PA 17601 Address

Account # 11730

Phone # 717-656-2300

Fax Number 717-656-2681

Results Needed by: Preferred date

QC Deliverables

ØA □A+ □B □B+ □C □P

Notes about project;

Email pdf of results and invoice to customerservice@eailabs.com.

14 Compound List

PO#:46356

EALID# 169997

Please call prior to analyzing, if RUSH surcharges will be applied.

Relinquished by

Date/Time

Received by

Relinquished by

Date/Time

Received by

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

1-800-287-0525

Fax: (603)228-4591

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of you as a subcontract lab, your officers, agents or employees



Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 186733

Group Number(s):

1815435

Client: Eastern Analytical

Delivery and Receipt Information

Delivery Method:

UPS

Arrival Timestamp:

06/20/2017 8:20

Number of Packages:

1

Number of Projects:

1

Arrival Condition Summary

Shipping Container Sealed:

Yes

Sample IDs on COC match Containers:

Yes

Custody Seal Present:

No

Sample Date/Times match COC:

Yes

Samples Chilled:

Yes

VOA Vial Headspace ≥ 6mm: Total Trip Blank Qty:

N/A 0

Paperwork Enclosed:

Yes Yes

Air Quality Samples Present:

No

Samples Intact: Missing Samples:

No

Extra Samples: Discrepancy in Container Qty on COC: No No

Unpacked by Timothy Cubberley (6520) at 08:43 on 06/20/2017

Samples Chilled Details

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

Cooler#

Thermometer ID

Corrected Temp 5.0

Therm. Type

Ice Type

Ice Present?

Ice Container

Elevated Temp?

32170023

ΙR

Wet

Bagged

Ν



Lancaster Laboratories Environmental

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
С	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	μд	microgram(s)
m3	cubic meter(s)	μL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm		oe equivalent to milli	kilogram (mg/kg) or one gram per million grams. For grams per liter (mg/l), because one liter of water has a weight uivalent to one microliter per liter of gas.

Laboratory Data Qualifiers:

ppb

basis

Dry weight

C - Result confirmed by reanalysis

as-received basis.

parts per billion

- E Concentration exceeds the calibration range
- J (or G, I, X) estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
- P Concentration difference between the primary and confirmation column >40%. The lower result is reported.
- U Analyte was not detected at the value indicated
- V Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference...

Results printed under this heading have been adjusted for moisture content. This increases the analyte weight

concentration to approximate the value present in a similar sample without moisture. All other results are reported on an

W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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July 12, 2017

Vista Work Order No. 1700757

Ms. Jennifer Laramie Eastern Analytical, Inc. 25 Chennell Drive Concord, NH 03301

Dear Ms. Laramie,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on June 21, 2017. This sample set was analyzed on a standard turn-around time, under your Project Name '169997 / NH /4912'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.vista-analytical.com

Vista Work Order No. 1700757 Case Narrative

Sample Condition on Receipt:

Three aqueous samples were received in good condition at 18.2 °C. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. Approval was received to proceed with the analyses.

Analytical Notes:

Modified EPA Method 537

The samples were extracted and analyzed for a selected list of 14 PFAS using Modified EPA Method 537. The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers. Results for all other analytes include the linear isomer only.

Holding Times

The samples were originally extracted and analyzed within the method hold times. The samples were re-extracted for PFTeDA; the second extractions were performed outside the hold time (Prep Batch B7G0020).

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with each preparation batch. No analytes were detected in the Method Blanks above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1700757-01	DPH-MW6	Modified EPA Method 537	13C2-PFDoA	Н	39.9
1700757-01	DPH-MW6	Modified EPA Method 537	13C2-PFTeDA	Н	5.20
1700757-02	DPH-B5	Modified EPA Method 537	13C2-PFDoA	Н	25.3
1700757-02	DPH-B5	Modified EPA Method 537	13C2-PFTeDA	Н	2.40
1700757-03	DPH-105	Modified EPA Method 537	13C2-PFDoA	Н	16.0
1700757-03	DPH-105	Modified EPA Method 537	13C2-PFTeDA	Н	9.20
B7F0101-BLK1	B7F0101-BLK1	Modified EPA Method 537	13C2-PFDoA	Н	26.1
B7F0101-BLK1	B7F0101-BLK1	Modified EPA Method 537	13C2-PFTeDA	Н	3.30
B7F0101-BS1	B7F0101-BS1	Modified EPA Method 537	13C2-PFDoA	Н	27.0
B7F0101-BS1	B7F0101-BS1	Modified EPA Method 537	13C2-PFTeDA	Н	5.10
B7G0020-BLK1	B7G0020-BLK1	Modified EPA Method 537	13C2-PFTeDA	Н	2.60
B7G0020-BS1	B7G0020-BS1	Modified EPA Method 537	13C2-PFTeDA	Н	5.80

H = Recovery was outside laboratory acceptance criteria.

Work Order 1700757 Page 2 15 9

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1700757-01	DPH-MW6	15-Jun-17 09:58	21-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700757-02	DPH-B5	15-Jun-17 10:54	21-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700757-03	DPH-105	15-Jun-17 11:47	21-Jun-17 10:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

Client Project: 169997 / NH /4912

ANALYTICAL RESULTS

Page 5 of 19

Analyte

PFHxA

PFBS

Matrix:

Sample ID:

Sample Size:

RL - Reporting limit

PFUnA EtFOSAA PFDoA PFTrDA

PFOS PFNA PFDA

PFHpA PFHxS PFOA

MeFOSAA

PFTeDA

LCL-UCL - Lower control limit - upper control limit

Results reported to RL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.



Sample ID: OPR							Modified	Modified EPA Method 537
Matrix: Aqueous	QC Batch:	B7F0101			Lab Sample:	le: B7F0101-BS1		
Size:	Date Extracted:		13:09		Date Analyzed:	yzed: 03-Jul-17 17:56 Column: BEH C18	BEH C18	
						27-Jun-17 12:15 Column: BEH C18	: BEH C18	
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
PFBS	73.7	80.0	92.1	70 - 130	SI	13C3-PFBS	100	50 - 150
PFHxA	78.6	80.0	98.3	70 - 130	SI	13C2-PFHxA	94.5	50 - 150
PFHpA	79.4	80.0	99.3	70 - 130	SI	13C4-PFHpA	94.2	50 - 150
PFHxS	65.1	80.0	81.4	70 - 130	SI	18O2-PFHxS	96.7	50 - 150
PFOA	82.4	80.0	103	70 - 130	IS	13C2-PFOA	97.4	50 - 150
PFOS	66.8	80.0	83.4	70 - 130	IS	13C8-PFOS	112	50 - 150
PFNA	60.2	80.0	75.3	70 - 130	IS	13C5-PFNA	97.6	50 - 150
PFDA	78.2	80.0	97.7	70 - 130	SI	13C2-PFDA	60.1	50 - 150
MeFOSAA	65.7	80.0	82.1	70 - 130	SI	13C2-PFUnA	78.9	50 - 150
PFUnA	83.7	80.0	105	70 - 130	SI	13C2-PFDoA	27.0	50 - 150
EtFOSAA	59.8	80.0	74.7	70 - 130	SI	13C2-PFTeDA	5.10	50 - 150
PFDoA	90.8	80.0	114	70 - 130				
PFTrDA	13.7	80.0	17.2	60 - 130				
PFTeDA	81.5	80.0	102	70 - 130				

CL-UCL - Lower control limit - upper control limit

Н	50 - 150	A 2.60	IS 13C2-PFTeDA		ND 5.00	PFTeDA
Qualifiers	%R LCL-UCL Qualifiers		Labeled Standard	Qualifiers	Conc. (ng/L) RL	Analyte
	C18	Lab Sample: B7G0020-BLK1 Date Analyzed: 10-Jul-17 19:40 Column: BEH C18	Lab Sample: B' Date Analyzed: 10	QC Batch: B7G0020 Date Extracted: 07-Jul-2017 8:05	8	Matrix: Aqueous Sample Size: 0.250 L
thod 537	Modified EPA Method 537	Modifi			1ethod Blank	Sample ID: Method Blank

LCL-UCL - Lower control limit - upper control limit
Results reported to RL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.



	PFTeDA	Analyte	Matrix: Aqueous Sample Size: 0.250 L	Sample ID: OPR
		Amt Fo		PR
	29.7	ound (ng/L)	QC Batch: B7G0020 Date Extracted: 07-Jul-2017	
	40.0	Amt Found (ng/L) Spike Amt %R	B7G0020 07-Jul-2017 8:05	
	74.4		:05	
	74.4 70 - 130	Limits		
LCL-UCL - Lower control limit - upper control limit	IS 13C2-PFTeDA	Labeled Standard	Lab Sample: B7G0020-BS1 Date Analyzed: 10-Jul-17 18:44 Column: BEH C18	
t	5.80	%R	BEH C18	Modified F
	50 - 150	LCL-UCL		Modified EPA Method 537

PFDoA

PFTeDA PFTrDA PFUnA

333333333

EtFOSAA

PFDA PFNA PFOS PFOA PFHxS

MeFOSAA

PFHpA

PFHxA PFBS

N

Analyte

Date Collected: Project: Sample ID:

Client Data Name:

LCL-UCL - Lower control limit - upper control limit

Results reported to RL.

Only the linear isomer is reported for all other analytes. When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

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Sample ID: DPH-B5	DPH-B5					Modifie	Modified EPA Method 537	hod 537
Client Data			Sample Data	Labor	Laboratory Data			
Name:	Eastern Analytical, Inc.		Matrix: Aqueous		Lab Sample: 1700757-02	Date Received:	21-Jun-2017 10:09	10:09
Project:	169997 / NH /4912		Size:			Date Extracted:		13:09
Date Collected:	15-Jun-2017 10:54				Date Analyzed: 03-Jul-17 19:25 Column: BEH C18	25 Column: BEH C18		
					27-Jun-17 16:	27-Jun-17 16:23 Column: BEH C18		
Analyte	Conc. (ng/L)	RL		Qualifiers	Labeled Standard	%R	LCL-UCL (Qualifiers
PFBS	12.9	5.00			IS 13C3-PFBS	102	50 - 150	
PFH_XA	41.4	5.00			IS 13C2-PFHxA	97.5	50 - 150	
PFHpA	26.0	5.00		-	IS 13C4-PFHpA	111	50 - 150	
PFHxS	47.4	5.00			IS 1802-PFHxS	95.8	50 - 150	
PFOA	98.0	5.00			IS 13C2-PFOA	114	50 - 150	
PFOS	189	5.00			IS 13C8-PFOS	116	50 - 150	
PFNA	ND	5.00			IS 13C5-PFNA	96.0	50 - 150	
PFDA	ND	5.00			IS 13C2-PFDA	72.5	50 - 150	
MeFOSAA	ND	5.00			IS 13C2-PFUnA	107	50 - 150	
PFUnA	ND	5.00			IS 13C2-PFDoA	25.3	50 - 150	Н
EtFOSAA	ND	5.00			IS 13C2-PFTeDA	2.40	50 - 150	Н
PFD_0A	ND	5.00						
PFTrDA	ND	5.00						
PFTeDA	ND	5.00						

Results reported to RL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

	ol limit	LCL-UCL - Lower control limit - upper control limit Results reported to RI.	. LCI				
					5.00	ND :	PFTeDA
					5.00	ND	PFTrDA
					5.00	ND ·	PFDoA
50- 150 H	9.20	IS 13C2-PFTeDA			5.00		EtFOSAA
	16.0	IS 13C2-PFDoA			5.00	ND	PFUnA
50- 150	85.8	IS 13C2-PFUnA			5.00		MeFOSAA
50- 150	65.6	IS 13C2-PFDA			5.00		PFDA
50- 150	96.0	IS 13C5-PFNA			5.00		PFNA
50- 150	103	IS 13C8-PFOS			5.00	412	PFOS
50- 150	107	IS 13C2-PFOA			5.00		PFOA
50 - 150	88.9	IS 1802-PFH _x S			5.00	143	PFHxS
50 - 150	91.8	IS 13C4-PFH _p A			5.00	81.4	PFHpA
50- 150	95.9	IS 13C2-PFHxA			5.00	130	PFHxA
50- 150	103	IS 13C3-PFBS			5.00	41.2	PFBS
LCL-UCL Qualifiers	%R I	Labeled Standard	Qualifiers		RL	Conc. (ng/L)	Analyte (
	lumn: BEH C18	27-Jun-17 17:24 Column: BEH C18					
	umn: BEH C18	Date Analyzed: 03-Jul-17 19:38 Column: BEH C18	Date.			15-Jun-2017 11:47	Date Collected: 1
26-Jun-2017 13:09	Date Extracted:	atch: B7F0101	QC Batch:	Sample Size: 0.120 L	Samı	169997 / NH /4912	Project: 1
21-Jun-2017 10:09	Date Received:	Lab Sample: 1700757-03	Lab S	ix: Aqueous	Matrix:	Eastern Analytical, Inc.	Name: E
		Laboratory Data	Labora	e Data	Sample Data		Client Data
Modified EPA Method 537	Modified					ЭН-105	Sample ID: DPH-105

DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank.
D	Dilution
E	The associated compound concentration exceeded the calibration range of the instrument.
H	Recovery and/or RPD was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ.
M	Estimated Maximum Possible Concentration. (CA Region 2 projects only)
*	See Cover Letter
Conc.	Concentration
NA	Not applicable
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
Nevada Division of Environmental Protection	CA004132017-1
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated	EPA 23
Dibenzofurans	

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B
Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by	EPA 1699
HRGC/HRMS	
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by	EPA 8280A/B
GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B
Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

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CHAIN-OF-CUSTODY RECORD eastern analytical

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Page 1

professional laboratory services
EAI ID# 169997

Sample ID DPH-105 DPH-B5 DPH-MW6 111:47 10:54 6/15/2017 6/15/2017 6/15/2017 Date Sampled Matrix aqueous | Subcontract - Perfluorinated Compounds EPA Method 537 (VAL) aqueous | Subcontract - Perfluorinated Compounds EPA Method 537 (VAL) aqueous | Subcontract - Perfluorinated Compounds EPA Method 537 (VAL) aParameters Sample Notes

Company Account # EAI ID# 169997 Address Address Phone # (916) 673-1520 Vista Analytical Laboratory El Dorado Hills, CA 95762 1104 Windfield Way Project State: NH Project ID: 4912 Results Needed by: Preferred date QC Deliverables MA □A+ □B customerservice@eailabs.com. Notes about project: 14 Compound List □ B+

Email pdf of results and invoice to \Box

PO#: 46355

EAI ID# 169997

Relinquished by Relinquished by Samples Collected by:_ Please call prior to analyzing, if RUSH surcharges will be applied 06/21/17 1018 \ Date/Time Date/Time Received by Received by

Fax: (603)228-4591

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Fax Number

Phone: (603)228-0525

1-800-287-0525

As a subcontract fab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages are caused by or result from the negligent or intentional arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional ₩S.R.P. @rder 1970 1994 as a subcontract lab, your officers, agents or employees



Sample Log-in Checklist

Vista Work Orde	er#: <u>/ 10075</u>	7		TAT	Ad		-
Samples	Date/Time	Initials:		Location:	WR-	7	u,idayindadi, <u>ay</u>ta
Arrival:	04/21/17 1009	BUR	>	Shelf/Rack:	NA		
	Date/Time	Initials:	119	Location:	WR	- 9-	
Logged In:	ce/22/ 1258	L132	0	Shelf/Rack:	FY		
Delivered By:	FedEx UPS On To	rac GSO	DHL	Hand		Oth	ner
Preservation:		Ice Blue Ice Dry Ice				None	
Temp °C: 8.9 (uncorrected) Temp °C: 8.2 (corrected) Time: 0 0 Probe used: Yes□ No□ Thermometer ID: DT-3							
					YEŞ	NO	NA
Adequate Samp	le Volume Received?	AB			V		
Holding Time Ad	cceptable?				V		
Shipping Container(s) Intact?							
Shipping Custody Seals Intact?							V
Shipping Docum	entation Present?				V .		
Airbill	Trk# 12 x 496.	599019:	288 b	652	V		
Sample Contain	or Intact?	06/21/17					

If Chlorinated or Drinking Wat	er Samples, Acc	eptable Preservation?	W		Nager
Preservation Documented:	Na ₂ S ₂ O ₃	Trizma None	Yes	No	NA
Shipping Container	Vista	Client Retain	Return	Disp	ose

Comments: 4 ice melted

Sample Container Intact?

Sample Custody Seals Intact?

Chain of Custody / Sample Documentation Present? COC Anomaly/Sample Acceptance Form completed?

6/22/17

Chain of Custody Anomaly/Sample Acceptance Form



Client: 1700757 Eastern Analytical, Inc. Workorder Number: Jennifer Laramie 21-Jun-17 10:09 Contact: Date Received: Email: JenniferL@eailabs.com Documented by/date: B.Benedict 06/22/2017 (603) 410-3881 Phone: Please review the following information and complete the Client Authorization section. To comply with NELAC regulations, we must receive authorization before proceeding with sample analysis. Thank you, Martha Maier mmaier@vista-analytical.com 916-673-1520 The following information or item is needed to proceed with analysis: Complete Chain-of-Custody Preservative Collector's Name Test Method Requested Sample Identification Sample Type Analyte List Requested Sample Collection Date and/or Time Sample Location Other: The following anomalies were noted. Authorization is needed to proceed with analysis. Temperature outside < 6°C Range Samples Affected: DPH-MW6, DPH-B5, DPH-105 Temperature _18.2°C Ice Present? Yes (very little ice left) and Melted Sample ID Discrepancy Insufficient Sample Size Sample Holding Time Missed Sample Container(s) Broken Custody Seals Broken Incorrect Container Type Comments: Client Authorization Proceed with Analysis: VES NO Signature and Date Ravery Whenth 6-22-2017

Client Comments/Instructions Per phone conversation with Jennifer Laramie an

CHAIN-OF-CUSTODY RECORD

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NDICATE BOTH RIX (SEE BEL 3/* COMPO EX 524.2 MTBE 624 VTICS BTEX HALOS AND POBLE AND POBLE AND POBLE EX 524.2 MTBE 624 VTICS BEL BOTH LI L2 AND POBLE AN
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Sample Date: 9/5/17
Ireland Well and DPH #1
VOCs, 1,4-Dioxane, and PFCS
Monitoring Wells, Production Wells and River
Color and Total Coliform

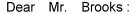
John Brooks
Emery & Garrett Groundwater Investigations, LLC
56 Main Street
Meredith, NH 03253

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 172986

Client Identification: Pudding Hill, Dover, NH

Date Received: 9/5/2017



Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

orraine Olashaw, Lab Director

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE



EAI ID#: 172986

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Pudding Hill, Dover, NH

Temperature upon receipt (°C): 1.1

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample % Dry Matrix Weight	Exceptions/Comments (other than thermal preservation)
172986.01	DPH-MW16	9/5/17	9/5/17	aqueous	Adheres to Sample Acceptance Policy
172986.02	DPH-MW20D	9/5/17	9/5/17	aqueous	Adheres to Sample Acceptance Policy
172986.03	IRELAND	9/5/17	9/5/17	aqueous	Adheres to Sample Acceptance Policy
172986.04	DPH-1	9/5/17	9/5/17	aqueous	Adheres to Sample Acceptance Policy
172986.05	DPH-MW12D	9/5/17	9/5/17	aqueous	Adheres to Sample Acceptance Policy
172986.06	DPH-PW1	9/5/17	9/5/17	aqueous	Adheres to Sample Acceptance Policy
172986.07	DPH-RIVER	9/5/17	9/5/17	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples. References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



EAI ID#: 172986

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	IRELAND	DPH-PW1	
Lab Sample ID:	172986.03	172986.06	
Matrix:	aqueous	aqueous	
Date Sampled:	9/5/17	9/5/17	
Date Received:	9/5/17	9/5/17	
Units:	ug/L	ug/L	
Date of Analysis:	9/8/17	9/8/17	
Analyst:	BAM	BAM	
Method:	8260C	8260C	
	1		
Dilution Factor:	1	1	
Dichlorodifluoromethane	< 5	< 5	
Chloromethane	< 2	< 2	
Vinyl chloride	< 2	< 2	
Bromomethane	< 2	< 2	
Chloroethane Trichlorofluoromothane	< 5 < 5	< 5 < 5	
Trichlorofluoromethane Diethyl Ether	< 5 < 5	< 5 < 5	
Acetone	< 10	< 10	
1,1-Dichloroethene	< 1	< 1	
tert-Butyl Alcohol (TBA)	< 30	< 30	
Methylene chloride	< 5	< 5	
Carbon disulfide	< 2	< 2	
Methyl-t-butyl ether(MTBE)	< 1	< 1	
Ethyl-t-butyl ether(ETBE)	< 5	< 5	
Isopropyl ether(DIPE)	< 5	< 5	
tert-amyl methyl ether(TAME)	< 5	< 5	
trans-1,2-Dichloroethene	< 1	< 1	
1,1-Dichloroethane 2,2-Dichloropropane	< 1 < 1	< 1 < 1	
cis-1,2-Dichloroethene	< 1	< 1	
2-Butanone(MEK)	< 10	< 10	
Bromochloromethane	< 1	< 1	
Tetrahydrofuran(THF)	< 10	< 10	
Chloroform	< 1	< 1	
1,1,1-Trichloroethane	< 1	< 1	
Carbon tetrachloride	< 1	< 1	
1,1-Dichloropropene	< 1	< 1	
Benzene	< 1	< 1	
1,2-Dichloroethane	< 1	< 1	
Trichloroethene	< 1	< 1	
1,2-Dichloropropane Dibromomethane	< 1 < 1	< 1 < 1	
Bromodichloromethane	< 0.5	< 0.5	
1,4-Dioxane	< 50	< 50	
4-Methyl-2-pentanone(MIBK)	< 10	< 10	
cis-1,3-Dichloropropene	< 0.5	< 0.5	
Toluene	< 1	< 1	
trans-1,3-Dichloropropene	< 0.5	< 0.5	
1,1,2-Trichloroethane	< 1	< 1	
2-Hexanone	< 10	< 10	
Tetrachloroethene	< 1	< 1	
1,3-Dichloropropane	< 1	< 1	
Dibromochloromethane	< 1	< 1	
1,2-Dibromoethane(EDB) Chlorobenzene	< 2 < 1	< 2 < 1	
1,1,1,2-Tetrachloroethane	< 1	< 1	
Ethylbenzene	< 1	< 1	
Lutyibelizelle	\ 1	<u> </u>	



EAI ID#: 172986

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	IRELAND	DPH-PW1	
Lab Sample ID:	172986.03	172986.06	
Matrix:	aqueous	aqueous	
Date Sampled:	9/5/17	9/5/17	
Date Received:	9/5/17	9/5/17	
Units:	ug/L	ug/L	
Date of Analysis:	9/8/17	9/8/17	
Analyst:	BAM	BAM	
Method:	8260C	8260C	
	1	1	
Dilution Factor:	ı	,	
mp-Xylene	< 1	< 1	
o-Xylene	< 1	< 1	
Styrene Bromoform	< 1 < 2	< 1 < 2	
IsoPropylbenzene	< 1	< 1	•
Bromobenzene	< 1	< 1	
1,1,2,2-Tetrachloroethane	< 1	< 1	
1,2,3-Trichloropropane	< 0.5	< 0.5	
n-Propylbenzene	< 1	< 1	
2-Chlorotoluene	< 1	< 1	
4-Chlorotoluene	< 1	< 1	
1,3,5-Trimethylbenzene	< 1	< 1	
tert-Butylbenzene	< 1	< 1	r
1,2,4-Trimethylbenzene	< 1	< 1	
sec-Butylbenzene	< 1	< 1	
1,3-Dichlorobenzene	< 1	< 1	
p-Isopropyltoluene	< 1	< 1	
1,4-Dichlorobenzene	< 1	< 1	
1,2-Dichlorobenzene	< 1	< 1	
n-Butylbenzene	< 1	< 1	
1,2-Dibromo-3-chloropropane	< 2 < 1	< 2 < 1	
1,3,5-Trichlorobenzene	< 1	< 1	
1,2,4-Trichlorobenzene	< 0.5	< 0.5	
Hexachlorobutadiene Naphthalene	< 5	< 5	
1,2,3-Trichlorobenzene	< 1	< 1	
4-Bromofluorobenzene (surr)	92 %R	93 %R	
1,2-Dichlorobenzene-d4 (surr)	102 %R	101 %R	
Toluene-d8 (surr)	102 %R	101 //R 102 %R	
1,2-Dichloroethane-d4 (surr)	97 %R	98 %R	



EAI ID#: 172986

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	IRELAND	DPH-PW1
Lab Sample ID:	172986.03	172986.06
Matrix:	aqueous	aqueous
Date Sampled:	9/5/17	9/5/17
Date Received:	9/5/17	9/5/17
Units:	ug/L	ug/L
Date of Analysis:	9/8/17	9/8/17
Analyst:	BAM	BAM
Method:	8260B SIM	8260B SIM
Dilution Factor:	1	1
1,4-Dioxane 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	< 0.25 107 %R 102 %R	< 0.25 106 %R 102 %R



EAI ID#: 172986

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Sample ID:	DPH-MW16	DPH-MW20D	IRELAND	DPH-1					
Lab Sample ID:	172986.01	172986.02	172986.03	172986.04					
Matrix:	aqueous	aqueous	aqueous	aqueous					
Date Sampled:	9/5/17	9/5/17	9/5/17	9/5/17		Aı	nalysis		
Date Received:	9/5/17	9/5/17	9/5/17	9/5/17	Units	Date	Time	Method	Analyst
Color	< 5	< 5	< 5	< 5	PtCo	09/05/17	17:00	110.2	AMB
Total Coliform	< 1	< 1	< 1	< 1	MPN/100ml	09/05/17	15:40	9223B	SEL

Sample ID:	DPH-MW12D	DPH-PW1	DPH-RIVER					
Lab Sample ID:	172986.05	172986.06	172986.07					
Matrix:	aqueous	aqueous	aqueous					
Date Sampled:	9/5/17	9/5/17	9/5/17		Ana	alysis		
Date Received:	9/5/17	9/5/17	9/5/17	Units	Date	Time	Method A	nalyst
Color	< 5	< 5	50-60	PtCo	09/05/17	17:00	110.2	AMB
Total Coliform	< 1	< 1	> 2400	MPN/100ml	09/05/17	15:40	9223B	SEL



6

September 20, 2017

Vista Work Order No. 1701199

Ms. Jennifer Laramie Eastern Analytical, Inc. 25 Chennell Drive Concord, NH 03301

Dear Ms. Laramie,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on September 07, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name '172986 / NH / 5008'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.vista-analytical.com

Vista Work Order No. 1701199 Case Narrative

Sample Condition on Receipt:

Two aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

Modified EPA Method 537

The samples were extracted and analyzed for a selected list of 14 PFAS using Modified EPA Method 537. The results for PFHxS, PFOA and PFOS include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The recoveries of all internal standards in the QC and field samples were within the acceptance criteria.

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Qualifiers	10
Certifications	11
Sample Receipt	14

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1701199-01	IRELAND	05-Sep-17 11:00	07-Sep-17 10:03	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1701199-02	DPH-PW1	05-Sep-17 11:15	07-Sep-17 10:03	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

Client Project: 172986 / NH / 5008

ANALYTICAL RESULTS

Work Order 1701199 Page 5 of 15 10



Camala The Mathad Blank							Modif	Modified RPA Method 537	J 537
Sample 119: Premod Blank							TYAU GAL	INCH BIR IN THE COL	
Data				Laboratory Data	מ מפונית	771	1		
Name: Eastern Analytical, Inc. Project: 172986 / NH / 5008		Matrix: A	Aqueous	Lab Sample:	B710039-BLK1	<u>~</u> 1	Column:	BEH C18	
	Cane	Cone (ng/L)		RI Onalifface	Ratch I	Extracted S	Samp Size	Analyzed	Dilution
PERS	The second secon	ND			9		0.125 L	30	
PFHxA		ND		5.00		12-Sep-17	0.125 L	14-Sep-17 18:30	— ;
PFHpA		ND		5.00		12-Sep-17	0.125 L	14-Sep-17 18:30	
PFHxS		ND		5.00	B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	_
PFOA		B		5,00	B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	
PFOS		ND		5.00	B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	,
PFNA		Ŋ		5.00	B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	
PFDA		ND		5.00	B710039 1	[2-Sep-17	0.125 L	14-Sep-17 18:30	-
MeFOSAA		ND		5.00	B7I0039]	12-Sep-17	0.125 L	14-Sep-17 18:30	
PFUnA		ND		5.00	B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	,
EtFOSAA		ND		5.00	B710039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	
PFDoA		ND		5.00	B710039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	_
PFTDA		ND		5,00	B710039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	
PFTeDA		ND		5.00	B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	-
Labeled Standards	Type %	Recovery	Limits	Qualifiers	Batch I	Extracted S	Samp Size	Analyzed I	Dilution
13C3-PFBS	IS	114	60 - 150		B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	-
13C2-PFHxA	IS	85.4	70 - 130		B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	-
13C4-PFHpA	IS	74.4	60 - 150		B7I0039 1	2-Sep-17	0.125 L	14-Sep-17 18:30	
1802-PFHxS	IS	81.5	60 - 130		B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	_
13C2-PFOA	IS	83.0	60 - 130		B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	
13C8-PFOS	IS	83.4	60 - 130		B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	_
13C5-PFNA	IS	80.0	50 - 130		B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	
13C2-PFDA	IS	71.7	60 - 130		B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	_
d3-MeFOSAA	IS	64.1	50 - 150		B7I0039 1	[2-Sep-17	0.125 L	14-Sep-17 18:30	
13C2-PFUnA	IS	75.5	60 - 130		B7I0039 1	2-Sep-17	$0.125\mathrm{L}$	14-Sep-17 18:30	,
d5-EtFOSAA	13	61.8	50 - 150		B710039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	
13C2-PFDoA	IS	72.5	30 - 130		B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	
13C2-PFTeDA	IS	66.9	20 - 150		B7I0039 1	12-Sep-17	0.125 L	14-Sep-17 18:30	-
RL - Reporting limit		LCL-UCL- Lower cor	LCL-UCL- Lower control limit - upper control limit	+					

RL - Reporting limit

LCL-UCL- Lower control limit - upper control limit
Results reported to RL.
When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.



Sample ID: OPR							Mod	Modified EPA Method 537
Client Data				Laboratory Data				
Name: Eastern Analytical, Inc. Project: 172986 / NH / 5008	Matrix:	Aqueous		Lab Sample:	B7I0039-BS1	S1	Column:	BEH C18
Analyte	Amt Found (ng/L)	Spike Amt '	% Rec Limits	its Qualifiers	Batch	Extracted	Samp Size	Analyzed Dilution
PFBS	92.5	80.0	116 70-	70-130	B710039	12-Sep-17	0.125 L	14-Sep-17 17:47
PFHxA	98.4	80.0	123 70-	70-130	B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
PFHpA	88.5	80.0	111 70-	70-130	B710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
PFHxS	83.1	80.0	·	70-130	B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
PFOA THE SECOND THE SECOND SEC	94,1	80.0	118 70-	70-130	B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
PFOS	86.3	80.0		70-130	B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
PFNA	91.7	80.0	115 70-	70-130	B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
PFDA	98.9	80.0		70-130	B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
MeFOSAA	78.5	80.0	98.1 70-	70-130	B710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
PFUnA	75.9	80.0	94.9 70-	70-130	B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
EtFOSAA	93.2	80.0	117 70-	70-130	B710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
PFDoA	88.8	80.0	111 70-	70-130	B7I0039	12-Sep-17	$0.125\mathrm{L}$	14-Sep-17 17:47 1
PFT-DA	68.3	80.0	85.4 60-	60-130	B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
PFTeDA	100	80.0	125 70-	70-130	B710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
Labeled Standards	Type	.0	% Rec Limits	its Qualifiers	Batch	Extracted	Samp Size	Analyzed Dilution
13C3-PFBS	IS				В710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
13CZ-PFHXA	2			130	В710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
13C4-PFHpA	IS				В710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
1802-PFHxS	SI				В710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
13C2-PFOA	IS.				B710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
13C8-PFOS	5				B/10039	12-Sep-1/	0.125 L	14-Sep-1/1/:4/ 1
13C5-PFNA	IS				B710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
13C2-PFDA	IS		70.2 60-		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
d3-MeFOSAA	IS		59,4 50-	150	B710039	12-Sep-17	$0.125\mathrm{L}$	14-Sep-17 17:47
13C2-PFUnA	IS		66.4 60-		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
d5-EtFOSAA	IS		53.3 50-	150	B710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
13C2-PFDoA	IS		58.0 30-		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1
13C2-PrTeDA	IS		35.7 20-	150	В710039	12-Sep-17	0.125 L	14-Sep-17 17:47 1



						limit - upper control limit	LCL-UCL- Lower control limit - upper control limit		RL - Reporting limit	RL - Rep
	14-Sep-17 19:02	1117 L	12-Sep-17	B7I0039		20 - 150	58.5	IS	FTeDA	13C2-PFTeDA
-	14-Sep-17 19:02	117 L	12-Sep-17	В710039		30 - 130	71.7	IS	FDoA	13C2-PFDoA
	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039		50 - 150	58,7	IS)SAA	d5-EtFOSAA
	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039		60 - 130	74.2	IS	FUnA	13C2-PFUnA
	14-Sep-17 19:02	117L	12-Sep-17	В710039		50 - 150	63,2	IS	OSAA	d3-MeFOSAA
-	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039		60 - 130	71.1	IS	FDA	13C2-PFDA
—	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039		50 - 130	76.1	IS	FNA:	13C5-PFNA
_	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039		60 - 130	81.2	IS	FOS	13C8-PFOS
	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039		60 - 130	80.0	IS	FOA	13C2-PFOA
	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039		60 - 130	79.4	IS	FHxS	1802-PFHxS
	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039		60 - 150	71,7	SI	HpA	13C4-PFHpA
	14-Sep-17 19:02	117 L	12-Sep-17	В710039		70 - 130	82.5	SI	FHxA	13C2-PFHxA
	14-Sep-17 19;02	117 L	12-Sep-17	B710039		60 - 150		SI	FBS	13C3-PFBS
Dilution	Analyzed	Samp Size	Extracted	Batch	Qualifiers	Limits	% Recovery	Type	Labeled Standards	Labeled
1	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039	5.00	5,	ND			PFTeDA
	14-Sep-17 19:02	117 L	12-Sep-17	B710039	5.00	5	ND			PFTrDA
-	14-Sep-17 19:02	117 L	12-Sep-17	В710039	5.00	5.	ND			PFDoA
	14-Sep-17 19:02	117 L	12-Sep-17	B710039	5.00	5	ND			EtFOSAA
-	14-Sep-17 19:02	117L	12-Sep-17	B7I0039	5.00	5	ND			PFUnA
	14-Sep-17 19:02	117 L	12-Sep-17	B710039	5.00	5	ND		AA	MeFOSAA
1	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039	00	5,	ND	TO COLUMN TO MADE OF THE COLUMN TO C	The second secon	PFDA
-	14-Sep-17 19:02	117.L	12-Sep-17	B7I0039	5.00	5	ND			PFNA
1	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039	5.00	5,	29.0			PFOS
	14-Sep-17 19:02	117L	12-Sep-17	B7I0039	5.00	5	9,88			PFOA
_	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039	5.00	Ų,	5.55	2000		PFHxS
	14-Sep-17 19:02	117 L	12-Sep-17	В710039	5.00	Ų,	ND			PFHpA
	14-Sep-17 19:02	117 L	12-Sep-17	B7I0039	5.00	5.	ND			PFHxA
	14-Sep-17 19:02	117L	12-Sep-17	В710039	5.00	5.	ND			PFBS
Dilution	Analyzed	Samp Size	Extracted	Batch	RL Qualifiers]	Conc. (ng/L)		e	Analyte
				,		,				
	BEH C18	Column:	10:03	07-Sep-17 10:03	Date Received:	Aqueous 05-Sep-17 11:00	Date Collected: 05-Sep-	16.	Eastern Analytical, inc :: 172986 / NH / 5008	Name: Project:
		2		1701100 0	Laboratory Data					Client Data
od 537	Modified EPA Method 537	Modi							Sample ID: IRELAND	Sample

Results reported to RL.

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.



Sample ID: DPH_PW1							Rad TDA Math	
Campic att. State a via						INOUR	A SC DOMENTAL WITCH DEFINITION SOLVER	100 DO
Client Data			Laboratory Data					
Name: Eastern Analytical, Inc. Project: 172986 / NH / 5008	Matrix: Date Collected:	Aqueous 1 05-Sep-17 11:15 I	Lab Sample: Date Received:	1701199-02 07-Sep-17 10:03	2 10:03	Column:	BEH C18	
Analyte	Conc. (ng/L)	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	5.00	0	B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	
PFHxA	ND	5.00	0	B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	-
PFIPA	ND	5.00	0	B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	-
PFHxS	ND	5.00	0	B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	,
PFOA II SEE THE SEE TH	MD	5.00	0	B710039	12-Sep-17	117 L	14-Sep-17 19:13	
PFOS	N	5.00	0	B7I0039	12-Sep-17	117 L	14-Sep-17 19:13)—1
PFNA	ND	5.00	0	B710039	12-Sep-17	117 L	14-Sep-17 19:13	
PFDA	ND	5.00	0	B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	_
MeFOSAA	ND	5.00	0	В710039	12-Sep-17	117 L	14-Sep-17 19:13	
PFUnA	ND	5.00	0	B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	-
EtFOSAA	B	5.00		B710039	12-Sep-17	117 L	14-Sep-17 19:13	
PFDoA	ND	5.00	0	B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	-
	ND	13.00	0	B710039	12-Sep-17	117 L	14-Sep-17 19:13	
PFTeDA	ND	5.00	0	B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	-
Labeled Standards Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	107	60 - 150		B710039	12-Sep-17	117 L	14-Sep-17 19:13	
13C2-PFHxA IS	77.2	70 - 130		B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	
13C4-PFHpA	64.3	60 - 150		В710039	12-Sep-17	117L	14-Sep-17 19:13	
18O2-PFHxS IS	77.2	60 - 130		B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	_
13C2-PFOA	78.3	60 - 130		В710039	12-Sep-17	117 L	14-Sep-17 19:13	-
13C8-PFOS IS	83.2	60 - 130		B710039	12-Sep-17	117 L	14-Sep-17 19:13	<u>,</u>
13C5-PFNA	72,3	50 - 130		B7I0039	12-Sep-17	117L	14-Sep-17 19:13	_
13C2-PFDA IS	66.7	60 - 130		B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	_
d3-MeFOSAA	50.8	50 - 150		B7I0039	12-Sep-17	117L	14-Sep-17 19:13	
13C2-PFUnA IS	70.2	60 - 130		B710039	12-Sep-17	117 L	14-Sep-17 19:13	
d5-EtFOSAA	53,8	50 - 150		B7I0039	12-Sep-17	117 L	14-Sep-17 19:13	
13C2-PFDoA IS	77.2	30 - 130		B710039	12-Sep-17	117 L	14-Sep-17 19:13	_
13C2-PFTeDA IS	52,8	20 - 150		B710039	12-Sep-17	117 L	14-Sep-17 19:13	
RL - Reporting limit	LCL-UCL- Lower co	LCL-UCL- Lower control limit - upper control limit Results reported to RI.						

LCL-UCL- Lower control limit - upper control limit
Results reported to RL.
When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank.
D	Dilution
E	The associated compound concentration exceeded the calibration range of the instrument.
H	Recovery and/or RPD was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ.
M	Estimated Maximum Possible Concentration. (CA Region 2 projects only)
*	See Cover Letter
Conc.	Concentration
NA	Not applicable
ND	Not Detected
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated	EPA 23
Dibenzofurans	

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B
Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by	EPA 1699
HRGC/HRMS	
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by	EPA 8280A/B
GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B
Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

CHAIN-OF-CUSTODY RECORD eastern analytical TUINY 24

1701199 2.0°C

Page 1

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Sample ID IRELAND 9/5/2017 Date Sampled Matrix aqueous | Subcontract - Perfluorinated Compounds EPA Method 537 (VAL) aParameters Sample Notes

DPH-PW1 11:15 9/5/2017 aqueous | Subcontract - Perfluorinated Compounds EPA Method 537 (VAL)

111:00

Account # Company EAIID# 172986 Address Address Vista Analytical Laboratory (916) 673-1520 1104 Windfield Way El Dorado Hills, CA 95762 Project State: NH Project ID: 5008 QC Deliverables Results Needed by: Preferred date MA □A+ □B □B+ customerservice@eailabs.com Notes about project: 14 Compound List (PFAS) Email pdf of results and invoice to <u>က</u> PO #: 46797 Relinquished by Samples Collected by: Please call prior to analyzing, if RUSH surcharges will be applied.

Fax Number

Phone #

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Phone: (603)228-0525

1-800-287-0525

Relinquished by

Date/Time

Received by

Date/Tim

EAUD# 172986

Fax: (603)228-4591

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense of claims for injury or damages are caused by or result from the negligent or intentional anising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional and to the extent such liability. acts or omissions, obyquas sorphospritract lab, your officers, agents or employees



Sample Log-in Checklist

Vista Work Order #: 1'F01199 TAT_14 days								
Samples Arrival: Date/Time		Initials:			Location: WR-2 Shelf/Rack: W8			
Logged In:	Logged In: Date/Time Initials: Q/7/7 /147 W/S				Location: WR-2 Shelf/Rack: 2-5			
Delivered By:	FedEx	UPS	On Tra	3¢	GSO	DHI	DHL Hand Ot	
Preservation:	Cic	.e)	BI	Blue Ice		Dry Ice None		
Temp °C: [,9 (uncorrected) Time: [0]6 Temp °C: 2,0 (corrected) Probe used: Yes II No II. Thermometer ID: IR-1					D: IR-1			

					YES	NO	NA
Adequate Sample Volume Re	ceived?				V		
Holding Time Acceptable?					1		
Shipping Container(s) Intact?					1		
Shipping Custody Seals Intac	t?						1
Shipping Documentation Pres			manus punction	***************************************	1		
	Z X46 599 0	19214 9485	· · · · · · · · · · · · · · · · · · ·		/		
Sample Container Intact?					1		
Sample Custody Seals Intact	>						√
Chain of Custody / Sample Do		1					
GOC Anomaly/Sample Accep			✓	\checkmark			
If Chlorinated or Drinking Water Samples, Acceptable Preservation?							
Preservation Documented:	Na₂S₂O₃	Trizma	None		(Yes)	No	NA.
Shipping Container	Vista	Client	Retain	Re	turn	Disp	ose

Comments:

Eastern Analytical, Inc.

professional laboratory and drilling services

25 CHENELL DRIVE CONCORD, NH 03301 Tel: 603.228.0525 I.800.287.0525 E-Mail: CUSTOMERSERVICE@EASTERNANALYTICAL.COM WWW.EASTERNANALYTICAL.COM

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

Sample Date: 9/6/17 Monitoring Wells VOC, 1,4-Dioxane, PFC RECRA 8 for LGWP

John Brooks
Emery & Garrett Groundwater Investigations, LLC
56 Main Street
Meredith, NH 03253

THE STANDANCE IN ACCORDANCE

Subject: Laboratory Report

Eastern Analytical, Inc. ID: 173023

Client Identification: Pudding Hill, Dover, NH

Date Received: 9/6/2017

Dear Mr. Brooks:

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at www.eailabs.com for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R: % Recovery

Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

Lorraine Olashaw, Lab Director

Date

of pages (excluding cover letter)

SAMPLE CONDITIONS PAGE



EAI ID#: 173023

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Pudding Hill, Dover, NH

Temperature upon receipt (°C): 10.7

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Acceptable it	emperature range (C): 0-6				
Lab ID	Sample ID	Date Received	Date Sampled	Sample % Dry Matrix Weight	Exceptions/Comments (other than thermal preservation)
173023.01	DPH-6	9/6/17	9/6/17	aqueous	Adheres to Sample Acceptance Policy
173023.02	DPH-4	9/6/17	9/6/17	aqueous	Adheres to Sample Acceptance Policy
173023.03	DPH-MW6	9/6/17	9/6/17	aqueous	Adheres to Sample Acceptance Policy
173023.04	DPH-EX4	9/6/17	9/6/17	aqueous	Adheres to Sample Acceptance Policy
173023.05	DPH-B7	9/6/17	9/6/17	aqueous	Adheres to Sample Acceptance Policy
173023.06	TRIP BLANK	9/6/17	8/18/17	aqueous	Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitability, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the

Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples. References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Pudding Hill, Dover, NH

Sample ID:	DPH-6	DPH-4	DPH-MW6	DPH-EX4	DPH-B7	TRIP BLANK	
_ab Sample ID:	173023.01	173023.02	173023.03	173023.04	173023.05	173023.06	
Лatrix:	aqueous	aqueous	aqueous	aqueous	aqueous	aqueous	
	9/6/17	9/6/17	9/6/17	9/6/17	9/6/17	8/18/17	
Date Sampled:					9/6/17	9/6/17	
Date Received:	9/6/17	9/6/17	9/6/17	9/6/17			
Jnits:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
Date of Analysis:	9/7/17	9/7/17	9/7/17	9/7/17	9/7/17	9/7/17	
Analyst:	BAM	BAM	BAM	BAM	BAM	BAM	
•	8260C	8260C	8260C	8260C	8260C	8260C	
Method:							
Dilution Factor:	1	1	1	1	1	1	
Dichlorodifluoromethane	< 5	< 5	< 5	< 5	< 5	< 5	
Chloromethane	< 2	< 2	< 2	< 2	< 2	< 2	
/inyl chloride	< 2	< 2	< 2	< 2	< 2	< 2	
Bromomethane	< 2	< 2	< 2	< 2	< 2	< 2	
Chloroethane	< 5	< 5	< 5	< 5	< 5	< 5	
richlorofluoromethane	< 5	< 5	< 5	< 5	< 5	< 5 < 5	
Diethyl Ether	< 5 < 10						
cetone ,1-Dichloroethene	< 10 < 1	< 10	< 10 < 1	< 10	< 10	< 10 < 1	
ert-Butyl Alcohol (TBA)	< 30	< 30	< 30	< 30	< 30	< 30	
Methylene chloride	< 5	< 5	< 5	< 5	< 5	< 5	
Carbon disulfide	< 2	< 2	< 2	< 2	< 2	< 2	
lethyl-t-butyl ether(MTBE)	< 1	< 1	< 1	< 1	< 1	< 1	
Ethyl-t-butyl ether(ETBE)	< 5	< 5	< 5	< 5	< 5	< 5	
sopropyl ether(DIPE)	< 5	< 5	< 5	< 5	< 5	< 5	
ert-amyl methyl ether(TAME)	< 5	< 5	< 5	< 5	< 5	< 5	
ans-1,2-Dichloroethene	< 1	< 1	< 1	< 1	< 1	< 1	
,1-Dichloroethane	< 1	< 1	< 1	< 1	< 1	< 1	
,2-Dichloropropane	< 1	< 1	< 1	< 1	< 1	< 1	
is-1,2-Dichloroethene	< 1	< 1	< 1	< 1	< 1	< 1	
2-Butanone(MEK)	< 10	< 10	< 10	< 10	< 10	< 10	
Bromochloromethane	< 1	< 1	< 1	< 1	< 1	< 1	
etrahydrofuran(THF)	< 10	< 10	< 10	< 10	< 10	< 10	
Chloroform	< 1 < 1						
,1,1-Trichloroethane Carbon tetrachloride	< 1	< 1	< 1	< 1	< 1	< 1	
,1-Dichloropropene	< 1	< 1	< 1	< 1	<1	< 1	
Renzene	< 1	< 1	< 1	< 1	< 1	< 1	
,2-Dichloroethane	< 1	< 1	< 1	< 1	< 1	< 1	
richloroethene	< 1	< 1	< 1	< 1	< 1	< 1	
,2-Dichloropropane	< 1	< 1	< 1	< 1	< 1	< 1	
Dibromomethane	< 1	< 1	< 1	< 1	< 1	< 1	
Bromodichloromethane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
,4-Dioxane	< 50	< 50	< 50	< 50	< 50	< 50	
-Methyl-2-pentanone(MIBK)	< 10	< 10	< 10	< 10	< 10	< 10	•
is-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
oluene	< 1	< 1	< 1	< 1	< 1	< 1	
rans-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
,1,2-Trichloroethane -Hexanone	< 1 < 10						
-nexanone etrachloroethene	< 10	< 10	< 10	< 10	< 10	< 1	
,3-Dichloropropane	< 1	< 1	< 1	< 1	< 1	< 1	
,3-Dictiloroproparie Dibromochloromethane	< 1	< 1	< 1	< 1	< 1	< 1	
l,2-Dibromoethane(EDB)	< 2	< 2	< 2	< 2	< 2	< 2	
,z-Dibromoethane(EDB) Chlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1	
I,1,1,2-Tetrachloroethane	< 1	< 1	< 1	< 1	< 1	< 1	
Ethylbenzene	< 1	< 1	< 1	< 1	< 1	< 1	

EAI ID#: 173023



EAI ID#: 173023

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Pudding Hill, Dover, NH

Sample ID:	DPH-6	DPH-4	DPH-MW6	DPH-EX4	DPH-B7	TRIP BLANK	
Lab Sample ID:	173023.01	173023.02	173023.03	173023.04	173023.05	173023.06	
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous	aqueous	
Date Sampled:	9/6/17	9/6/17	9/6/17	9/6/17	9/6/17	8/18/17	
Date Received:	9/6/17	9/6/17	9/6/17	9/6/17	9/6/17	9/6/17	
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
Date of Analysis:	9/7/17	9/7/17	9/7/17	9/7/17	9/7/17	9/7/17	•
Analyst:	BAM	BAM	BAM	BAM	BAM	BAM	
Method:	8260C	8260C	8260C	8260C	8260C	8260C	
Dilution Factor:	1	1	1	1	1	1	
			•		•	1	
mp-Xylene	< 1	< 1	< 1	< 1	< 1	< 1	
o-Xylene Styrene	< 1 < 1	< 1	< 1	< 1	< 1	< 1	
Bromoform	< 2	< 1 < 2	< 1 < 2	< 1 < 2	< 1 < 2	< 1 < 2	
soPropylbenzene	< 1	< 1	< 1	< 1	< 1	< 1	
Bromobenzene	< 1	< 1	< 1	< 1	< 1	< 1	ń
,1,2,2-Tetrachloroethane	< 1	< 1	< 1	< 1	< 1	< 1	
,2,3-Trichloropropane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
n-Propylbenzene	< 1	< 1	< 1	< 1	< 1	< 1	
2-Chlorotoluene	< 1	< 1	< 1	< 1	< 1	< 1	
-Chlorotoluene	< 1	< 1	< 1	· < 1	< 1	< 1	
,3,5-Trimethylbenzene	< 1	< 1	< 1	< 1	< 1	< 1	
ert-Butylbenzene	< 1	< 1	< 1	< 1	< 1	< 1	
,2,4-Trimethylbenzene	< 1	< 1	< 1	< 1	< 1	< 1	
ec-Butylbenzene ,3-Dichlorobenzene	< 1 < 1	< 1 < 1	< 1 < 1	< 1	< 1	< 1	
-lsopropyltoluene	< 1	< 1	< 1	< 1 < 1	< 1 < 1	< 1 < 1	~
,4-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1	
,2-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1	
-Butylbenzene	< 1	< 1	< 1	< 1	< 1	< 1	
,2-Dibromo-3-chloropropane	< 2	< 2	< 2	< 2	< 2	< 2	
,3,5-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1	
,2,4-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1	
lexachlorobutadiene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
laphthalene	< 5	< 5	< 5	< 5	< 5	< 5	
,2,3-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1	
1-Bromofluorobenzene (surr) 1,2-Dichlorobenzene-d4 (surr)	103 %R 96 %R	98 %R 98 %R	100 %R 98 %R	98 %R	102 %R	99 %R	**
Toluene-d8 (surr)	96 %R 98 %R	98 %R 96 %R	98 %R 97 %R	95 %R 97 %R	102 %R 96 %R	97 %R 99 %R	
1,2-Dichloroethane-d4 (surr)	97 %R	102 %R	98 %R	97 %R 94 %R	109 %R	99 %R 103 %R	
- 12 2.0.1.0100tilatio a 1 (0ail)	J1 /01\	102 /01	90 /0K	3 → /01\	109 /01	103 /0K	

Vinyl chloride exhibited recovery outside acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).



EAI ID#: 173023

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Pudding Hill, Dover, NH

Lab Sample ID: 173023.03 173023.04 173023.05 Matrix: aqueous aqueous aqueous Date Sampled: 9/6/17 9/6/17 9/6/17 Date Received: 9/6/17 9/6/17 9/6/17 Units: ug/L ug/L ug/L Date of Analysis: 9/8/17 9/8/17 9/8/17 Analyst: BAM BAM BAM Method: 8260B SIM 8260B SIM 8260B SIM Dilution Factor: 1 1 1 1,4-Dioxane < 0.25 0.27 < 0.25 4-Bromofluorobenzene (surr) 107 %R 94 %R 106 %R				
Matrix: aqueous aqueous aqueous Date Sampled: 9/6/17 9/6/17 9/6/17 Date Received: 9/6/17 9/6/17 9/6/17 Units: ug/L ug/L ug/L Date of Analysis: 9/8/17 9/8/17 9/8/17 Analyst: BAM BAM BAM Method: 8260B SIM 8260B SIM 8260B SIM Dilution Factor: 1 1 1 1,4-Dioxane < 0.25	Sample ID:	DPH-MW6	DPH-EX4	DPH-B7
Matrix: aqueous aqueous aqueous Date Sampled: 9/6/17 9/6/17 9/6/17 Date Received: 9/6/17 9/6/17 9/6/17 Units: ug/L ug/L ug/L Date of Analysis: 9/8/17 9/8/17 9/8/17 Analyst: BAM BAM BAM Method: 8260B SIM 8260B SIM 8260B SIM Dilution Factor: 1 1 1 1,4-Dioxane < 0.25	Lab Sample ID:	173023.03	173023.04	173023.05
Date Received: 9/6/17 9/6/17 9/6/17 Units: ug/L ug/L ug/L Date of Analysis: 9/8/17 9/8/17 9/8/17 Analyst: BAM BAM BAM Method: 8260B SIM 8260B SIM 8260B SIM Dilution Factor: 1 1 1 1,4-Dioxane < 0.25	•	aqueous	aqueous	aqueous
Units: ug/L ug/L ug/L ug/L Date of Analysis: 9/8/17 9/8/17 9/8/17 Analyst: BAM BAM BAM Method: 8260B SIM 8260B SIM 8260B SIM Dilution Factor: 1 1 1 1,4-Dioxane < 0.25	Date Sampled:	9/6/17	9/6/17	9/6/17
Date of Analysis: 9/8/17 9/8/17 9/8/17 Analyst: BAM BAM BAM Method: 8260B SIM 8260B SIM 8260B SIM Dilution Factor: 1 1 1 1,4-Dioxane < 0.25 0.27 < 0.25 4-Bromofluorobenzene (surr) 107 %R 94 %R 106 %R	-	9/6/17	9/6/17	9/6/17
Analyst: BAM BAM BAM Method: 8260B SIM 8260B SIM 8260B SIM Dilution Factor: 1 1 1 1,4-Dioxane < 0.25 0.27 < 0.25 4-Bromofluorobenzene (surr) 107 %R 94 %R 106 %R	Units:	ug/L	ug/L	ug/L
Method: 8260B SIM 8260B SIM 8260B SIM 8260B SIM Dilution Factor: 1 1 1 1,4-Dioxane < 0.25	Date of Analysis:	9/8/17	9/8/17	9/8/17
Dilution Factor: 1 1 1 1,4-Dioxane < 0.25	Analyst:	BAM	BAM	BAM
1,4-Dioxane < 0.25	Method:	8260B SIM	8260B SIM	8260B SIM
4-Bromofluorobenzene (surr) 107 %R 94 %R 106 %F	Dilution Factor:	1	1	1
	4-Bromofluorobenzene (surr)	107 %R	94 %R	< 0.25 106 %R 101 %R



EAI ID#: 173023

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Pudding Hill, Dover, NH

Sample ID:	DPH-6	DPH-4	
Lab Sample ID:	173023.01	173023.02	
Matrix:	aqueous	aqueous	
Date Sampled:	9/6/17	9/6/17	Analysis
Date Received:	9/6/17	9/6/17	Units Date Time Method Analyst
Chloride	9	25	mg/L 9/07/17 14:29 4500CIE-97 KD
Nitrite-N	< 0.5	< 0.5	mg/L 9/07/17 14:29 353.2 KD
Nitrate-N	1.0	1.0	mg/L 9/07/17 14:29 353.2 KD

EAI ID#: 173023

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Pudding Hill, Dover, NH

Sample ID:	DPH-6	DPH-4				
Lab Sample ID:	173023.01	173023.02				
Matrix:	aqueous	aqueous				
Date Sampled:	9/6/17	9/6/17	Analytical	Date of		
Date Received:	9/6/17	9/6/17	Matrix Un	its Analysis	Method	Analyst
Arsenic	0.004	0.003	AgTot mg	ı/L 9/7/17	200.8	DS
Sodium	15	20	AqTot mg		200.8	DS
Zinc	0.013	< 0.005	AqTot mg	ı/L 9/7/17	200.8	DS

Sample ID:

DPH-MW6

Lab Sample ID:	173023.03
Matrix:	aqueous
Date Sampled:	9/6/17
Date Received:	9/6/17
Arsenic	0.003
Barium	0.004
Cadmium	< 0.001
Chromium	0.003
Iron	0.50
Lead	< 0.001
Manganese	0.013
Mercury	< 0.0001
Selenium	< 0.001
Silver	< 0.001

Analytical Matrix	Units	Date of Analysis	Method	Analyst
AqTot	mg/L	9/7/17	200.8	DS
AqTot	mg/L	9/7/17	200.8	DS
AqTot	mg/L	9/7/17	200.8	DS
AqTot	mg/L	9/7/17	200.8	DS
AqTot	mg/L	9/7/17	200.8	DS
AqTot	mg/L	9/7/17	200.8	DS
AqTot	mg/L	9/7/17	200.8	DS
AqTot	mg/L	9/7/17	200.8	DS
AqTot	mg/L	9/7/17	200.8	DS
AgTot	ma/l	9/7/17	200.8	DS



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September 22, 2017

Vista Work Order No. 1701207

Ms. Jennifer Laramie Eastern Analytical, Inc. 25 Chennell Drive Concord, NH 03301

Dear Ms. Laramie,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on September 08, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name '173023 / NH / 5008'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph; 916-673-1520 fx; 916-673-0106 www.vista-analytical.com

Vista Work Order No. 1701207 Case Narrative

Sample Condition on Receipt:

Three aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

Modified EPA Method 537

The samples were extracted and analyzed for a selected list of 14 PFAS using Modified EPA Method 537. The results for PFHxS, PFOA and PFOS include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The recoveries of all internal standards in the QC and field samples were within the acceptance criteria.

Work Order 1701207 Page 2 of 16

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Sample Inventory	2
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Qualifiers	11
Certifications	12
Sample Receipt.	13

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1701207-01	DPH-MW6	06-Sep-17 08:40	08-Sep-17 10:20	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1701207-02	DPH-EX4	06-Sep-17 10:30	08-Sep-17 10:20	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1701207-03	DPH-B7	06-Sep-17 10:45	08-Sep-17 10:20	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

Vista Project: 1701207 Client Project: 173023 / NH / 5008

Work Order 1701207 Page 4 of 16 10

ANALYTICAL RESULTS

Work Order 1701207 Page 5 of 16 11



								FIS NAT y same	to restly all was wasterness on the fig.
Sample ID:	Sample ID: Method Blank						Modi	Modified EPA Method 537	hod 537
Client Data				Laboratory Data					
Name:	Eastern Analytical, Inc.	Matrix:	Aqueous	Lab Sample:	B7I0039-BLK1	3LK1	Column:	BEH C18	
Project:	173023 / NH / 5008								
Analyte		Conc. (ng/L)	-	RL Qualifiers	Batch	Extracted Samp Size	Samp Size	Analyzed	Dilution
PFBS		ďΝ	5.	5.00	B7I0039	12-Sep-17	0.125 L	14-Sep-17 18:30) 1
PFHxA		ND	5.	.00	B710039	12-Sep-17	0.125 L	14-Sep-17 18:30) 1
PFHpA		ND		5.00	В710039	12-Sep-17	0.125 L	14-Sep-17 18:30) 1
PFHxS		ND	Çı,	.00	B710039	12-Sep-17	0.125 L	14-Sep-17 18:30	1
PFOA		N		00	B7I0039	12-Sep-17	0.125 L	14-Sep-17 18:30	_
PFOS		ND	5.	.00	B710039	12-Sep-17	0.125 L	14-Sep-17 18:30)
PFNA		T		.00	B7I0039	12-Sep-17	0.125 L	14-Sep-17 18:30) 1
PFDA		ÄD	5.	.00	B710039	12-Sep-17	0.125 L	14-Sep-17 18:30)
MeFOSAA		Z		.00	В710039	12-Sep-17	0.125 L	14-Sep-17 18:30	<u> </u>
PFUnA		ND	5.	.00	B7I0039	12-Sep-17	0.125 L	14-Sep-17 18:30	1
EtFOSAA		ND		5.00	B710039	12-Sep-17	0.125 L	14-Sep-17 18:30) -
PFD ₀ A		ND	5	.00	B710039	-		14-Sep-17 18:30) 1
PFTrDA		ND		.00	B710039	B7I0039 12-Sep-17	0.125 L	14-Sep-17 18:30	

PFTeDA PFTrDA

Labeled Standards

LCL-UCL- Lower control limit - upper control limit

20 - 15030 - 13050 - 15060 - 130 50 - 15060 - 130

d5-EtFOSAA

13C2-PFDoA

13C2-PFUnA

SI \mathbf{S} \mathbf{SI} SI

61.8

B710039 B710039 B710039 B710039 B710039 B710039 B710039 B710039 B710039 B710039

12-Sep-17

0.125 L 0.125 L 0.125 L 0.125 L 0.125 L 0.125 L0.125 L 0.125 L0.125 L 0.125 L0.125 L

12-Sep-17

14-Sep-17 18:30 14-Sep-17 18:30 14-Sep-17 18:30

14-Sep-17 18:30

14-Sep-17 18:30

12-Sep-17 12-Sep-17

12-Sep-17

B7I0039

12-Sep-17

14-Sep-17 18:30

B710039

12-Sep-17

0.125 L0.125 L

14-Sep-17 18:30

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64.1

80.0 83.4 83.0

50 - 130

60 - 130 60 - 13060 - 130

12-Sep-17

12-Sep-17

12-Sep-17

14-Sep-17 18:30 14-Sep-17 18:30 14-Sep-17 18:30 14-Sep-17 18:30

14-Sep-17 18:30

12-Sep-17 12-Sep-17

13C2-PFTeDA

RL - Reporting limit

d3-MeFOSAA

13C2-PFDA 13C5-PFNA 13C8-PFOS 13C2-PFOA 1802-PFHxS 13C4-PFHpA 13C2-PFHxA 13C3-PFBS

 \mathbf{S}

 \mathbf{SI}

 \mathbf{SI}

 \mathbf{S}

74.4 81.5

60 - 150

70 - 13060 - 150Limits

85.4

114

SI

 \mathbf{S}

% Recovery

5,00 5.00

B710039

12-Sep-17 12-Sep-17

0.125 L 0.125 L

14-Sep-17 18:30

Extracted

Samp Size

Analyzed

Dilution

B7I0039

12-Sep-17

14-Sep-17 18:30

Results reported to RL.

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.



Sample ID: OPR							Mod	Modified EPA Method 537	od 537
Client Data			Labo	oratory Data					
Name: Eastern Analytical, Inc. Project: 173023 / NH / 5008	Matrix:	Aqueous	Lab	Lab Sample:	B7I0039-BS1	S1	Column:	BEH C18	
Analyte	Amt Found (ng/L)	Spike Amt % Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed D	Dilution
BS	92.5	80,0 116	70-130		B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47	
PFHxA	98.4	80.0 123	70-130		B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47	-
PFHDA	88.5	80.0 111	70-130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	-
PFHxS	83.1	80.0 104	70-130		В710039	12-Sep-17	0.125 L	14-Sep-17 17:47	_
	94.1	80.0 118	70-130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	
	86.3	80.0 108	70-130		B7I0039	12-Sep-17	$0.125\mathrm{L}$	14-Sep-17 17:47	_
PFNA	91.7	80.0 115	70-130		B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47	-
PFDA	98.9	80.0 124	70-130		B7I0039	12-Sep-17	$0.125\mathrm{L}$	14-Sep-17 17:47	1
Merosaa	78.5	80.0 98.1	70-130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	
PFUnA	75.9		70-130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	-
EtFOSAA	93.2	80.0 117	70-130		B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47	
PFDoA	88.8		70-130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	-
PFTrDA	68.3	80.0 85.4	60-130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	
PFTeDA	100	80.0 125	70-130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	-
Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed L	Dilution
13C3-PFBS	IS	109	60- 150		В710039	12-Sep-17	0.125 L	14-Sep-17 17:47	
13C2-PFHxA	IS	83.1	70- 130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	
13C4-PFHpA	IS	75.8	60- 150		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	
18O2-PFHxS	IS	90.8	60- 130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	1
13C2-PFOA	IS	78.9	60- 130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	-
13C8-PFOS	IS	80.7	60- 130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	
13C5-PFNA	SI	84.0	50- 130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	
13C2-PFDA	IS	70.2	60- 130		B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47	
d3-MeFOSAA	IS	59,4	50- 150		В710039	12-Sep-17	0.125 L	14-Sep-17 17:47	-
13C2-PFUnA	IS	66.4	60- 130		B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	-
d5-EtFOSAA	S	53.3			B710039	12-Sep-17	0.125 L	14-Sep-17 17:47	
13C2-PFDoA	IS	58.0	30- 130		B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47	_
13C2-PFTeDA	IS	35.7	20- 150		B7I0039	12-Sep-17	0.125 L	14-Sep-17 17:47	



Cone (ng/I) DI Onelifare Ratch	Name: Eastern Analytical, Inc. Matrix: Aqueous Lab Sample: 1701207-C Project: 173023 / NH / 5008 Date Collected: 06-Sep-17 08:40 Date Received: 08-Sep-17	Laboratory Data	Sample ID: DPH-MW6
Ougliffers Ratch Extracted Samp Size	1701207-01 : 08-Sep-17 10:20	_	
Samn Siza	Column:		Modif
Analyzed Dilution	BEH C18		Modified EPA Method 537

Name: Project:	Eastern Analytical, Inc. 173023 / NH / 5008	Matrix: Date Collected:	Aqueous 06-Sep-17 08:40	Lab Sample: Date Received:	1701207-01 08-Sep-17 10:20	10:20	Column:	BEH C18	
Analyte		Conc. (ng/L)		RL Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	and the second s	ď	5.	5.00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	
PFHxA		ND	5.	5.00	B7I0039	12-Sep-17	0.119 L	14-Sep-17 21:21	-
РГНрА		ND	5	5.00	B7I0039	12-Sep-17	0.119 L	14-Sep-17 21:21	
PFHxS	:	ND	5.	5.00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	· ;
PFOA		ND	5.	5.00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	-
PFOS		ND	Ų,	5.00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	-
PFNA		Ð		5.00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	
PFDA		ND	5.	00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	-
MeFOSAA		ð	5	5.00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	
PFUnA		ND	5.	5.00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	· ·
EtFOSAA		5	S	5.00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	-
PFDoA		ND	5.	5.00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	_
PFTrDA		V	5,	5.00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	
PFTeDA		ND	5.	5.00	B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	-
Labeled Standards	ds Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed I	Dilution
13C3-PFBS	15		60 - 150		B710039	12-Sep-17	$0.119\mathrm{L}$	14-Sep-17 21:21	-
13C2-PFHxA	IS	78.0	70 - 130		B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	-
13C4-PFHpA	18	66.1	60 - 150		B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	
1802-PFHxS	IS		60 - 130		B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	
13C2-PFOA	${f IS}$	81.8	60 - 130		B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	
13C8-PFOS	IS	78.8	60 - 130		B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	<u>,</u>
13C5-PFNA	IS	74.6	50 - 130		B7I0039	12-Sep-17	0.119 L	14-Sep-17 21:21	
13C2-PFDA	SI		60 - 130		B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	
d3-MeFOSAA		51.2	50 - 150		B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	
13C2-PFUnA	IS		60 - 130		B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	<u> </u>
d5-EtFOSAA	18	5110	50- 150		B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	—
13C2-PFDoA	IS	57.8	30 - 130		B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	-
13C2-PFTeDA	Is	58.6	20 - 150		B710039	12-Sep-17	0.119 L	14-Sep-17 21:21	1
RL - Reporting limit		LCL-UCL- Lower	LCL-UCL- Lower control limit - upper control limit						

RL - Reporting limit

LCL-UCL- Lower control limit - upper control limit

Results reported to RL.

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

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Sample ID: DPH-EX4						Modi	Modified EPA Method 537	od 537
Client Data			Laboratory Data					
	Matrix:	Agueous	Lab Sample:	1701207-02	22	Column:	017 HEQ	
Project: 173023 / NH / 5008	Date Collected:	06-Sep-17 10:30	Date Received:	08-Sep-17 10:20	10:20	Column:	BEH CI8	
Analyte	Conc. (ng/L)		RL Qualitiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ŊD		5.00	B710039	12-Sep-17	0.117L	14-Sep-17 21:32	
PFHxA	ND		5.00	B7I0039	12-Sep-17	$0.117\mathrm{L}$	14-Sep-17 21:32	_
PFHpA	5,99		5.00	B7I0039	12-Sep-17	0.117 L	14-Sep-17 21:32	
PFHxS	13.6		5.00	B7I0039	12-Sep-17	0.117 L	14-Sep-17 21:32	=
PFOA	19.6		5.00	B710039	12-Sep-17	$0.117\mathrm{L}$	14-Sep-17 21:32	
PFOS	64.3		5.00	B710039	12-Sep-17	0.117 L	14-Sep-17 21:32	
PFNA	V		5.00	B7I0039	12-Sep-17	0.117L	14-Sep-17 21:32	
PFDA	ND		5.00	B7I0039	12-Sep-17	0.117L	14-Sep-17 21:32	· • • • • • • • • • • • • • • • • • • •
MeFOSAA	ND		5.00	B710039	12-Sep-17	0.117 L	14-Sep-17 21:32	
PFUnA	AD	Addition many fine.	5.00	B7I0039	12-Sep-17	0.117 L	14-Sep-17 21:32	-
EtFOSAA	ND		5.00	B7I0039	12-Sep-17	0.117L	14-Sep-17 21:32	
PFDoA	ND		5.00	B7I0039	12-Sep-17	0.117L	14-Sep-17 21:32	-
PFTrDA			5.00	B710039	12-Sep-17	0.117L	14-Sep-17 21:32	
PrieDA			5.00	В/10039	12-Sep-1/	0.11/L	14-Sep-1/21:32	-
Labeled Standards Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	106	60 - 150		В710039	12-Sep-17	0.117L	14-Sep-17 21:32	
13C2-PFHxA IS	81.8	70 - 130		B7I0039	12-Sep-17	0.117L	14-Sep-17 21:32	1
13C4-PFHpA	66.2	60 - 150		B710039	12-Sep-17	0.117L	14-Sep-17 21:32	
18O2-PFHxS IS	78.5	60 - 130		B7I0039	12-Sep-17	0.117 L	14-Sep-17 21:32	-
13C2-PFOA IS	83,9	60 - 130		B710039	12-Sep-17	0.117L	14-Sep-17 21:32	-
13C8-PFOS IS	74.9	60 - 130		B7I0039	12-Sep-17	0.117L	14-Sep-17 21:32	_
13C5-PFNA IS	87.3	50 - 130		B7I0039	12-Sep-17	0.117 L	14-Sep-17 21:32	
13C2-PFDA IS	73.2	60 - 130		B7I0039	12-Sep-17	0.117L	14-Sep-17 21:32	-
d3-MeFOSAA	5.7.2	50 - 150		B710039	12-Sep-17	0.117L	14-Sep-17 21:32	-
13C2-PFUnA IS	66.9	60 - 130		B710039	12-Sep-17	0.117L	14-Sep-17 21:32	-
d5-EtFOSAA IS	51.0	50 - 150		B7I0039	12-Sep-17	0.117L	14-Sep-17 21:32	
13C2-PFDoA IS	63.3	30 - 130		B7I0039	12-Sep-17	0.117 L	14-Sep-17 21:32	-
13C2-PFTeDA IS	37.3	20 - 150		B710039	12-Sep-17	0.117L	14-Sep-17 21:32	

13C2-PFTeDA RL - Reporting limit

LCL-UCL-Lower control limit - upper control limit
Results reported to RL.
When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

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Sample ID: DPH-B7								Modi	Modified EPA Method 537	d 537
Client Data				Labora	ratory Data					
Name: Eastern Analytical, Inc. Project: 173023 / NH / 5008		Matrix: Date Collected:	Aqueous 06-Sep-17 10:45	Lab S Date	Lab Sample: Date Received:	1701207-03 08-Sep-17 10:20	10:20	Column:	BEH C18	
Analyte	Con	Conc. (ng/L)		₽	Qualifiers	Batch	Extracted	Samp Size	Analyzed L	Dilution
PEBS		ND	The second secon	5.00		B710039	12-Sep-17	0.120 L	14-Sep-17 21:42	-
PFHxA		ND		5.00		B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	
PFHpA		₹		5.00		B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	
PFHxS		ND		5.00		B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	
PFOA : SECTION		A		5.00		B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	-
PFOS	At home and will be functioned assess to a confidence of both the second building and the second building and the second buildings and the second buildings and the second buildings and the second buildings are second buildin	ND	and edimentation of the Children and the contract of the Children and the	5.00		B710039	12-Sep-17	0.120 L	14-Sep-17 21:42	-
PENA		ND		5.00		B710039	12-Sep-17	0.120 L	14-Sep-17 21:42	
PFDA	Manual State of the Committee of the Com	ND	the second control of	5.00		B710039	12-Sep-17	0.120 L	14-Sep-17 21:42	
MeFOSAA		Ð		5.00		B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	_
PHONA				5.00		B/10039	12-Sep-1/	0.120 L	14-Sep-1/21:42	-
PFDoA		ND .		5.00		B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	-
PFTrDA		3		5.00		B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	-
PFTeDA		ND		5.00		B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	-
Labeled Standards	Type %	Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed D	Dilution
13C3+PFBS	IS	112	60 - 150			B710039	12-Sep-17	0,120 L	14-Sep-17 21:42	
13C2-PFHxA	IS	86.1	70 - 130			B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	1
13C4-PFHpA	IS	73.0	60 - 150			B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	
18O2-PFHxS	IS	79.4	60 - 130			B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	_
13C2-PFOA	IS	79.3	60-130			B710039	12-Sep-17	0.120 L	14-Sep-17 21:42	-
13C8-PFOS	IS	90.7	60 - 130			B710039	12-Sep-17	0.120 L	14-Sep-17 21:42	_
13C5-PFNA	IS	89,0	50 - 130			B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	
13C2-PFDA	IS	68.0	60 - 130			B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	-
d3-MeFOSAA	Z	66.0	50 - 150			B710039	12-Sep-17	0.120 L	14-Sep-17 21:42	-
13C2-PFUnA	IS	71.5	60 - 130		The second secon	B710039	12-Sep-17	0.120 L	14-Sep-17 21:42	:
d5-EtFOSAA	IS	57.5	50 - 150			B7I0039	12-Sep-17	0,120 L	14-Sep-17 21:42	
13C2-PFDoA	IS	77.4	30 - 130			B710039	12-Sep-17	0.120 L	14-Sep-17 21:42	-
13C2-PFTeDA	IS	67.4	20 - 150			B7I0039	12-Sep-17	0.120 L	14-Sep-17 21:42	1

RL - Reporting limit

LCL-UCL- Lower control limit - upper control limit
Results reported to RL.
When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

В	This compound was also detected in the method blank.
D	Dilution
E	The associated compound concentration exceeded the calibration range of the instrument.
H	Recovery and/or RPD was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ.
M	Estimated Maximum Possible Concentration. (CA Region 2 projects only)
*	See Cover Letter
Conc.	Concentration
NA	Not applicable
ND	Not Detected
TEQ	Toxic Equivalency
\mathbf{U}	Not Detected (specific projects only)

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated	EPA 23
Dibenzofurans	

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B
Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by	EPA 1699
HRGC/HRMS	
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by	EPA 8280A/B
GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B
Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue	EPA 1668A/C
by GC/HRMS	
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated	EPA 8280A/B
Dibenzofurans by GC/HRMS	
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated	EPA
Dibenzofurans (PCDFs) by GC/HRMS	8290/8290A

CHAIN-OF-CUSTODY RECORD eastern analytical professional laboratory services

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EAI ID# 173023 Project State: NH Project ID: 50 Company Vista Analytical Laboratory Address 1104 Windfield Way Address El Dorado Hills, CA 95762 Account # Phone # (916) 673-1520	DPH-B7 9/6/2017 10:45		DPH-MW6: 9/6/2017	Sample ID Date S
Project State: NH Project ID: 5008 Results Needed by: Preferred date QC Deliverables MA	aqueous Subcontract - Perfluorinated Compounds EPA Method 537	17 aqueous Subcontract - Perfluorinated Compounds EPA Method 537	17 aqueous Subcontract - Perfluorinated Compounds EPA Method 537	Date Sampled Matrix aParameters
PO #: 46804 Please call prior to analyzing, if RUSH surcharges will be applied. Samples Collected by: Relinquished by Date/Time Received by Relinquished by Date/Time Received by	d 537 (VAL)	d 537 (VAL)	1701267, 1.1°C	EALID# I JUZJ Fage I

acts or omissions of you as a subcontract lab, your officers, agents or employees

Eastern Analytical, Inc. 25 Chenell Dr. Concord, NH 03301

Work Order 1701207

As a subcontract lab to EAI, you will defend, indemnify and hold Eastern Analytical, Inc., its officers, employees, and agents harmless from and against any and all liability, loss, expense or claims for injury or damages arising out of the performance against this chain of custody but only in proportion to and to the extent such liability, loss, expense, or claims for injury or damages are caused by or result from the negligent or intentional

Phone: (603)228-0525

1-800-287-0525

Fax: (603)228-4591



Sample Log-in Checklist

Vista Work Orde	r#:	17012	207		TAT SHD			
Samples Arrival:	Date/Time 9/8/17 1020		Initials:		Location: WP-2 Shelf/Rack: N/A			
Logged In:	Date/Time	657	Initials:		Location: WE	?-2 <u>4</u>		
Delivered By:	FedEx UPS	On Tra	ic GSO	DHL	Delivered	Other		
Preservation:	(Ice)	Blu	ue Ice	With 4/	Dry Ice	None		
Temp °C:	(uncorrected)		8 3 8 해구 ed: Yes□ No□		Thermometer ID	: IR-1		

					YES	NO	NA			
Adequate Sample Volume Re		/								
Holding Time Acceptable?		V								
Shipping Container(s) Intact?		J								
Shipping Custody Seals Intac	t?						•/			
Shipping Documentation Pres	sent?				V					
Airbill Trk#	1ZX46 599	01 9854 4	340		V					
Sample Container Intact?	•				V					
Sample Custody Seals Intact	?						1			
Chain of Custody / Sample D	ocumentation Pr	esent?			V					
COC Anomaly/Sample Accep	tance Form com	pleted?				V	</td			
If Chlorinated or Drinking Wat				/						
Preservation Documented:	Na₂S₂O₃	Trizma	None		Yes	No	(NA)			
Shipping Container Vista Client Retain Return										

Comments:

Page _ E-MAIL: PHONE: CITY: MERCHIF PROJECT MANAGER: John E STE PROJECT #: COMPANY: Emory + Garaget Grand water taxestimbien LL REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR SITE NAME: ADDRESS: PRESERVATIVE: H-HCL; N-HNO3; S-H2SO4; Na-NaOH; M-MEOH MATRIX: A-AIR; S-SOIL; GW-GROUND WATER; SW-SURFACE WATER; DW-DRINKING WATER; WW-WASTE WATER Lyclb Lych SAMPLE I.D. 803 S E) Z N <u>Q</u> 555 3 4 þ ᄶ 14.1 4425 Brooks \preceq Payor, NM INDICATE BOTH
START & FINISH *IF COMPOSITE, DATE / TIME SAMPLING DATE/TIME STATE: OHER: Z EXT. IIP: 03253 BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS. Matrix (see below) GRAM/*COMPOSITE 524.2 524.2 BTEX 524.2 MTBE ONLY 8260 624 I, 4 DIOXANE QA/QC 8021 REPORTING LEVEL SAMPLER(S): Jon-Early Toppestad DATE NEEDED: PRESUMPTIVE CERTAINTY RELINQUISHED BY: 8015 GRO MAVPH 625 A SYTICS EDB 8270 DBCP ABN BN TPH8100 LI L2 SVOC MAEPH 8015 DRO PCB 608 PEST 608 \cap PEST 8081 PCB 8082 OIL & GREASE 1664 TPH 1664 E-MAIL PDF ELECTRONIC OPTIONS PRELIMS: YES OR NO REPORTING OPTIONS TCLP METALS ABN TCLP 1311 METALS PEST HERB DISSOLVED METALS (LIST BELOW) 13 X OTAL METALS (LIST BELOW) × (117 435 5495) ZZT TDS SPEC. CON. SO₄ NO₃NO₃ CI ND **INORGANICS** T. ALK. BOD CBOD Œ TEMP. TKN NH_3 O. Phos. T. Phos. Ϋ́ES T. RES. CHLORINE COD **PHENOLS** TOC DOC റ് Total Cyanide TOTAL SULFIDE REACTIVE CYANIDE REACTIVE SULFIDE OTHER METALS: METALS: SER SAMPLES FIELD FILTERED? chloride, souscer, sussesse Notes: (ie: Special Detection Limits, Billing Info, If Different) FLASHPOINT TOTAL COLIFORM E. COLI Micro Outiles FECAL COLIFORM ENTEROCOCCI 8 RCRA HETEROTROPHIC PLATE COUNT 173023 교무 # of Containers ☐ YES Æ MEOH VIAL # ₹ ZOTES No. ₽, 2

professional laboratory and drilling services Eastern Analytical, Inc. Quote #:

GWP, OIL FUND, BROWNFIELD OR OTHER:

PO #:

25 CHENELL DRIVE | CONCORD, NH 03301 | Tel: 603.228.0525 | 1.800.287.0525 | E-MAIL: CUSTOMERSERVICE@EASTERNANALYTICAL.COM | WWW.EASTERNANALYTICAL.COM

(WHITE: ORIGINAL GREEN: PROJECT MANAGER)

RELINQUISHED BY:

DATE:

TIME:

RECEIVED BY:

FIELD READINGS:

SUSPECTED CONTAMINATION:

RELINQUISHED

DATE:

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SECRIFIED BY

SITE HISTORY:

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BOLD FIELDS REQUIRED. PLEASE CIRCLE REQUESTED ANALYSIS.

	OHOTE #: PO #	REGULATORY PROGRAM: NPDES: RGP POTW STORMWATER OR	STATE: (NH) MA ME	The Pudding " Hill	FAX: EMAIL EMAIL B CATICOR	27	Man 1:0	PROJECT MANAGER: John B. COMPANY: Emery and be	PRESERVATIVE: H-HCL; N-HNO ₃ ; S-H ₂ SO ₄ ; Na-NaOH; M-MEOH	WW-WASTE WATER	Marin A Am C Con CW Comma With				Tro Blank	1	PRIS-EX4	DOLY-MOSC	SAMPLE I.D.			de la companya de la
	PO #:	POTW STORMWATER OR	VT OTHER:	Power, NH	3		~	Brols Governmentes Lover, golies	va-NaOH; M-MEOH	R; JVY-JURFACE VYAIER; DVY-DRINKII	CH Custof Water DW David			1	عميدا ساهالة	د درها		2013 Eve	INDICATE BOTH START & FINISH DATE / TIME:			
						EXT.:	7 _B .	13		W WAIE	5 E					<		E	MATRIX GRAB/			
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RELINQUISHED BY:	RELINQUISHED ØY:	No.		SAMPLER(S): Joa-Eak	Preșumptive Certainty	;	REPORTING LEVEL	DATE NEEDED:											8015 GRO	MAVPH		
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DATE:	DATE:	7.9.6	DATE	4				$\exists \parallel$											OIL & GREASE		PH 1664	
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FIELD	SUSPEC	H Sie H		A.	J.	NOTES	SAMP	METALS:						-						Ignitability	IVE SULFIDE	
FIELD READINGS:	SUSPECTED CONTAMINATION:	SITE HISTORY:		1	PFC BY 537(14)	(F: Sp	SAMPLES FIELD FILTERED?									-			TOTAL COLIFORM FECAL COLIFORM ENTEROCOCCI	E. COL		
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professional laboratory and drilling services

25 Chenell Drive | Concord, NH 03301 | Tel: 603.228.0525 | 1.800.287.0525 | E-Mail: CustomerService@EasternAnalytical.com | www.EasternAnalytical.com



PRELIMINARY ANALYTICAL RESULTS ATTACHED

The attached .pdf file contains results that have not been subjected to a final QA/QC review. If you have any questions, please contact us at customerservice@eailabs.com or call 1-800-287-0525.

Eastern Analytical, Inc. service reminders...

Autumn is here! Please keep EAI's laboratory capabilities in mind for your upcoming groundwater monitoring, Brownfields redevelopment, remediation and monitoring, site investigation and risk assessment, property transactions, property closures, property development and construction, hazardous waste determination, waste characterization, solid waste management, water resource and other projects. We also offer direct push drilling services as well!

Granite State Rural Water Association (GSRWA) Training Opportunity -

Proper Sample Collection Techniques

Taught by: Jeff Gagne, Eastern Analytical, Inc.

Date: December 12th **Time:** 8:00 am – 3:00 pm

Location: Lake Sunapee Protective Association, Sunapee NH

Cost: \$95.00 Members / \$125 Non Members

To Register: Visit the GSRWA website http://www.granitestatewater.org/Training.asp **Credit:** Earn 6 TCH's. NHDES drinking water and wastewater credit approved

Training topics include:

- Pre-Project Planning Identify Needs (Why are you Collecting Samples?)
- Regulatory Program Compliance or non-compliance?
- Parameters, frequency and timing TAT, Rush, Subcontractors, Access
- Acronyms: SAP, QAPP, DQO LOQ, MDL, RL
- 3M: Methods, Matrix, Minutia (props) Containers, preservation, hold times
- Components of a "Good" Sample Homogeneous and Representative
- Surface Water / Drinking Water Sampling All about real estate
- Groundwater Sampling (demo)- Monitoring Wells 101and Methods pros and cons
- Wastewater Sampling (demo) Composite versus Grab and Sludge, wastes, Jekyll and Hyde
- "Special" Projects- Low Flow and Method 1669
- New and Exciting? PFAS
- Quality Systems in the Field Instrument calibration and Data generation
- Documentation Chain of Custody

Please call GSRWA at 603-756-3570 or email info@granitestatewater.org to register or learn more.

Data you can trust. Service you can depend on.



EAI ID#: **173211**

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Pudding Hill, Dover, NH

Sample ID:	DPH-MW9-17	DPH-MW10 -17	DPH-#105	DPH-MW7 -17	DPH-MW2D	Trip Blank VOC	
Lab Sample ID:	173211.01	173211.02	173211.03	173211.04	173211.05	173211.06	
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous	aqueous	
	•	•	•	•	•	•	
Date Sampled:	9/8/17	9/8/17	9/8/17	9/8/17	9/8/17	8/18/17	
Date Received:	9/8/17	9/8/17	9/8/17	9/8/17	9/8/17	9/8/17	
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
Date of Analysis:	9/13/17	9/13/17	9/13/17	9/13/17	9/13/17	9/13/17	
Analyst:	BML	BML	BML	BML	BML	BML	
Method:	8260C	8260C	8260C	8260C	8260C	8260C	
Dilution Factor:	1	1	1	1	1	1	
Dichlorodifluoromethane	< 5	< 5	< 5	< 5	< 5	< 5	
Chloromethane	< 2	< 2	< 2	< 2	< 2	< 2	
Vinyl chloride	< 2	< 2	< 2	< 2	< 2	< 2	
Bromomethane Chloroethane	< 2 < 5	< 2 < 5	< 2 < 5	< 2 < 5	< 2 < 5	< 2 < 5	
Trichlorofluoromethane	< 5 < 5	< 5 < 5	< 5	< 5 < 5	< 5 < 5	< 5 < 5	
Diethyl Ether	< 5	< 5	< 5	< 5	< 5	< 5	
Acetone	< 10	< 10	< 10	< 10	< 10	< 10	
1,1-Dichloroethene	< 1	< 1	< 1	< 1	< 1	< 1	
tert-Butyl Alcohol (TBA)	< 30	< 30	< 30	< 30	< 30	< 30	
Methylene chloride	< 5	< 5	< 5	< 5	< 5	< 5	
Carbon disulfide Methyl-t-butyl ether(MTBE)	< 2 5	< 2 5	< 2 9	< 2 < 1	< 2 < 1	< 2 < 1	
Ethyl-t-butyl ether(ETBE)	· < 5	5 < 5	s < 5	< 5	< 5	< 5	
Isopropyl ether(DIPE)	< 5	< 5	< 5	< 5	< 5	< 5	
tert-amyl methyl ether(TAME)	< 5	< 5	< 5	< 5	< 5	< 5	
trans-1,2-Dichloroethene	< 1	< 1	< 1	< 1	< 1	< 1	
1,1-Dichloroethane	<1	< 1	< 1	< 1	< 1	< 1	
2,2-Dichloropropane cis-1,2-Dichloroethene	< 1 - < 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	
2-Butanone(MEK)	< 10	< 10	< 10	< 10	< 10	< 10	
Bromochloromethane	< 1	< 1	< 1	< 1	< 1	< 1	
Tetrahydrofuran(THF)	< 10	< 10	< 10	< 10	< 10	< 10	
Chloroform	< 1	< 1	< 1	< 1	< 1	< 1	
1,1,1-Trichloroethane	<1	< 1	< 1	< 1	< 1	< 1	
Carbon tetrachloride 1,1-Dichloropropene	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	
Benzene	<1	< 1	< 1	<1	< 1	< 1	
1,2-Dichloroethane	< 1	< 1	< 1	< 1	< 1	< 1	
Trichloroethene	< 1	< 1	< 1	< 1	< 1	< 1	
1,2-Dichloropropane	< 1	< 1	< 1	< 1	< 1	< 1	
Dibromomethane	< 1	< 1	< 1	< 1	< 1	< 1	
Bromodichloromethane 1,4-Dioxane	< 0.5 < 50	< 0.5 < 50	< 0.5 < 50	< 0.5 < 50	< 0.5 < 50	< 0.5	
4-Methyl-2-pentanone(MIBK)	< 10	< 10	< 10	< 10	< 10	< 50 < 10	
cis-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
Toluene	< 1	< 1	< 1	< 1	< 1	< 1	
trans-1,3-Dichloropropene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	
1,1,2-Trichloroethane	< 1	< 1	< 1	< 1	< 1	< 1	
2-Hexanone Tetrachloroethene	< 10 . < 1	< 10	< 10	< 10	< 10	< 10	
1,3-Dichloropropane	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1 < 1	
Dibromochloromethane	<1	< 1	< 1	< 1	< 1	< 1	
1,2-Dibromoethane(EDB)	< 2	< 2	< 2	< 2	< 2	< 2	
Chlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1	
1,1,1,2-Tetrachloroethane	< 1	< 1	< 1	< 1	< 1	< 1	
Ethylbenzene	< 1	< 1	< 1	< 1	< 1	< 1	



EAI ID#: 173211

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Pudding Hill, Dover, NH

Sample ID:	DPH-MW9-17	DPH-MW10 -17	DPH-#105	DPH-MW7 -17	DPH-MW2D	Trip Blank VOC
Lab Sample ID:	173211.01	173211.02	173211.03	173211.04	173211.05	173211.06
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous	aqueous
Date Sampled:	9/8/17	9/8/17	9/8/17	9/8/17	9/8/17	8/18/17
Date Received:	9/8/17	9/8/17	9/8/17	9/8/17	9/8/17	9/8/17
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Date of Analysis:	9/13/17	9/13/17	9/13/17	9/13/17	9/13/17	9/13/17
Analyst:	BML	BML	BML	BML	BML	BML
Method:	8260C	8260C	8260C	8260C	8260C	8260C
Dilution Factor:	1	1	1	1	1	1
mp-Xylene	< 1	< 1	< 1	< 1	< 1	< 1
o-Xylene	< 1	< 1	< 1	< 1	< 1	< 1
Styrene	< 1	< 1	< 1	< 1 < 2	< 1 < 2	< 1 < 2
Bromoform	< 2 < 1	< 2 < 1	< 2 < 1	< 1	< 1	< 1
IsoPropylbenzene Bromobenzene	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	< 1	< 1	< 1	< 1	< 1	< 1
1,2,3-Trichloropropane	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
n-Propylbenzene	< 1	< 1	< 1	< 1	< 1	< 1
2-Chlorotoluene	< 1	< 1	< 1	< 1	< 1	< 1
4-Chlorotoluene	< 1	< 1	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	< 1	< 1	< 1	< 1	< 1	< 1
tert-Butylbenzene	. <1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	< 1	< 1	< 1	< 1	< 1 < 1	< 1 < 1
sec-Butylbenzene	< 1	< 1 < 1	< 1 < 1	< 1 < 1	< 1	< 1
1,3-Dichlorobenzene	< 1 < 1	< 1	< 1	< 1	< 1	< 1
p-Isopropyltoluene 1,4-Dichlorobenzene	<1	< 1	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1
n-Butylbenzene	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane	< 2	< 2	< 2	< 2	< 2	< 2
1,3,5-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1
Hexachlorobutadiene	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	< 5	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichlorobenzene	< 1	< 1	< 1	< 1	< 1	< 1
4-Bromofluorobenzene (surr)	95 %R	96 %R	93 %R	96 %R	95 %R	93 %R 103 %R
1,2-Dichlorobenzene-d4 (surr)	104 %R	103 %R 101 %R	104 %R 100 %R	102 %R 102 %R	104 %R 100 %R	103 %R 101 %R
Toluene-d8 (surr) 1,2-Dichloroethane-d4 (surr)	103 %R 101 %R	101 %R 101 %R	100 %R 100 %R	102 %R 101 %R	100 %R 100 %R	101 %R 102 %R

Hexachlorobutadiene exhibited recovery outside acceptance limits in the Quality Control sample(s). The analyte(s) were not detected in the sample(s).



EAI ID#: 173211

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Pudding Hill, Dover, NH

Sample ID:	DPH-MW9-17	DPH-MW10	DPH-#105	DPH-MW7	DPH-MW2D	Trip Blank 1,4-Dioxane
e e e e e e e e e e e e e e e e e e e		-17		-17		1,4-Dioxane
Lab Sample ID:	173211.01	173211.02	173211.03	173211.04	173211.05	173211.07
Matrix:	aqueous	aqueous	aqueous	aqueous	aqueous	aqueous
Date Sampled:	9/8/17	9/8/17	9/8/17	9/8/17	9/8/17	8/16/17
Date Received:	9/8/17	9/8/17	9/8/17	9/8/17	9/8/17	9/8/17
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Date of Analysis:	9/12/17	9/12/17	9/12/17	9/12/17	9/12/17	9/12/17
Analyst:	VG	VG	VG	VG	VG	VG
Method:	8260B SIM	8260B SIM	8260B SIM	8260B SIM	8260B SIM	8260B SIM
Dilution Factor:	1	1	1	1	1	1
1,4-Dioxane 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	1.2 97 %R 98 %R	1.4 105 %R 102 %R	3.7 95 %R 99 %R	< 0.25 95 %R 97 %R	< 0.25 100 %R 101 %R	< 0.25 106 %R 102 %R

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LABORATORY REPORT

EAI ID#: 173211

Client: Emery & Garrett Groundwater Investigations, LLC (NH)

Client Designation: Pudding Hill, Dover, NH

Sample ID: DPH-#105

Lab Sample ID: Matrix: Date Sampled: Date Received:	173211.03 aqueous 9/8/17 9/8/17
Arsenic	0.010
Barium	0.059
Cadmium	< 0.001
Chromium	< 0.001
Iron	22
Lead	< 0.001
Manganese	0.47
Mercury	< 0.0001
Selenium	0.030
Silver	< 0.001

Analytical Matrix	Units	Date of Analysis	Method A	Analyst
AqTot	mg/L	9/11/17	200.8	B DS
AqTot	mg/L	9/11/17	200.8	B DS
AqTot	mg/L	9/11/17	200.8	B DS
AqTot	mg/L	9/11/17	200.8	B DS
AqTot	mg/L	9/11/17	200.8	B DS
AqTot	mg/L	9/11/17	200.8	B DS
AqTot	mg/L	9/11/17	200.8	B DS
AqTot	mg/L	9/11/17	200.8	B DS
AqTot	mg/L	9/11/17	200.8	B DS
AqTot	mg/L	9/11/17	200.8	B DS

The values for Arsenic and Selenium may be elevated due to matrix interference.

APPENDIX C WATER LEVELS (COMPACT DISC)