

December 18, 2019

Rob Olsen, REHS  
Tacoma - Pierce County Health Department  
Environmental Health Specialist  
3629 South D Street  
Tacoma, WA 98418-6813

Re: Birds Eye Foods Boiler Room Site  
Summary Report for 2019 Q3 Semi-Annual Groundwater Monitoring Event

Dear Rob:

Pacific Groundwater Group (PGG) is pleased to present this letter report on behalf of our client, Conagra Brands, to summarize semi-annual groundwater monitoring performed in the third quarter 2019 (2019 Q3) at the former Birds Eye Foods facility located at 3303 South 35<sup>th</sup> Street, Tacoma, Washington. Petroleum-related contamination in soil has been identified in a portion of the facility, referred to as the “Boiler Room Site,” which was the subject of a 2011 Remedial Investigation/Feasibility Study (2011 RI/FS) (PGG 2011).

Tacoma – Pierce County Health Department (TPCHD) regulates the Boiler Room Site as an open Underground Storage Tank (UST) Site. Due to the presence of contaminated soil below the water table at the Boiler Room Site, TPCHD requires ongoing semi-annual groundwater monitoring to assess the efficacy of remedial actions and to monitor for potential contaminant migration (Marek, undated; received June 13, 2013). The semi-annual monitoring events shall be performed in spring and fall and shall involve sampling from two (2) shallow and deep well pairs generally located upgradient and downgradient of contaminated soil (Marek, undated; received June 13, 2013). In the absence of evidence of contaminant migration, TPCHD will not require remedial action other than the preferred *Soil Containment and Natural Source Zone Depletion* remedy identified in the 2011 RI/FS (Marek, undated; received June 13, 2013).

The semi-annual monitoring program required by TPCHD is in addition to, and does not alter, the long-term groundwater monitoring program (PGG 2012) required by the *Soil Containment and Natural Source Zone Depletion* remedy. The long-term groundwater monitoring events are performed every 18 months and the next event will be March 2020 (2020 Q1).

Analytical results for groundwater samples collected in 2019 Q3 indicate that the preferred remedial alternative identified in the 2011 RI/FS is effective; the petroleum contamination

in soil is not resulting in a dissolved plume with concentrations of site contaminants of concern exceeding the Model Toxics Control Act (MTCA) Method A cleanup levels.

This work was performed, and this report prepared, in accordance with hydrogeologic practices generally accepted at this time and in this area for the exclusive use of the former Birds Eye Foods facility, for specific application to the project site. No other warranty, express or implied, is made.

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## **2019 Q3 SEMI-ANNUAL GROUNDWATER SAMPLING SUMMARY**

The 2019 Q3 groundwater sampling event was performed in compliance with TPCHD requirements (Marek, undated; received June 13, 2013) and the Semi-Annual Groundwater Monitoring Plan (PGG 2013). Groundwater samples were collected from the Boiler Room Site semi-annual well network on September 23, 2019 by representatives of PGG. The semi-annual monitoring well network is presented in Figure 1 and construction details are summarized in Table 1.

The monitoring wells were purged and sampled using new, disposable tubing and peristaltic pump. Low flow purging and sampling techniques were used to minimize turbidity in the groundwater samples. During purging, field meters were used to monitor pH, specific conductance, temperature, and turbidity. Samples were collected when these field parameters had stabilized or after a minimum of three casing volumes had been purged. Purge water was drummed and temporarily stored onsite.

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## **CHEMICALS OF CONCERN AND SITE CLEANUP LEVELS**

Groundwater samples were received by Analytical Resources, Inc. (ARI), a Washington State certified laboratory, on September 23, 2019. Samples were stored and delivered in ice chests following standard chain-of-custody procedures.

Groundwater samples were analyzed according to the Washington State Department of Ecology and/or U.S. Environmental Protection Agency methods for the following parameters:

- Northwest Total Petroleum Hydrocarbons – Gasoline Range Organics (NWTPH-G), and Diesel-Range and Heavy Oil-Range Organics (NWTPH-Dx) with silica gel cleanup.
- BTEX Compounds – Benzene, Toluene, Ethylbenzene, and Xylenes (U.S. Environmental Protection Agency [EPA] Method 8260).
- PAHs – Polynuclear Aromatic Hydrocarbons (EPA Method 8270D with selected ion monitoring modification to achieve required reporting limits).

Groundwater samples collected at the Boiler Room Site between 2001 and March 2015 were analyzed for BTEX compounds by EPA Method 8021. Subsequently, ARI discontinued analyzing water samples for BTEX compounds by Method 8021 and informed PGG

that “Ecology is moving away from that method as it gives false positives” (Bottem 2015). Therefore, samples collected at the Boiler Room Site in 2018 Q3 were analyzed for BTEX compounds by EPA 8260. ARI’s BTEX reporting limits for EPA 8260 are equal to or less than those for EPA 8021.

As described in the 2011 RI/FS (PGG 2011) and Semi-Annual Groundwater Monitoring Plan (PGG 2013), standard MTCA (Washington State Department of Ecology 2007) Method A Unrestricted Land Use cleanup levels are applicable to the Boiler Room Site to evaluate the relative chemical effects from soil contamination at the Site on groundwater quality. MTCA Method A cleanup levels meet the criteria of WAC 173-340-704(1) because there are few hazardous substances at the Site and numerical Method A standards have been established. Groundwater cleanup levels presented in Table 2 are consistent with the 2011 RI/FS.

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## **ANALYTICAL RESULTS**

The 2019 Q3 groundwater monitoring analytical results are summarized in Table 2 and the analytical lab report is presented in Appendix A.

Toluene was detected in groundwater samples collected at MW-12S and MW-12D with concentrations (0.24 and 0.28 ug/L, respectively). These concentrations are slightly above the reporting limit (0.2 ug/L). The toluene concentrations in samples MW-12S and MW-12D are four orders of magnitude less than the cleanup level (1,000 ug/L). Additionally, toluene was not detected in soil samples collected at the Boiler Room Site during investigations for the 2011 RI/FS. No other contaminants of concern were detected in the 2019 Q3 groundwater samples and analytical reporting limits were less than corresponding Site cleanup levels.

The 2019 Q3 groundwater analytical results indicate that the preferred remedial alternative identified in the 2011 RI/FS is effective; the petroleum contamination in soil is not resulting in a dissolved plume with concentrations exceeding MTCA Method A cleanup levels.

Quality assurance/quality control (QA/QC) data associated with the Boiler Room Site 2019 Q3 groundwater samples were reviewed by PGG. All requested analyses were performed, and the QA/QC assessments indicated acceptable results with the following notation:

- Laboratory Control Samples and Laboratory Control Sample Duplicates (LCS/LCSD) are types of internal laboratory QA/QC samples. They are analyzed to assess the laboratory performance to successfully recover target analytes from a purified sample material, like deionized water. Recovering the target analytes in the LCS assesses whether the analytical procedure is in control and evaluates the lab’s capability to report unbiased measurements. The LCSD is a replicate of the LCS and monitors the accuracy and precision of the analytical process on a purified material. The recovery of total benzofluoranthenes from the PAH LCSD was above control limits. The analytical method for PAHs does not require analysis of an

LCSD. Since total benzofluoranthenes were not detected in the 2019 Q3 ground-water samples, no corrective actions were required, and the data are considered acceptable for purposes of this report without qualification.

Field QA/QC included a blind field duplicate labeled MW-22S that was collected at well MW-12S and analyzed for the semi-annual sampling analytical suite to evaluate analytical precision. Toluene was detected in both the blind field duplicate and in MW-12S. The relative percent differences between the toluene results was 4 percent and within project acceptable limits.

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## REFERENCES

- Bottem, Kelly. 2015. Email from Kelly Bottem, ARI, to Inger Jackson, Pacific Groundwater Group re: AMQ4 Maytown. September 29, 2015.
- EPA. 2017. National Functional Guidelines for Organic Superfund Methods Data Review. Office of Superfund Remediation and Technology Innovation (OSRTI). OLEM 9355.0-136. EPA-540-R-2017-002. January 2017.
- Marek, undated. Birds Eye Foods – UST Site Tacoma, WA. Letter from Mr. Steve Marek, Director Environmental Health Division Tacoma – Pierce County Health Department to Mr. Scott Fehseke, Pinnacle Foods, LLC. Digital version of letter received by Pinnacle Foods, LLC via email on June 13, 2013.
- Pacific Groundwater Group, 2011. Birds Eye Foods Tacoma, WA 2011 Remedial Investigation/Feasibility Study. Consultant's report prepared for Pinnacle Foods Group, LLC. December 16, 2011.
- Pacific Groundwater Group, 2012. Birds Eye Foods, Tacoma Boiler Room Site Long-Term Groundwater Monitoring Plan VCP Site Number SW1187. Consultant's report prepared for Pinnacle Foods Group, LLC. October 23, 2012.
- Pacific Groundwater Group, 2013. Birds Eye Foods UST Site Proposed Semi-Annual Groundwater Monitoring Plan. Consultant's report prepared for Pinnacle Foods Group, LLC. March 17, 2013.
- Washington State Department of Ecology, 2007. Model Toxics Control Act Statute and Regulation. WAC 173-340. Publication No. 94-06. Revised November 2007.

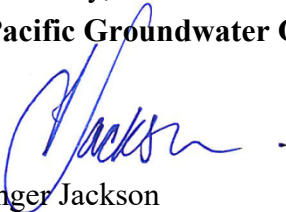
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## CLOSING

We hope this data contributes to your understanding of the Site and groundwater monitoring data. Please contact Inger Jackson at PGG with questions.

Sincerely,

**Pacific Groundwater Group**



Inger Jackson  
Senior Hydrogeologist

*2019Q3\_BEFSummaryReport\_Final*

Cc: René Rimelspach, Conagra Brands

Panjini Balaraju, Washington State Department of Ecology Southwest Regional Office

Attachments: Table 1. Semi-Annual Monitoring Well Network Construction Details, Birds Eye Boiler Room Site

Table 2. Summary of Groundwater Quality Data, Birds Eye Foods, TPCHD Monitoring Event, 2019 Q3

Figure 1. Boiler Room Site Semi-Annual Monitoring Well Network

Appendix A. ARI Lab Report 19I0367

**Table 1. Semi-Annual Monitoring Well Network Construction Details, Birds Eye Boiler Room Site**

Units, Datum*		MW-9S	MW-9D	MW-12S	MW-12D
Unique Well ID (UWID)		Not available	Not available	BHL 104	BHL 103
Location Information					
Township/Range-Section		21N/R3E-07	21N/R3E-07	21N/R3E-07	21N/R3E-07
Northing	feet, NAD 83/91 WA South	697261.9	697257.9	697590.9	697585.0
Easting	feet, NAD 83/91 WA South	1148195.0	1148194.9	1148259.2	1148259.1
Ground Surface Elevation	feet, NAVD 88	247.67	247.64	248.24	248.19
Measuring Point Elevation	feet, NAVD 88	246.99	247.14	247.86	247.90
Construction Information					
Date Completed		10/22/1991	8/24/1992	4/23/2012	4/23/2012
Diameter	inches	2	2	2	2
Depth Drilled	feet bgs	37	82	35	75
Top of Screen	feet bgs	22	77	20	63
Bottom of Screen	feet bgs	37	82	35	73
Depth Completed	feet bgs	37	82	35	73
Monument Type	← Sherwood High Traffic Flush Monument →				

\* Vertical and Horizontal Datums use the Washington State Reference Network

**Table 2. Summary of Groundwater Quality Data, Birds Eye Foods, TPCHD Monitoring Event, 2019 Q3**

CONSTITUENT	UNITS	Site Cleanup Levels*	MW-9S	MW-9D	MW-12S	MW-12D
<b>Field Parameters</b>						
Depth to Water	feet		17.5	17.88	18.45	18.62
pH, Field	std. units		6.57	6.81	7.05	7.34
Specific Conductance, Field	umhos/cm		283	363.8	795.2	662.2
Temperature (C)	C		15	15	16.3	16.1
Turbidity, Field	NTU		2.22	2.02	27.41	3.87
<b>NWTPH Analytes</b>						
Diesel Range Organics	mg/L	0.5	0.1 U	0.1 U	0.1 U	0.1 U
Gasoline Range Organics	mg/L	0.8	0.1 U	0.1 U	0.1 U	0.1 U
Oil Range Organics	mg/L	0.5	0.2 U	0.2 U	0.2 U	0.2 U
<b>BTEX (EPA 8260)</b>						
Benzene	ug/L	5	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	ug/L	700	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	ug/L	1000	0.2 U	0.2 U	<b>0.24</b>	<b>0.28</b>
o-Xylene	ug/L		0.2 U	0.2 U	0.2 U	0.2 U
Xylene Isomers, m+p	ug/L		0.4 U	0.4 U	0.4 U	0.4 U
<b>Carcinogenic PAHs</b>						
Benzo(a)anthracene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U
Benzo(a)pyrene	ug/L	0.1	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U
Dibenzo(a,h)anthracene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U
Indeno(1,2,3-cd)pyrene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U
<b>Non-Carcinogenic PAHs</b>						
Acenaphthene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U
Acenaphthylene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U
Anthracene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U
Benzo(g,h,i)perylene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U
Fluorene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U
Naphthalene	ug/L	160	0.1 U	0.1 U	0.1 U	0.1 U
Phenanthrene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U
Pyrene	ug/L		0.1 U	0.1 U	0.1 U	0.1 U

\*Cleanup Levels based on MTCA Method A, consistent with Birds Eye Foods Tacoma, WA 2011 Remedial Investigation/Feasibility Study

MTCA Cleanup Levels: Gasoline Range Organics 0.8 mg/L if benzene present, 1.0 mg/L if benzene not present; Xylenes 1000 ug/L (individual cleanup levels for m+p xylenes and o-xylenes not established); Benzo(a)pyrene 0.1 ug/L, this represents the total concentration that all carcinogenic PAHs must meet using the toxicity equivalency method in WAC 173-340-708(8).

NWTPH-Dx analysis with silica gel cleanup, consistent with historical site analyses

Lower case qualifiers assigned by PGG QA/QC data reviewer.

Upper case qualifiers assigned by lab.

Bold text indicates constituent detected at or above method reporting limit.

U - Compound not detected

J - Concentration estimated

B - Compound detected in blank





- Semi-Annual Monitoring Well Network
- ▨ 2011 Delineated Petroleum Contaminated Soil Areas

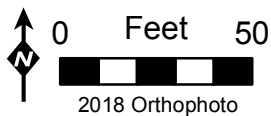


Figure 1  
Semi-Annual Monitoring  
Well Network





**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants

07 October 2019

Inger Jackson  
Pacific Groundwater Group  
2377 Eastlake Ave. E. Suite 200  
Seattle, WA 98102

RE: Birds Eye

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)  
19I0367

Associated SDG ID(s)  
N/A

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I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

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



# Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 1910367		Turn-around Requested: Standard		Page: 1 of 1	
ARI Client Company: Pacific Groundwater Group		Phone: 206 329 0141 ext 204		Date:	Ice Present? Yes
Client Contact: Inger Jackson		No. of Coolers: 2		Cooler Temps: 10.6°C 9.0°C	
Client Project Name: Birds Eye		Analysis Requested			
Client Project #: JL1001.09		Samplers: J. Jackson / T. Klaas			
Sample ID	Date	Time	Matrix	No. Containers	Notes/Comments
MW-9S	9/23/19	1330	GW	9	
MW-9D		1445		9	
MW-12S		1030		9	
MW-12D(+MS/MSD)		1050		27	
MW-22S		1045		9	
Comments/Special Instructions EDD in "PEG" format	Relinquished by: (Signature) Inger Jackson		Received by: (Signature) Jacob Walter		Relinquished by: (Signature)
	Company: PEG		Company: ARZ		Received by: (Signature)
	Date & Time: 9/23/19 1615		Date & Time: 09/23/19 1615		Printed Name:
					Printed Name:
					Company:
					Company:
					Date & Time:
					Date & Time:



**Analytical Resources, Incorporated**  
Analytical Chemists and Consultants  
4611 South 134th Place, Suite 100  
Tukwila, WA 98168  
206-695-6200 206-695-6201 (fax)  
www.arilabs.com

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Pacific Groundwater Group  
2377 Eastlake Ave. E. Suite 200  
Seattle WA, 98102

Project: Birds Eye  
Project Number: Birds Eye  
Project Manager: Inger Jackson

**Reported:**  
07-Oct-2019 12:54

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-9S	19I0367-01	Water	23-Sep-2019 13:30	23-Sep-2019 16:15
MW-9D	19I0367-02	Water	23-Sep-2019 14:45	23-Sep-2019 16:15
MW-12S	19I0367-03	Water	23-Sep-2019 10:30	23-Sep-2019 16:15
MW-12D	19I0367-04	Water	23-Sep-2019 10:50	23-Sep-2019 16:15
MW-22S	19I0367-05	Water	23-Sep-2019 10:45	23-Sep-2019 16:15
Trip Blanks	19I0367-06	Water	23-Sep-2019 14:45	23-Sep-2019 16:15



Pacific Groundwater Group  
2377 Eastlake Ave. E. Suite 200  
Seattle WA, 98102

Project: Birds Eye  
Project Number: Birds Eye  
Project Manager: Inger Jackson

**Reported:**  
07-Oct-2019 12:54

## **Work Order Case Narrative**

### **Volatiles - EPA Method SW8260C**

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

The Matrix Spike/Matrix Spike duplicate recoveries and RPD were within limits.

### **Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM**

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits with the exception of analytes flagged on the associated forms.

The Matrix Spike/Matrix Spike duplicate recoveries and RPD were within limits.

### **Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx**

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.



Pacific Groundwater Group  
2377 Eastlake Ave. E. Suite 200  
Seattle WA, 98102

Project: Birds Eye  
Project Number: Birds Eye  
Project Manager: Inger Jackson

**Reported:**  
07-Oct-2019 12:54

The LCS percent recoveries were within control limits.

**Gasoline Range Organics - WA-Ecology Method NW-TPHG**

The sample(s) were run within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The Matrix Spike/Matrix Spike duplicate recoveries and RPD were within limits.





## WORK ORDER

19I0367

Client: Pacific Groundwater Group

Project Manager: Kelly Bottem

Project: Birds Eye

Project Number: Birds Eye

**Report To:**

Pacific Groundwater Group  
Inger Jackson  
2377 Eastlake Ave. E. Suite 200  
Seattle, WA 98102  
Phone: (206) 329-0141  
Fax: -

**Invoice To:**

Pacific Groundwater Group  
Inger Jackson  
2377 Eastlake Ave. E. Suite 200  
Seattle, WA 98102  
Phone : (206) 329-0141  
Fax: -

Date Due: 08-Oct-2019 18:00 (10 day TAT)

Received By: Jacob Walter

Date Received: 23-Sep-2019 16:15

Logged In By: Kenny Dang

Date Logged In: 23-Sep-2019 17:43

**Samples Received at: 10.6°C**

Intact, properly signed and dated custody seals attached to outside of cooler(s).....No  
Custody papers properly filled out (in, signed, analyses requested, etc).....Yes  
Was sufficient ice used (if appropriate).....No  
All bottles arrived in good condition (unbroken).....Yes  
Number of containers listed on COC match number received.....Yes  
Correct bottles used for the requested analyses.....Yes  
Analyses/bottles require preservation (attach preservation sheet excluding VOC). No  
Sample split at ARI.....No

Custody papers included with the cooler..... Yes  
Was a temperature blank included in the cooler..... No  
All bottles sealed in individual plastic bags..... No  
All bottle labels complete and legible..... Yes  
Bottle labels and tags agree with COC..... Yes  
All VOC vials free of air bubbles..... No  
Sufficient amount of sample sent in each bottle..... Yes

Analysis	Due	TAT	Expires	Comments
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## WORK ORDER

19I0367

Client: Pacific Groundwater Group

Project Manager: Kelly Bottem

Project: Birds Eye

Project Number: Birds Eye

Analysis	Due	TAT	Expires	Comments
<b>19I0367-01 MW-9S [Water] Sampled 23-Sep-2019 13:30 (GMT-08:00) Pacific Time (US &amp; Canada)</b>				
<i>A = Glass NM, Amber, 500 mL      B = Glass NM, Amber, 500 mL      C = Glass NM, Amber, 500 mL      D = Glass NM, Amber, 500 mL</i> <i>E = VOA Vial, Clear, 40 mL, HCL      F = VOA Vial, Clear, 40 mL, HCL      G = VOA Vial, Clear, 40 mL, HCL      H = VOA Vial, Clear, 40 mL, HCL</i> <i>I = VOA Vial, Clear, 40 mL, HCL</i>				
8260C VOA	08-Oct-2019 15:00	10	07-Oct-2019 13:30	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	08-Oct-2019 15:00	10	30-Sep-2019 13:30	
TPH NW (Extractables) low level	08-Oct-2019 15:00	10	30-Sep-2019 13:30	Client gets raw data
8260C Gas (NWTPH)	08-Oct-2019 15:00	10	07-Oct-2019 13:30	Client gets raw data
<b>19I0367-02 MW-9D [Water] Sampled 23-Sep-2019 14:45 (GMT-08:00) Pacific Time (US &amp; Canada)</b>				
<i>A = Glass NM, Amber, 500 mL      B = Glass NM, Amber, 500 mL      C = Glass NM, Amber, 500 mL      D = Glass NM, Amber, 500 mL</i> <i>E = VOA Vial, Clear, 40 mL, HCL      F = VOA Vial, Clear, 40 mL, HCL      G = VOA Vial, Clear, 40 mL, HCL      H = VOA Vial, Clear, 40 mL, HCL</i> <i>I = VOA Vial, Clear, 40 mL, HCL</i>				
8260C Gas (NWTPH)	08-Oct-2019 15:00	10	07-Oct-2019 14:45	Client gets raw data
8260C VOA	08-Oct-2019 15:00	10	07-Oct-2019 14:45	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	08-Oct-2019 15:00	10	30-Sep-2019 14:45	
TPH NW (Extractables) low level	08-Oct-2019 15:00	10	30-Sep-2019 14:45	Client gets raw data
<b>19I0367-03 MW-12S [Water] Sampled 23-Sep-2019 10:30 (GMT-08:00) Pacific Time (US &amp; Canada)</b>				
<i>A = Glass NM, Amber, 500 mL      B = Glass NM, Amber, 500 mL      C = Glass NM, Amber, 500 mL      D = Glass NM, Amber, 500 mL</i> <i>E = VOA Vial, Clear, 40 mL, HCL      F = VOA Vial, Clear, 40 mL, HCL      G = VOA Vial, Clear, 40 mL, HCL      H = VOA Vial, Clear, 40 mL, HCL</i> <i>I = VOA Vial, Clear, 40 mL, HCL</i>				
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	08-Oct-2019 15:00	10	30-Sep-2019 10:30	
8260C Gas (NWTPH)	08-Oct-2019 15:00	10	07-Oct-2019 10:30	Client gets raw data
8260C VOA	08-Oct-2019 15:00	10	07-Oct-2019 10:30	
TPH NW (Extractables) low level	08-Oct-2019 15:00	10	30-Sep-2019 10:30	Client gets raw data
<b>19I0367-04 MW-12D [Water] Sampled 23-Sep-2019 10:50 (GMT-08:00) Pacific MS/MSD Time (US &amp; Canada)</b>				
<i>A = Glass NM, Amber, 500 mL      AA = VOA Vial, Clear, 40 mL, HCL      B = Glass NM, Amber, 500 mL      C = Glass NM, Amber, 500 mL</i> <i>D = Glass NM, Amber, 500 mL      E = Glass NM, Amber, 500 mL      F = Glass NM, Amber, 500 mL      G = Glass NM, Amber, 500 mL</i> <i>H = Glass NM, Amber, 500 mL      I = Glass NM, Amber, 500 mL      J = Glass NM, Amber, 500 mL      K = Glass NM, Amber, 500 mL</i> <i>L = Glass NM, Amber, 500 mL      M = VOA Vial, Clear, 40 mL, HCL      N = VOA Vial, Clear, 40 mL, HCL      O = VOA Vial, Clear, 40 mL, HCL</i> <i>P = VOA Vial, Clear, 40 mL, HCL      Q = VOA Vial, Clear, 40 mL, HCL      R = VOA Vial, Clear, 40 mL, HCL      S = VOA Vial, Clear, 40 mL, HCL</i> <i>T = VOA Vial, Clear, 40 mL, HCL      U = VOA Vial, Clear, 40 mL, HCL      V = VOA Vial, Clear, 40 mL, HCL      W = VOA Vial, Clear, 40 mL, HCL</i> <i>X = VOA Vial, Clear, 40 mL, HCL      Y = VOA Vial, Clear, 40 mL, HCL      Z = VOA Vial, Clear, 40 mL, HCL</i>				
8260C VOA	08-Oct-2019 15:00	10	07-Oct-2019 10:50	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	08-Oct-2019 15:00	10	30-Sep-2019 10:50	
TPH NW (Extractables) low level	08-Oct-2019 15:00	10	30-Sep-2019 10:50	Client gets raw data
8260C Gas (NWTPH)	08-Oct-2019 15:00	10	07-Oct-2019 10:50	Client gets raw data





## WORK ORDER

19I0367

Client: Pacific Groundwater Group

Project Manager: Kelly Bottem

Project: Birds Eye

Project Number: Birds Eye

Analysis	Due	TAT	Expires	Comments
<b>19I0367-05 MW-22S [Water] Sampled 23-Sep-2019 10:45 (GMT-08:00) Pacific Time (US &amp; Canada)</b>				
<i>A = Glass NM, Amber, 500 mL    B = Glass NM, Amber, 500 mL    C = Glass NM, Amber, 500 mL    D = Glass NM, Amber, 500 mL E = VOA Vial, Clear, 40 mL, HCL    F = VOA Vial, Clear, 40 mL, HCL    G = VOA Vial, Clear, 40 mL, HCL    H = VOA Vial, Clear, 40 mL, HCL I = VOA Vial, Clear, 40 mL, HCL</i>				
TPH NW (Extractables) low level	08-Oct-2019 15:00	10	30-Sep-2019 10:45	Client gets raw data
8260C Gas (NWTPH)	08-Oct-2019 15:00	10	07-Oct-2019 10:45	Client gets raw data
8260C VOA	08-Oct-2019 15:00	10	07-Oct-2019 10:45	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	08-Oct-2019 15:00	10	30-Sep-2019 10:45	
<b>19I0367-06 Trip Blanks [Water] Sampled 23-Sep-2019 14:45 (GMT-08:00) Pacific Time (US &amp; Canada)</b>				
<i>A = VOA Vial, Clear, 40 mL, HCL    B = VOA Vial, Clear, 40 mL, HCL</i>				
8260C VOA	08-Oct-2019 15:00	10	07-Oct-2019 14:45	
8260C Gas (NWTPH)	08-Oct-2019 15:00	10	07-Oct-2019 14:45	Client gets raw data

Reviewed By \_\_\_\_\_

Date \_\_\_\_\_





Analytical Resources, Incorporated  
Analytical Chemists and Consultants

# Cooler Receipt Form

ARI Client: P66

Project Name: Birds Eye

COC No(s): NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: NA

Assigned ARI Job No: 1910367

Tracking No: NA

## Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1615 10.16°C 9.0°C

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: DOO 5206

Cooler Accepted by: JG Date: 09/23/19 Time: 1615

**Complete custody forms and attach all shipping documents**

## Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: NA

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI: NA

Were the sample(s) split by ARI? NA YES Date/Time: Equipment: Split by:

Samples Logged by: KD Date: 9/23/19 Time: 1744 Labels checked by: KD

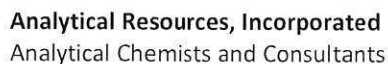
**\*\* Notify Project Manager of discrepancies or concerns \*\***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

### Additional Notes, Discrepancies, & Resolutions:

-Trip Blanks not listed on COC

By: KD Date: 9/23/19



# Cooler Temperature Compliance Form

Completed by: JS Date: 09/23/19 Time: 1615



Pacific Groundwater Group  
2377 Eastlake Ave. E. Suite 200  
Seattle WA, 98102

Project: Birds Eye  
Project Number: Birds Eye  
Project Manager: Inger Jackson

Reported:  
07-Oct-2019 12:54

**MW-9S**  
**19I0367-01 (Water)**

**Volatile Organic Compounds**

Method: EPA 8260C  
Instrument: NT2 Analyst: LH

Sampled: 09/23/2019 13:30

Analyzed: 09/25/2019 15:45

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)  
Preparation Batch: BHI0709 Sample Size: 10 mL  
Prepared: 25-Sep-2019 Final Volume: 10 mL

Extract ID: 19I0367-01 I

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	97.2	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	108	%	
Surrogate: 1,2-Dichlorobenzene-d4			80-120 %	99.2	%	



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Project Manager: Inger Jackson

Reported:  
07-Oct-2019 12:54

**MW-9S**  
**19I0367-01 (Water)**

**Volatile Organic Compounds**

Method: NWTPHg	Sampled: 09/23/2019 13:30
Instrument: NT2 Analyst: LH	Analyzed: 09/25/2019 15:45
Sample Preparation:	Extract ID: 19I0367-01 I
Preparation Method: EPA 5030 (Purge and Trap)	
Preparation Batch: BHI0709	Sample Size: 10 mL
Prepared: 25-Sep-2019	Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	97.2	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	108	%	



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Project Manager: Inger Jackson

Reported:  
07-Oct-2019 12:54

**MW-9S**  
**19I0367-01 (Water)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270D-SIM  
Instrument: NT8 Analyst: JZ

Sampled: 09/23/2019 13:30

Analyzed: 10/03/2019 18:26

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq)  
Preparation Batch: BHI0863 Sample Size: 500 mL  
Prepared: 30-Sep-2019 Final Volume: 0.5 mL

Extract ID: 19I0367-01 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.10	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.10	ND	ug/L	U
Acenaphthene	83-32-9	1	0.10	ND	ug/L	U
Fluorene	86-73-7	1	0.10	ND	ug/L	U
Phenanthrene	85-01-8	1	0.10	ND	ug/L	U
Anthracene	120-12-7	1	0.10	ND	ug/L	U
Fluoranthene	206-44-0	1	0.10	ND	ug/L	U
Pyrene	129-00-0	1	0.10	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.10	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10			31-120 %	73.2	%	
Surrogate: Dibenzo[a,h]anthracene-d14			10-125 %	87.4	%	





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Reported:  
07-Oct-2019 12:54

**MW-9S**  
**19I0367-01 (Water)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx			Sampled: 09/23/2019 13:30
Instrument: FID3 Analyst: VTS			Analyzed: 10/04/2019 16:41
Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19I0367-01 B 01
	Preparation Batch: BHI0864		
	Sample Size: 500 mL		
	Prepared: 30-Sep-2019		Final Volume: 1 mL
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19I0367-01 B 01
	Cleanup Batch: CHJ0031		
	Initial Volume: 1 mL		
	Cleaned: 04-Oct-2019		Final Volume: 1 mL
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19I0367-01 B 01
	Cleanup Batch: CHJ0030		
	Initial Volume: 1 mL		
	Cleaned: 04-Oct-2019		Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	79.1	%	



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Project Manager: Inger Jackson

Reported:  
07-Oct-2019 12:54

**MW-9D**  
**19I0367-02 (Water)**

**Volatile Organic Compounds**

Method: EPA 8260C  
Instrument: NT2 Analyst: LH

Sampled: 09/23/2019 14:45

Analyzed: 09/25/2019 16:05

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap)  
Preparation Batch: BHI0709 Sample Size: 10 mL  
Prepared: 25-Sep-2019 Final Volume: 10 mL

Extract ID: 19I0367-02 H

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	95.3	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	103	%	
Surrogate: 1,2-Dichlorobenzene-d4			80-120 %	103	%	



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Project: Birds Eye  
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Reported:  
07-Oct-2019 12:54

**MW-9D**  
**19I0367-02 (Water)**

**Volatile Organic Compounds**

Method: NWTPHg	Sampled: 09/23/2019 14:45
Instrument: NT2 Analyst: LH	Analyzed: 09/25/2019 16:05
Sample Preparation:	Extract ID: 19I0367-02 H
Preparation Method: EPA 5030 (Purge and Trap)	
Preparation Batch: BHI0709	Sample Size: 10 mL
Prepared: 25-Sep-2019	Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	95.3	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	103	%	



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Reported:  
07-Oct-2019 12:54

**MW-9D**  
**19I0367-02 (Water)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270D-SIM  
Instrument: NT8 Analyst: JZ

Sampled: 09/23/2019 14:45

Analyzed: 10/03/2019 18:52

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq)  
Preparation Batch: BHI0863 Sample Size: 500 mL  
Prepared: 30-Sep-2019 Final Volume: 0.5 mL

Extract ID: 19I0367-02 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.10	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.10	ND	ug/L	U
Acenaphthene	83-32-9	1	0.10	ND	ug/L	U
Fluorene	86-73-7	1	0.10	ND	ug/L	U
Phenanthrene	85-01-8	1	0.10	ND	ug/L	U
Anthracene	120-12-7	1	0.10	ND	ug/L	U
Fluoranthene	206-44-0	1	0.10	ND	ug/L	U
Pyrene	129-00-0	1	0.10	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.10	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10			31-120 %	63.7	%	
Surrogate: Dibenzo[a,h]anthracene-d14			10-125 %	98.9	%	



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Project Manager: Inger Jackson

Reported:  
07-Oct-2019 12:54

**MW-9D**  
**19I0367-02 (Water)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx			Sampled: 09/23/2019 14:45
Instrument: FID3 Analyst: VTS			Analyzed: 10/04/2019 17:01
Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19I0367-02 B 01
	Preparation Batch: BHI0864	Sample Size: 500 mL	
	Prepared: 30-Sep-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19I0367-02 B 01
	Cleanup Batch: CHJ0031	Initial Volume: 1 mL	
	Cleaned: 04-Oct-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID: 19I0367-02 B 01
	Cleanup Batch: CHJ0030	Initial Volume: 1 mL	
	Cleaned: 04-Oct-2019	Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	91.5	%	





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Project: Birds Eye  
Project Number: Birds Eye  
Project Manager: Inger Jackson

Reported:  
07-Oct-2019 12:54

**MW-12S**  
**19I0367-03 (Water)**

**Volatile Organic Compounds**

Method: EPA 8260C

Sampled: 09/23/2019 10:30

Instrument: NT2 Analyst: LH

Analyzed: 09/25/2019 16:26

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19I0367-03 H

Preparation Batch: BHI0709

Sample Size: 10 mL

Prepared: 25-Sep-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	<b>0.24</b>	ug/L	
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	95.1	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	102	%	
Surrogate: 1,2-Dichlorobenzene-d4			80-120 %	103	%	



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Project: Birds Eye  
Project Number: Birds Eye  
Project Manager: Inger Jackson

Reported:  
07-Oct-2019 12:54

**MW-12S**  
**19I0367-03 (Water)**

**Volatile Organic Compounds**

Method: NWTPHg	Sampled: 09/23/2019 10:30
Instrument: NT2 Analyst: LH	Analyzed: 09/25/2019 16:26
Sample Preparation:	Extract ID: 19I0367-03 H
Preparation Method: EPA 5030 (Purge and Trap)	
Preparation Batch: BHI0709	Sample Size: 10 mL
Prepared: 25-Sep-2019	Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	95.1	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	102	%	



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Project Manager: Inger Jackson

Reported:  
07-Oct-2019 12:54

**MW-12S**  
**19I0367-03 (Water)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270D-SIM  
Instrument: NT8 Analyst: JZ

Sampled: 09/23/2019 10:30

Analyzed: 10/03/2019 19:18

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq)  
Preparation Batch: BHI0863 Sample Size: 500 mL  
Prepared: 30-Sep-2019 Final Volume: 0.5 mL

Extract ID: 19I0367-03 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.10	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.10	ND	ug/L	U
Acenaphthene	83-32-9	1	0.10	ND	ug/L	U
Fluorene	86-73-7	1	0.10	ND	ug/L	U
Phenanthrene	85-01-8	1	0.10	ND	ug/L	U
Anthracene	120-12-7	1	0.10	ND	ug/L	U
Fluoranthene	206-44-0	1	0.10	ND	ug/L	U
Pyrene	129-00-0	1	0.10	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.10	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10			31-120 %	65.8	%	
Surrogate: Dibenzo[a,h]anthracene-d14			10-125 %	98.2	%	



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Reported:  
07-Oct-2019 12:54

**MW-12S**  
**19I0367-03 (Water)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx  
Instrument: FID3 Analyst: VTS

Sampled: 09/23/2019 10:30

Analyzed: 10/04/2019 17:22

Sample Preparation: Preparation Method: EPA 3510C SepF  
Preparation Batch: BHI0864  
Prepared: 30-Sep-2019

Sample Size: 500 mL  
Final Volume: 1 mL

Extract ID: 19I0367-03 B 01

Sample Cleanup: Cleanup Method: Silica Gel  
Cleanup Batch: CHJ0031  
Cleaned: 04-Oct-2019

Initial Volume: 1 mL  
Final Volume: 1 mL

Extract ID: 19I0367-03 B 01

Sample Cleanup: Cleanup Method: Sulfuric Acid  
Cleanup Batch: CHJ0030  
Cleaned: 04-Oct-2019

Initial Volume: 1 mL  
Final Volume: 1 mL

Extract ID: 19I0367-03 B 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	84.7	%	



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Reported:  
07-Oct-2019 12:54

**MW-12D**  
**19I0367-04 (Water)**

**Volatile Organic Compounds**

Method: EPA 8260C  
Instrument: NT2 Analyst: PKC

Sampled: 09/23/2019 10:50

Analyzed: 09/26/2019 16:43

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) Sample Size: 10 mL  
Preparation Batch: BHI0785 Final Volume: 10 mL  
Prepared: 26-Sep-2019 Extract ID: 19I0367-04 P

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	<b>0.28</b>	ug/L	
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	92.5	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	93.0	%	
Surrogate: 1,2-Dichlorobenzene-d4			80-120 %	102	%	



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Reported:  
07-Oct-2019 12:54

**MW-12D**  
**19I0367-04 (Water)**

**Volatile Organic Compounds**

Method: NWTPHg	Sampled: 09/23/2019 10:50
Instrument: NT2 Analyst: PKC	Analyzed: 09/26/2019 16:43
Sample Preparation:	Extract ID: 19I0367-04 P
Preparation Method: EPA 5030 (Purge and Trap)	
Preparation Batch: BHI0785	Sample Size: 10 mL
Prepared: 26-Sep-2019	Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	92.5	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	93.0	%	



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Project Manager: Inger Jackson

Reported:  
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**MW-12D**  
**19I0367-04 (Water)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270D-SIM  
Instrument: NT8 Analyst: JZ

Sampled: 09/23/2019 10:50

Analyzed: 10/03/2019 19:43

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq)  
Preparation Batch: BHI0863 Sample Size: 500 mL  
Prepared: 30-Sep-2019 Final Volume: 0.5 mL

Extract ID: 19I0367-04 B 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.10	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.10	ND	ug/L	U
Acenaphthene	83-32-9	1	0.10	ND	ug/L	U
Fluorene	86-73-7	1	0.10	ND	ug/L	U
Phenanthrene	85-01-8	1	0.10	ND	ug/L	U
Anthracene	120-12-7	1	0.10	ND	ug/L	U
Fluoranthene	206-44-0	1	0.10	ND	ug/L	U
Pyrene	129-00-0	1	0.10	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.10	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10			31-120 %	67.7	%	
Surrogate: Dibenzo[a,h]anthracene-d14			10-125 %	98.8	%	





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**MW-12D**  
**19I0367-04 (Water)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx			Sampled: 09/23/2019 10:50
Instrument: FID3 Analyst: VTS			Analyzed: 10/04/2019 17:42
Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19I0367-04 C 01
	Preparation Batch: BHI0864		
	Sample Size: 500 mL		
	Prepared: 30-Sep-2019		Final Volume: 1 mL
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19I0367-04 C 01
	Cleanup Batch: CHJ0031		
	Initial Volume: 1 mL		
	Cleaned: 04-Oct-2019		Final Volume: 1 mL
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19I0367-04 C 01
	Cleanup Batch: CHJ0030		
	Initial Volume: 1 mL		
	Cleaned: 04-Oct-2019		Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	85.5	%	



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**MW-22S**  
**19I0367-05 (Water)**

**Volatile Organic Compounds**

Method: EPA 8260C

Sampled: 09/23/2019 10:45

Instrument: NT2 Analyst: PKC

Analyzed: 09/26/2019 17:03

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19I0367-05 G

Preparation Batch: BHI0785

Sample Size: 10 mL

Prepared: 26-Sep-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	<b>0.25</b>	ug/L	
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	93.0	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	92.7	%	
Surrogate: 1,2-Dichlorobenzene-d4			80-120 %	104	%	



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**MW-22S**  
**19I0367-05 (Water)**

**Volatile Organic Compounds**

Method: NWTPHg	Sampled: 09/23/2019 10:45
Instrument: NT2 Analyst: PKC	Analyzed: 09/26/2019 17:03
Sample Preparation:	Extract ID: 19I0367-05 G
Preparation Method: EPA 5030 (Purge and Trap)	
Preparation Batch: BHI0785	Sample Size: 10 mL
Prepared: 26-Sep-2019	Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	93.0	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	92.7	%	



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**MW-22S**  
**19I0367-05 (Water)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270D-SIM  
Instrument: NT8 Analyst: JZ

Sampled: 09/23/2019 10:45

Analyzed: 10/03/2019 21:01

Sample Preparation: Preparation Method: EPA 3520C (Liq Liq)  
Preparation Batch: BHI0863  
Prepared: 30-Sep-2019

Sample Size: 500 mL  
Final Volume: 0.5 mL

Extract ID: 19I0367-05 A 01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.10	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.10	ND	ug/L	U
Acenaphthene	83-32-9	1	0.10	ND	ug/L	U
Fluorene	86-73-7	1	0.10	ND	ug/L	U
Phenanthrene	85-01-8	1	0.10	ND	ug/L	U
Anthracene	120-12-7	1	0.10	ND	ug/L	U
Fluoranthene	206-44-0	1	0.10	ND	ug/L	U
Pyrene	129-00-0	1	0.10	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.10	ND	ug/L	U
Chrysene	218-01-9	1	0.10	ND	ug/L	U
Benzo(a)fluoranthene, Total		1	0.20	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.10	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.10	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.10	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.10	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10			31-120 %	59.6	%	
Surrogate: Dibenzo[a,h]anthracene-d14			10-125 %	93.2	%	



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**MW-22S**  
**19I0367-05 (Water)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx			Sampled: 09/23/2019 10:45
Instrument: FID3   Analyst: VTS			Analyzed: 10/04/2019 18:43
Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19I0367-05 B 01
	Preparation Batch: BHI0864	Sample Size: 500 mL	
	Prepared: 30-Sep-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19I0367-05 B 01
	Cleanup Batch: CHJ0031	Initial Volume: 1 mL	
	Cleaned: 04-Oct-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19I0367-05 B 01
	Cleanup Batch: CHJ0030	Initial Volume: 1 mL	
	Cleaned: 04-Oct-2019	Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			50-150 %	80.4	%	



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**Trip Blanks**  
**19I0367-06 (Water)**

**Volatile Organic Compounds**

Method: EPA 8260C

Sampled: 09/23/2019 14:45

Instrument: NT2 Analyst: PKC

Analyzed: 09/26/2019 14:21

Sample Preparation:

Preparation Method: EPA 5030 (Purge and Trap)

Extract ID: 19I0367-06 A

Preparation Batch: BHI0785

Sample Size: 10 mL

Prepared: 26-Sep-2019

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.20	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	93.9	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	95.9	%	
Surrogate: 1,2-Dichlorobenzene-d4			80-120 %	101	%	



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**Trip Blanks**  
**19I0367-06 (Water)**

**Volatile Organic Compounds**

Method: NWTPHg	Sampled: 09/23/2019 14:45
Instrument: NT2 Analyst: PKC	Analyzed: 09/26/2019 14:21
Sample Preparation:	Preparation Method: EPA 5030 (Purge and Trap)
	Preparation Batch: BHI0785
	Sample Size: 10 mL
	Prepared: 26-Sep-2019
	Final Volume: 10 mL
	Extract ID: 19I0367-06 A

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			80-120 %	93.9	%	
Surrogate: 4-Bromofluorobenzene			80-120 %	95.9	%	





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### Volatile Organic Compounds - Quality Control

#### Batch BHI0709 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Blank (BHI0709-BLK1)</b> Prepared: 25-Sep-2019 Analyzed: 25-Sep-2019 09:59										
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
Surrogate: Toluene-d8	4.81		ug/L	5.00		96.1	80-120			
Surrogate: 4-Bromofluorobenzene	5.11		ug/L	5.00		102	80-120			
<b>Blank (BHI0709-BLK2)</b> Prepared: 25-Sep-2019 Analyzed: 25-Sep-2019 09:59										
Benzene	ND	0.20	ug/L							U
Toluene	ND	0.20	ug/L							U
Ethylbenzene	ND	0.20	ug/L							U
m,p-Xylene	ND	0.40	ug/L							U
o-Xylene	ND	0.20	ug/L							U
Surrogate: Toluene-d8	4.81		ug/L	5.00		96.1	80-120			
Surrogate: 4-Bromofluorobenzene	5.11		ug/L	5.00		102	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.04		ug/L	5.00		101	80-120			
<b>LCS (BHI0709-BS1)</b> Prepared: 25-Sep-2019 Analyzed: 25-Sep-2019 07:17										
Gasoline Range Organics (Tol-Nap)	1110	100	ug/L	1000		111	72-128			
Surrogate: Toluene-d8	4.97		ug/L	5.00		99.3	80-120			
Surrogate: 4-Bromofluorobenzene	5.50		ug/L	5.00		110	80-120			
<b>LCS (BHI0709-BS2)</b> Prepared: 25-Sep-2019 Analyzed: 25-Sep-2019 08:18										
Benzene	9.87	0.20	ug/L	10.0		98.7	80-120			
Toluene	9.78	0.20	ug/L	10.0		97.8	80-120			
Ethylbenzene	10.1	0.20	ug/L	10.0		101	80-120			
m,p-Xylene	21.7	0.40	ug/L	20.0		108	80-121			
o-Xylene	11.2	0.20	ug/L	10.0		112	80-121			
Surrogate: Toluene-d8	4.97		ug/L	5.00		99.4	80-120			
Surrogate: 4-Bromofluorobenzene	5.53		ug/L	5.00		111	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	4.96		ug/L	5.00		99.3	80-120			
<b>LCS Dup (BHI0709-BSD1)</b> Prepared: 25-Sep-2019 Analyzed: 25-Sep-2019 07:58										
Gasoline Range Organics (Tol-Nap)	846	100	ug/L	1000		84.6	72-128	27.00	30	
Surrogate: Toluene-d8	4.91		ug/L	5.00		98.2	80-120			
Surrogate: 4-Bromofluorobenzene	5.50		ug/L	5.00		110	80-120			



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### Volatile Organic Compounds - Quality Control

#### Batch BHI0709 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>LCS Dup (BHI0709-BSD2)</b>		Prepared: 25-Sep-2019 Analyzed: 25-Sep-2019 08:38								
Benzene	9.81	0.20	ug/L	10.0		98.1	80-120	0.54	30	
Toluene	9.76	0.20	ug/L	10.0		97.6	80-120	0.25	30	
Ethylbenzene	10.3	0.20	ug/L	10.0		103	80-120	1.86	30	
m,p-Xylene	22.0	0.40	ug/L	20.0		110	80-121	1.58	30	
o-Xylene	11.3	0.20	ug/L	10.0		113	80-121	1.00	30	
Surrogate: Toluene-d8	4.95		ug/L	5.00		99.0	80-120			
Surrogate: 4-Bromofluorobenzene	5.52		ug/L	5.00		110	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.08		ug/L	5.00		102	80-120			



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### Volatile Organic Compounds - Quality Control

#### Batch BHI0785 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Blank (BHI0785-BLK1)</b> Prepared: 26-Sep-2019 Analyzed: 26-Sep-2019 13:20										
Gasoline Range Organics (Tol-Nap)	ND	100	ug/L							U
Surrogate: Toluene-d8	4.76		ug/L	5.00		95.1	80-120			
Surrogate: 4-Bromofluorobenzene	4.95		ug/L	5.00		98.9	80-120			
<b>Blank (BHI0785-BLK2)</b> Prepared: 26-Sep-2019 Analyzed: 26-Sep-2019 13:20										
Benzene	ND	0.20	ug/L							U
Toluene	ND	0.20	ug/L							U
Ethylbenzene	ND	0.20	ug/L							U
m,p-Xylene	ND	0.40	ug/L							U
o-Xylene	ND	0.20	ug/L							U
Surrogate: Toluene-d8	4.76		ug/L	5.00		95.1	80-120			
Surrogate: 4-Bromofluorobenzene	4.95		ug/L	5.00		98.9	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	4.99		ug/L	5.00		99.7	80-120			
<b>LCS (BHI0785-BS1)</b> Prepared: 26-Sep-2019 Analyzed: 26-Sep-2019 10:56										
Gasoline Range Organics (Tol-Nap)	1050	100	ug/L	1000		105	72-128			
Surrogate: Toluene-d8	5.00		ug/L	5.00		99.9	80-120			
Surrogate: 4-Bromofluorobenzene	5.43		ug/L	5.00		109	80-120			
<b>LCS (BHI0785-BS2)</b> Prepared: 26-Sep-2019 Analyzed: 26-Sep-2019 11:37										
Benzene	10.0	0.20	ug/L	10.0		100	80-120			
Toluene	9.82	0.20	ug/L	10.0		98.2	80-120			
Ethylbenzene	10.4	0.20	ug/L	10.0		104	80-120			
m,p-Xylene	22.0	0.40	ug/L	20.0		110	80-121			
o-Xylene	11.5	0.20	ug/L	10.0		115	80-121			
Surrogate: Toluene-d8	4.93		ug/L	5.00		98.6	80-120			
Surrogate: 4-Bromofluorobenzene	5.56		ug/L	5.00		111	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.09		ug/L	5.00		102	80-120			
<b>LCS Dup (BHI0785-BSD1)</b> Prepared: 26-Sep-2019 Analyzed: 26-Sep-2019 11:16										
Gasoline Range Organics (Tol-Nap)	1070	100	ug/L	1000		107	72-128	2.23	30	
Surrogate: Toluene-d8	4.98		ug/L	5.00		99.7	80-120			
Surrogate: 4-Bromofluorobenzene	5.56		ug/L	5.00		111	80-120			



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### Volatile Organic Compounds - Quality Control

#### Batch BHI0785 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>LCS Dup (BHI0785-BSD2)</b>		Prepared: 26-Sep-2019 Analyzed: 26-Sep-2019 11:57								
Benzene	9.91	0.20	ug/L	10.0		99.1	80-120	1.32	30	
Toluene	9.69	0.20	ug/L	10.0		96.9	80-120	1.29	30	
Ethylbenzene	10.1	0.20	ug/L	10.0		101	80-120	3.36	30	
m,p-Xylene	21.4	0.40	ug/L	20.0		107	80-121	2.59	30	
o-Xylene	11.1	0.20	ug/L	10.0		111	80-121	3.56	30	
Surrogate: Toluene-d8	4.97		ug/L	5.00		99.4	80-120			
Surrogate: 4-Bromofluorobenzene	5.38		ug/L	5.00		108	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.11		ug/L	5.00		102	80-120			

<b>Matrix Spike (BHI0785-MS2)</b>		<b>Source: 19I0367-04</b>		Prepared: 26-Sep-2019 Analyzed: 26-Sep-2019 20:06						
Benzene	10.3	0.20	ug/L	10.0	ND	103	80-120			
Toluene	10.3	0.20	ug/L	10.0	0.28	100	80-120			
Ethylbenzene	10.4	0.20	ug/L	10.0	ND	104	80-120			
m,p-Xylene	22.1	0.40	ug/L	20.0	ND	111	80-121			
o-Xylene	11.2	0.20	ug/L	10.0	ND	112	80-121			
Surrogate: Toluene-d8	4.93		ug/L	5.00	4.63	98.5	80-120			
Surrogate: 4-Bromofluorobenzene	5.32		ug/L	5.00	4.65	106	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.09		ug/L	5.00	5.12	102	80-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

<b>Matrix Spike (BHI0785-MS3)</b>		<b>Source: 19I0367-04</b>		Prepared: 26-Sep-2019 Analyzed: 26-Sep-2019 20:47						
Gasoline Range Organics (Tol-Nap)	931	100	ug/L	1000	ND	93.1	72-128			
Surrogate: Toluene-d8	5.00		ug/L	5.00	4.63	100	80-120			
Surrogate: 4-Bromofluorobenzene	5.24		ug/L	5.00	4.65	105	80-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

<b>Matrix Spike Dup (BHI0785-MSD2)</b>		<b>Source: 19I0367-04</b>		Prepared: 26-Sep-2019 Analyzed: 26-Sep-2019 20:26						
Benzene	10.2	0.20	ug/L	10.0	ND	102	80-120	1.22	30	
Toluene	10.2	0.20	ug/L	10.0	0.28	99.3	80-120	0.75	30	
Ethylbenzene	10.3	0.20	ug/L	10.0	ND	103	80-120	0.24	30	
m,p-Xylene	22.0	0.40	ug/L	20.0	ND	110	80-121	0.57	30	
o-Xylene	11.2	0.20	ug/L	10.0	ND	112	80-121	0.16	30	
Surrogate: Toluene-d8	4.95		ug/L	5.00	4.63	99.0	80-120			
Surrogate: 4-Bromofluorobenzene	5.18		ug/L	5.00	4.65	104	80-120			



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### Volatile Organic Compounds - Quality Control

#### Batch BHI0785 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Matrix Spike Dup (BHI0785-MSD2)</b>		<b>Source: 19I0367-04</b>		Prepared: 26-Sep-2019		Analyzed: 26-Sep-2019 20:26				
Surrogate: 1,2-Dichlorobenzene-d4	5.01		ug/L	5.00	5.12	100	80-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

<b>Matrix Spike Dup (BHI0785-MSD3)</b>		<b>Source: 19I0367-04</b>		Prepared: 26-Sep-2019		Analyzed: 26-Sep-2019 21:08				
Gasoline Range Organics (Tol-Nap)	911	100	ug/L	1000	ND	91.1	72-128	2.18	30	
Surrogate: Toluene-d8	4.99		ug/L	5.00	4.63	99.9	80-120			
Surrogate: 4-Bromofluorobenzene	5.19		ug/L	5.00	4.65	104	80-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Project: Birds Eye  
Project Number: Birds Eye  
Project Manager: Inger Jackson

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### Semivolatile Organic Compounds - SIM - Quality Control

#### Batch BHI0863 - EPA 3520C (Liq Liq)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Blank (BHI0863-BLK1)</b>		Prepared: 30-Sep-2019 Analyzed: 03-Oct-2019 17:08								
Naphthalene	ND	0.10	ug/L							U
Acenaphthylene	ND	0.10	ug/L							U
Acenaphthene	ND	0.10	ug/L							U
Fluorene	ND	0.10	ug/L							U
Phenanthrene	ND	0.10	ug/L							U
Anthracene	ND	0.10	ug/L							U
Fluoranthene	ND	0.10	ug/L							U
Pyrene	ND	0.10	ug/L							U
Benzo(a)anthracene	ND	0.10	ug/L							U
Chrysene	ND	0.10	ug/L							U
Benzo(a)pyrene	ND	0.10	ug/L							U
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L							U
Dibenzo(a,h)anthracene	ND	0.10	ug/L							U
Benzo(g,h,i)perylene	ND	0.10	ug/L							U
Surrogate: 2-Methylnaphthalene-d10	2.15		ug/L	3.00		71.7	31-120			
Surrogate: Dibenzo[a,h]anthracene-d14	2.96		ug/L	3.00		98.6	10-125			
<b>LCS (BHI0863-BS1)</b>		Prepared: 30-Sep-2019 Analyzed: 03-Oct-2019 17:34								
Naphthalene	1.72	0.10	ug/L	3.00		57.3	33-120			
Acenaphthylene	1.73	0.10	ug/L	3.00		57.5	32-120			
Acenaphthene	1.90	0.10	ug/L	3.00		63.4	38-120			
Fluorene	2.05	0.10	ug/L	3.00		68.5	41-120			
Phenanthrene	2.34	0.10	ug/L	3.00		78.1	49-120			
Anthracene	2.27	0.10	ug/L	3.00		75.8	39-120			
Fluoranthene	2.65	0.10	ug/L	3.00		88.3	48-120			
Pyrene	2.75	0.10	ug/L	3.00		91.8	48-120			
Benzo(a)anthracene	2.32	0.10	ug/L	3.00		77.4	37-120			
Chrysene	2.75	0.10	ug/L	3.00		91.6	48-120			
Benzo(a)pyrene	2.50	0.10	ug/L	3.00		83.3	25-120			
Indeno(1,2,3-cd)pyrene	2.66	0.10	ug/L	3.00		88.8	32-120			
Dibenzo(a,h)anthracene	2.76	0.10	ug/L	3.00		91.8	21-120			
Benzo(g,h,i)perylene	2.71	0.10	ug/L	3.00		90.2	28-120			



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### Semivolatile Organic Compounds - SIM - Quality Control

#### Batch BHI0863 - EPA 3520C (Liq Liq)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>LCS (BHI0863-BS1)</b>		Prepared: 30-Sep-2019 Analyzed: 03-Oct-2019 17:34								
Surrogate: 2-Methylnaphthalene-d10	2.07		ug/L	3.00		69.0	31-120			
Surrogate: Dibenzo[a,h]anthracene-d14	3.34		ug/L	3.00		111	10-125			
<b>LCS Dup (BHI0863-BSD1)</b>		Prepared: 30-Sep-2019 Analyzed: 03-Oct-2019 18:00								
Naphthalene	1.79	0.10	ug/L	3.00		59.5	33-120	3.89	30	
Acenaphthylene	1.82	0.10	ug/L	3.00		60.6	32-120	5.16	30	
Acenaphthene	1.99	0.10	ug/L	3.00		66.2	38-120	4.31	30	
Fluorene	2.17	0.10	ug/L	3.00		72.3	41-120	5.42	30	
Phenanthrene	2.47	0.10	ug/L	3.00		82.4	49-120	5.35	30	
Anthracene	2.41	0.10	ug/L	3.00		80.2	39-120	5.64	30	
Fluoranthene	2.79	0.10	ug/L	3.00		93.0	48-120	5.18	30	
Pyrene	2.80	0.10	ug/L	3.00		93.3	48-120	1.57	30	
Benzo(a)anthracene	2.44	0.10	ug/L	3.00		81.3	37-120	4.91	30	
Chrysene	2.77	0.10	ug/L	3.00		92.5	48-120	0.94	30	
Benzo(a)fluoranthenes, Total	11.3	0.20	ug/L	9.00		125	46-120	3.85	30	*
Benzo(a)pyrene	2.62	0.10	ug/L	3.00		87.3	25-120	4.59	30	
Indeno(1,2,3-cd)pyrene	2.79	0.10	ug/L	3.00		93.0	32-120	4.64	30	
Dibenzo(a,h)anthracene	2.86	0.10	ug/L	3.00		95.2	21-120	3.59	30	
Benzo(g,h,i)perylene	2.87	0.10	ug/L	3.00		95.8	28-120	5.92	30	
Surrogate: 2-Methylnaphthalene-d10	2.12		ug/L	3.00		70.6	31-120			
Surrogate: Dibenzo[a,h]anthracene-d14	3.46		ug/L	3.00		115	10-125			
<b>Matrix Spike (BHI0863-MS1)</b>		Source: 19I0367-04 Prepared: 30-Sep-2019 Analyzed: 03-Oct-2019 20:09								
Naphthalene	1.63	0.10	ug/L	3.00	ND	54.3	33-120			
Acenaphthylene	1.49	0.10	ug/L	3.00	ND	49.6	32-120			
Acenaphthene	1.79	0.10	ug/L	3.00	ND	59.5	38-120			
Fluorene	1.91	0.10	ug/L	3.00	ND	63.6	41-120			
Phenanthrene	2.27	0.10	ug/L	3.00	ND	75.7	49-120			
Anthracene	2.13	0.10	ug/L	3.00	ND	70.9	39-120			
Fluoranthene	2.54	0.10	ug/L	3.00	ND	84.7	48-120			
Pyrene	2.55	0.10	ug/L	3.00	ND	85.0	48-120			
Benzo(a)anthracene	2.21	0.10	ug/L	3.00	ND	73.7	37-120			
Chrysene	2.48	0.10	ug/L	3.00	ND	82.5	48-120			
Benzo(a)fluoranthenes, Total	9.72	0.20	ug/L	9.00	ND	108	46-120			
Benzo(a)pyrene	2.22	0.10	ug/L	3.00	ND	74.1	25-120			





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### Semivolatile Organic Compounds - SIM - Quality Control

#### Batch BHI0863 - EPA 3520C (Liq Liq)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Matrix Spike (BHI0863-MS1)</b>		<b>Source: 19I0367-04</b>		Prepared: 30-Sep-2019		Analyzed: 03-Oct-2019 20:09				
Indeno(1,2,3-cd)pyrene	2.32	0.10	ug/L	3.00	ND	77.4	32-120			
Dibenzo(a,h)anthracene	2.46	0.10	ug/L	3.00	ND	82.0	21-120			
Benzo(g,h,i)perylene	2.51	0.10	ug/L	3.00	ND	83.6	28-120			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	1.94		ug/L	3.00	2.03	64.8	31-120			
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>	3.04		ug/L	3.00	2.96	101	10-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

<b>Matrix Spike Dup (BHI0863-MSD1)</b>		<b>Source: 19I0367-04</b>		Prepared: 30-Sep-2019		Analyzed: 03-Oct-2019 20:35				
Naphthalene	1.67	0.10	ug/L	3.00	ND	55.8	33-120	2.71	30	
Acenaphthylene	1.61	0.10	ug/L	3.00	ND	53.8	32-120	8.04	30	
Acenaphthene	1.83	0.10	ug/L	3.00	ND	60.9	38-120	2.26	30	
Fluorene	1.99	0.10	ug/L	3.00	ND	66.4	41-120	4.28	30	
Phenanthrene	2.30	0.10	ug/L	3.00	ND	76.8	49-120	1.40	30	
Anthracene	2.22	0.10	ug/L	3.00	ND	73.9	39-120	4.04	30	
Fluoranthene	2.55	0.10	ug/L	3.00	ND	85.2	48-120	0.60	30	
Pyrene	2.66	0.10	ug/L	3.00	ND	88.7	48-120	4.31	30	
Benzo(a)anthracene	2.34	0.10	ug/L	3.00	ND	78.1	37-120	5.83	30	
Chrysene	2.61	0.10	ug/L	3.00	ND	87.1	48-120	5.38	30	
Benzo(a)fluoranthene, Total	10.3	0.20	ug/L	9.00	ND	114	46-120	5.30	30	
Benzo(a)pyrene	2.46	0.10	ug/L	3.00	ND	82.0	25-120	10.10	30	
Indeno(1,2,3-cd)pyrene	2.62	0.10	ug/L	3.00	ND	87.2	32-120	11.90	30	
Dibenzo(a,h)anthracene	2.72	0.10	ug/L	3.00	ND	90.6	21-120	10.00	30	
Benzo(g,h,i)perylene	2.71	0.10	ug/L	3.00	ND	90.4	28-120	7.78	30	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	1.99		ug/L	3.00	2.03	66.3	31-120			
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>	3.21		ug/L	3.00	2.96	107	10-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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### Petroleum Hydrocarbons - Quality Control

#### Batch BHI0864 - EPA 3510C SepF

Instrument: FID3 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Blank (BHI0864-BLK1)</b>		Prepared: 30-Sep-2019 Analyzed: 04-Oct-2019 15:39								
Diesel Range Organics (C12-C24)	ND	0.100	mg/L							U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L							U
Surrogate: o-Terphenyl	0.211		mg/L	0.225		93.6	50-150			
<b>LCS (BHI0864-BS1)</b>		Prepared: 30-Sep-2019 Analyzed: 04-Oct-2019 16:00								
Diesel Range Organics (C12-C24)	2.67	0.100	mg/L	3.00		88.9	56-120			
Surrogate: o-Terphenyl	0.222		mg/L	0.225		98.8	50-150			
<b>LCS Dup (BHI0864-BSD1)</b>		Prepared: 30-Sep-2019 Analyzed: 04-Oct-2019 16:20								
Diesel Range Organics (C12-C24)	2.66	0.100	mg/L	3.00		88.7	56-120	0.23	30	
Surrogate: o-Terphenyl	0.221		mg/L	0.225		98.2	50-150			
<b>Matrix Spike (BHI0864-MS1)</b>		Source: 19I0367-04	Prepared: 30-Sep-2019 Analyzed: 04-Oct-2019 18:03							
Diesel Range Organics (C12-C24)	2.15	0.100	mg/L	3.00	ND	71.6	56-120			
Surrogate: o-Terphenyl	0.181		mg/L	0.225	0.192	80.5	50-150			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.										
<b>Matrix Spike Dup (BHI0864-MSD1)</b>		Source: 19I0367-04	Prepared: 30-Sep-2019 Analyzed: 04-Oct-2019 18:23							
Diesel Range Organics (C12-C24)	2.60	0.100	mg/L	3.00	ND	86.8	56-120	19.10	30	
Surrogate: o-Terphenyl	0.202		mg/L	0.225	0.192	89.7	50-150			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.										



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## Certified Analyses included in this Report

Analyte	Certifications
<b>EPA 8260C in Water</b>	
Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE



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trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE



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**EPA 8270D-SIM in Water**

Naphthalene	DoD-ELAP
2-Methylnaphthalene	DoD-ELAP
1-Methylnaphthalene	DoD-ELAP
2-Chloronaphthalene	DoD-ELAP
Biphenyl	DoD-ELAP
2,6-Dimethylnaphthalene	DoD-ELAP
Acenaphthylene	DoD-ELAP
Acenaphthene	DoD-ELAP
Dibenzofuran	DoD-ELAP
2,3,5-Trimethylnaphthalene	DoD-ELAP
Fluorene	DoD-ELAP
Dibenzothiophene	DoD-ELAP
Phenanthrene	DoD-ELAP
Anthracene	DoD-ELAP
Carbazole	DoD-ELAP
1-Methylphenanthrene	DoD-ELAP
Fluoranthene	DoD-ELAP
Pyrene	DoD-ELAP
Benzo(a)anthracene	DoD-ELAP
Chrysene	DoD-ELAP
Benzo(b)fluoranthene	DoD-ELAP
Benzo(k)fluoranthene	DoD-ELAP
Benzo(j)fluoranthene	DoD-ELAP
Benzofluoranthenes, Total	DoD-ELAP
Benzo(e)pyrene	DoD-ELAP
Benzo(a)pyrene	DoD-ELAP
Perylene	DoD-ELAP
Indeno(1,2,3-cd)pyrene	DoD-ELAP
Dibenzo(a,h)anthracene	DoD-ELAP
Benzo(g,h,i)perylene	DoD-ELAP
Benzo(b)thiophene	DoD-ELAP

**NWTPH-Dx in Water**

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP



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Diesel Range Organics (C12-C25)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

#### NWTPHg in Water

Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP
Gasoline Range Organics (C5-C12)	WADOE,DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019



Pacific Groundwater Group  
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Project: Birds Eye  
Project Number: Birds Eye  
Project Manager: Inger Jackson

**Reported:**  
07-Oct-2019 12:54

### Notes and Definitions

*	Flagged value is not within established control limits.
B	This analyte was detected in the method blank.
D	The reported value is from a dilution
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.



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