

Project Name: Quantum Frederick  
PSS Project No.: 23060614

June 8, 2023

**Kevin Plocek**  
**GTA - Baltimore**  
1414 Key Highway, Ste. 201P  
Baltimore, MD 21230



Reference: PSS Project No: **23060614**  
Project Name: Quantum Frederick  
Project Location: Frederick  
Project ID.: 31222314

Dear Kevin Plocek:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **23060614**.

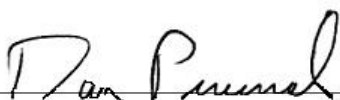
All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on July 11, 2023, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

  
Dan Prucnal

Laboratory Manager



## Explanation of Qualifiers

Project Name: Quantum Frederick  
PSS Project No.: 23060614

### Project ID: 31222314

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/06/2023 at 03:15 pm

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
23060614-001	GTA-TC-3	SURFACE WATER	06/06/23 10:15
23060614-002	GTA-TC-3	SOIL	06/06/23 10:15
23060614-003	GTA-TC-6	SURFACE WATER	06/06/23 10:40
23060614-004	GTA-TC-12	SURFACE WATER	06/06/23 12:15
23060614-005	GTA-TC-13	SURFACE WATER	06/06/23 12:45
23060614-006	GTA-TC-5	SURFACE WATER	06/06/23 13:30

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

#### Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

#### Standard Flags/Abbreviations:

- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C** Results Pending Final Confirmation.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail** The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J** The target analyte was positively identified below the reporting limit but greater than the MDL.
- MDL** This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
- ND** Not Detected at or above the reporting limit.
- RL** PSS Reporting Limit.
- U** Not detected.

#### Certifications:

NELAP Certifications: PA 68-03330, VA 460156  
State Certifications: MD 179, WV 303  
Regulated Soil Permit: P330-12-00268  
NSWC USCG Accepted Laboratory  
LDBE MWAA LD1997-0041-2015

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Sample ID: GTA-TC-3**      **Date/Time Sampled: 06/06/2023 10:15**      **PSS Sample ID: 23060614-001**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

Priority Pollutant Metals      Analytical Method: EPA 200.8      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204119 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/06/23	06/07/23 12:07	1064
Arsenic	ND	ug/L	1.0		1	06/06/23	06/07/23 12:07	1064
Beryllium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:07	1064
Cadmium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:07	1064
Chromium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:07	1064
Copper	ND	ug/L	1.0		1	06/06/23	06/07/23 12:07	1064
Lead	ND	ug/L	1.0		1	06/06/23	06/07/23 20:53	1064
Mercury	ND	ug/L	0.20		1	06/06/23	06/07/23 12:07	1064
Nickel	ND	ug/L	1.0		1	06/06/23	06/07/23 12:07	1064
Selenium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:07	1064
Silver	ND	ug/L	1.0		1	06/06/23	06/07/23 12:07	1064
Thallium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:07	1064
Zinc	ND	ug/L	20		1	06/06/23	06/07/23 12:07	1064

Dissolved Priority Pollutant Metals      Analytical Method: EPA 200.8 Dissolved      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/07/23	06/07/23 10:45	1064
Arsenic	ND	ug/L	1.0		1	06/07/23	06/07/23 10:45	1064
Beryllium	ND	ug/L	1.0		1	06/07/23	06/07/23 10:45	1064
Cadmium	ND	ug/L	1.0		1	06/07/23	06/07/23 10:45	1064
Chromium	ND	ug/L	1.0		1	06/07/23	06/07/23 10:45	1064
Copper	ND	ug/L	1.0		1	06/07/23	06/07/23 10:45	1064
Lead	ND	ug/L	1.0		1	06/07/23	06/07/23 19:52	1064
Mercury	ND	ug/L	0.20		1	06/07/23	06/07/23 10:45	1064
Nickel	ND	ug/L	1.0		1	06/07/23	06/07/23 10:45	1064
Selenium	ND	ug/L	1.0		1	06/07/23	06/07/23 10:45	1064
Silver	ND	ug/L	1.0		1	06/07/23	06/07/23 10:45	1064
Thallium	ND	ug/L	1.0		1	06/07/23	06/07/23 10:45	1064
Zinc	ND	ug/L	20		1	06/07/23	06/07/23 10:45	1064

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Sample ID: GTA-TC-3**      **Date/Time Sampled: 06/06/2023 10:15**      **PSS Sample ID: 23060614-001**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

Inorganic Anions      Analytical Method: EPA 300.0      Preparation Method: E300.OP

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoride	0.68	mg/L	0.25		1	06/06/23	06/06/23 16:04	1053

Total Residual Chlorine      Analytical Method: SM 4500-CL G -2011

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Total Chlorine	ND	mg/L	0.20		1	06/06/23	06/06/23 18:30	1073

Total Cyanide      Analytical Method: SM 4500-CN C,E -2016      Preparation Method: SM4500CN-C

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Cyanide, Total	ND	mg/L	0.010		1	06/07/23	06/07/23 13:30	1073

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	06/06/23	06/06/23 16:37	1011
Benzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Bromochloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Bromoform	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Bromomethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	06/06/23	06/06/23 16:37	1011
Carbon Disulfide	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Carbon tetrachloride	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Sample ID: GTA-TC-3**      **Date/Time Sampled: 06/06/2023 10:15**      **PSS Sample ID: 23060614-001**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Chlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Chloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Chloroform	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Chloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Cyclohexane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Ethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	06/06/23	06/06/23 16:37	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Methyl Acetate	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Methylcyclohexane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Methylene chloride	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	06/06/23	06/06/23 16:37	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Naphthalene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Styrene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Toluene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Sample ID: GTA-TC-3**      **Date/Time Sampled: 06/06/2023 10:15**      **PSS Sample ID: 23060614-001**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	<b>Result</b>	<b>Units</b>	<b>RL</b>	<b>Flag</b>	<b>Dil</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Analyst</b>
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Trichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,2,4-Trimethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
1,3,5-Trimethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
Vinyl chloride	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
m&p-Xylene	ND	ug/L	2.0		1	06/06/23	06/06/23 16:37	1011
o-Xylene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:37	1011
<b>Surrogate(s)</b>	<b>Recovery</b>		<b>Limits</b>					
4-Bromofluorobenzene	109 %		88-120		1	06/06/23	06/06/23 16:37	1011
Dibromofluoromethane	97 %		92-107		1	06/06/23	06/06/23 16:37	1011
Toluene-D8	98 %		95-106		1	06/06/23	06/06/23 16:37	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Sample ID: GTA-TC-3**      **Date/Time Sampled: 06/06/2023 10:15**      **PSS Sample ID: 23060614-002**  
**Matrix: SOIL**      **Date/Time Received: 06/06/2023 15:15**      **% Solids SM2540G-11: 63.4**

Inorganic Anions      Analytical Method: EPA 300.0      Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoride	4.5	mg/kg	4.0		1	06/06/23	06/06/23 21:25	1053

MDE PP Metals      Analytical Method: SW-846 6020 B      Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	3.6		1	06/06/23	06/07/23 14:05	1064
Arsenic	2.8	mg/kg	0.72		1	06/06/23	06/07/23 14:05	1064
Beryllium	ND	mg/kg	0.72		1	06/06/23	06/07/23 14:05	1064
Cadmium	ND	mg/kg	0.72		1	06/06/23	06/07/23 14:05	1064
Chromium	19	mg/kg	0.72		1	06/06/23	06/07/23 14:05	1064
Copper	7.6	mg/kg	0.72		1	06/06/23	06/07/23 14:05	1064
Lead	10	mg/kg	0.72		1	06/06/23	06/07/23 19:32	1064
Mercury	ND	mg/kg	0.14		1	06/06/23	06/07/23 14:05	1064
Nickel	13	mg/kg	0.72		1	06/06/23	06/07/23 14:05	1064
Selenium	ND	mg/kg	0.72		1	06/06/23	06/07/23 14:05	1064
Silver	ND	mg/kg	0.72		1	06/06/23	06/07/23 14:05	1064
Thallium	ND	mg/kg	0.72		1	06/06/23	06/07/23 14:05	1064
Zinc	41	mg/kg	14		1	06/06/23	06/07/23 14:05	1064

Polychlorinated Biphenyls      Analytical Method: SW-846 8082 A      Preparation Method: SW3550C  
 Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.077		1	06/06/23	06/07/23 08:31	1029
PCB-1221	ND	mg/kg	0.077		1	06/06/23	06/07/23 08:31	1029
PCB-1232	ND	mg/kg	0.077		1	06/06/23	06/07/23 08:31	1029
PCB-1242	ND	mg/kg	0.077		1	06/06/23	06/07/23 08:31	1029
PCB-1248	ND	mg/kg	0.077		1	06/06/23	06/07/23 08:31	1029
PCB-1254	ND	mg/kg	0.077		1	06/06/23	06/07/23 08:31	1029
PCB-1260	ND	mg/kg	0.077		1	06/06/23	06/07/23 08:31	1029

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Sample ID: GTA-TC-3** **Date/Time Sampled: 06/06/2023 10:15** **PSS Sample ID: 23060614-002**  
**Matrix: SOIL** **Date/Time Received: 06/06/2023 15:15** **% Solids SM2540G-11: 63.4**  
 Polychlorinated Biphenyls Analytical Method: SW-846 8082 A Preparation Method: SW3550C  
 Clean up Method: SW846 3665A

Surrogate(s)	Recovery	Limits				
Decachlorobiphenyl	109 %	48-145	1	06/06/23	06/07/23 08:31	1029
Tetrachloro-m-xylene	75 %	43-117	1	06/06/23	06/07/23 08:31	1029

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030

Qualifier(s): See Batch 204112 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	mg/kg	0.032		1	06/07/23	06/07/23 13:12	1045
Benzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Bromochloromethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Bromodichloromethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Bromoform	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Bromomethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
2-Butanone (MEK)	ND	mg/kg	0.0080		1	06/07/23	06/07/23 13:12	1045
Carbon Disulfide	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Carbon tetrachloride	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Chlorobenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Chloroethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Chloroform	ND	mg/kg	0.0080		1	06/07/23	06/07/23 13:12	1045
Chloromethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Cyclohexane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Dibromochloromethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,2-Dibromoethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Dichlorodifluoromethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,1-Dichloroethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,2-Dichloroethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,1-Dichloroethene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,2-Dichloropropane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045



**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Sample ID: GTA-TC-3**      **Date/Time Sampled: 06/06/2023 10:15**      **PSS Sample ID: 23060614-002**  
**Matrix: SOIL**      **Date/Time Received: 06/06/2023 15:15**      **% Solids SM2540G-11: 63.4**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030

Qualifier(s): See Batch 204112 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Ethylbenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
2-Hexanone (MBK)	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Isopropylbenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Methyl Acetate	ND	mg/kg	0.040		1	06/07/23	06/07/23 13:12	1045
Methylcyclohexane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Methylene chloride	ND	mg/kg	0.0080		1	06/07/23	06/07/23 13:12	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Naphthalene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Styrene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Tetrachloroethene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Toluene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Trichloroethene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Trichlorofluoromethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,2,4-Trimethylbenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
1,3,5-Trimethylbenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045
Vinyl chloride	ND	mg/kg	0.0080		1	06/07/23	06/07/23 13:12	1045
m&p-Xylene	ND	mg/kg	0.0032		1	06/07/23	06/07/23 13:12	1045
o-Xylene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:12	1045

Surrogate(s)	Recovery	Limits			
4-Bromofluorobenzene	105 %	89-111	1	06/07/23	06/07/23 13:12 1045
Dibromofluoromethane	98 %	91-108	1	06/07/23	06/07/23 13:12 1045
Toluene-D8	103 %	93-104	1	06/07/23	06/07/23 13:12 1045

### Certificate of Analysis

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

<b>Sample ID: GTA-TC-3</b>	<b>Date/Time Sampled: 06/06/2023 10:15</b>	<b>PSS Sample ID: 23060614-002</b>
<b>Matrix: SOIL</b>	<b>Date/Time Received: 06/06/2023 15:15</b>	<b>% Solids SM2540G-11: 63.4</b>
Cyanide	Analytical Method: SW-846 9014	Preparation Method: SW9010C

	<b>Result</b>	<b>Units</b>	<b>RL</b>	<b>Flag</b>	<b>Dil</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Analyst</b>
Cyanide, Total	<b>0.46</b>	mg/kg	0.092		1	06/06/23	06/06/23 16:59	1053

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Sample ID: GTA-TC-6**      **Date/Time Sampled: 06/06/2023 10:40**      **PSS Sample ID: 23060614-003**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

Priority Pollutant Metals      Analytical Method: EPA 200.8      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204119 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/06/23	06/07/23 12:20	1064
Arsenic	ND	ug/L	1.0		1	06/06/23	06/07/23 12:20	1064
Beryllium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:20	1064
Cadmium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:20	1064
Chromium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:20	1064
Copper	ND	ug/L	1.0		1	06/06/23	06/07/23 12:20	1064
Lead	ND	ug/L	1.0		1	06/06/23	06/07/23 21:06	1064
Mercury	ND	ug/L	0.20		1	06/06/23	06/07/23 12:20	1064
Nickel	ND	ug/L	1.0		1	06/06/23	06/07/23 12:20	1064
Selenium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:20	1064
Silver	ND	ug/L	1.0		1	06/06/23	06/07/23 12:20	1064
Thallium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:20	1064
Zinc	ND	ug/L	20		1	06/06/23	06/07/23 12:20	1064

Dissolved Priority Pollutant Metals      Analytical Method: EPA 200.8 Dissolved      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/07/23	06/07/23 10:59	1064
Arsenic	ND	ug/L	1.0		1	06/07/23	06/07/23 10:59	1064
Beryllium	ND	ug/L	1.0		1	06/07/23	06/07/23 10:59	1064
Cadmium	ND	ug/L	1.0		1	06/07/23	06/07/23 10:59	1064
Chromium	ND	ug/L	1.0		1	06/07/23	06/07/23 10:59	1064
Copper	ND	ug/L	1.0		1	06/07/23	06/07/23 10:59	1064
Lead	ND	ug/L	1.0		1	06/07/23	06/07/23 20:04	1064
Mercury	ND	ug/L	0.20		1	06/07/23	06/07/23 10:59	1064
Nickel	ND	ug/L	1.0		1	06/07/23	06/07/23 10:59	1064
Selenium	ND	ug/L	1.0		1	06/07/23	06/07/23 10:59	1064
Silver	ND	ug/L	1.0		1	06/07/23	06/07/23 10:59	1064
Thallium	ND	ug/L	1.0		1	06/07/23	06/07/23 10:59	1064
Zinc	ND	ug/L	20		1	06/07/23	06/07/23 10:59	1064

### Certificate of Analysis

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Sample ID: GTA-TC-6**      **Date/Time Sampled: 06/06/2023 10:40**      **PSS Sample ID: 23060614-003**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

Inorganic Anions      Analytical Method: EPA 300.0      Preparation Method: E300.OP

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoride	ND	mg/L	0.25		1	06/06/23	06/06/23 17:12	1053

Total Residual Chlorine      Analytical Method: SM 4500-CL G -2011

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Total Chlorine	ND	mg/L	0.20		1	06/06/23	06/06/23 18:30	1073

Total Cyanide      Analytical Method: SM 4500-CN C,E -2016      Preparation Method: SM4500CN-C

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Cyanide, Total	ND	mg/L	0.010		1	06/07/23	06/07/23 13:36	1073

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	06/06/23	06/06/23 16:59	1011
Benzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Bromochloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Bromoform	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Bromomethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	06/06/23	06/06/23 16:59	1011
Carbon Disulfide	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Carbon tetrachloride	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Sample ID: GTA-TC-6**      **Date/Time Sampled: 06/06/2023 10:40**      **PSS Sample ID: 23060614-003**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Chlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Chloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Chloroform	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Chloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Cyclohexane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Ethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	06/06/23	06/06/23 16:59	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Methyl Acetate	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Methylcyclohexane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Methylene chloride	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	06/06/23	06/06/23 16:59	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Naphthalene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Styrene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Toluene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Sample ID: GTA-TC-6**      **Date/Time Sampled: 06/06/2023 10:40**      **PSS Sample ID: 23060614-003**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	<b>Result</b>	<b>Units</b>	<b>RL</b>	<b>Flag</b>	<b>Dil</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Analyst</b>
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Trichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,2,4-Trimethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
1,3,5-Trimethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
Vinyl chloride	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
m&p-Xylene	ND	ug/L	2.0		1	06/06/23	06/06/23 16:59	1011
o-Xylene	ND	ug/L	1.0		1	06/06/23	06/06/23 16:59	1011
<b>Surrogate(s)</b>	<b>Recovery</b>		<b>Limits</b>					
4-Bromofluorobenzene	107 %		88-120		1	06/06/23	06/06/23 16:59	1011
Dibromofluoromethane	97 %		92-107		1	06/06/23	06/06/23 16:59	1011
Toluene-D8	99 %		95-106		1	06/06/23	06/06/23 16:59	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Sample ID: GTA-TC-12**      **Date/Time Sampled: 06/06/2023 12:15**      **PSS Sample ID: 23060614-004**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

Priority Pollutant Metals      Analytical Method: EPA 200.8      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204119 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/06/23	06/07/23 12:24	1064
Arsenic	ND	ug/L	1.0		1	06/06/23	06/07/23 12:24	1064
Beryllium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:24	1064
Cadmium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:24	1064
Chromium	<b>1.7</b>	ug/L	1.0		1	06/06/23	06/07/23 12:24	1064
Copper	ND	ug/L	1.0		1	06/06/23	06/07/23 12:24	1064
Lead	ND	ug/L	1.0		1	06/06/23	06/07/23 21:25	1064
Mercury	ND	ug/L	0.20		1	06/06/23	06/07/23 12:24	1064
Nickel	<b>5.5</b>	ug/L	1.0	B	1	06/06/23	06/07/23 12:24	1064
Selenium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:24	1064
Silver	ND	ug/L	1.0		1	06/06/23	06/07/23 12:24	1064
Thallium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:24	1064
Zinc	ND	ug/L	20		1	06/06/23	06/07/23 12:24	1064

Dissolved Priority Pollutant Metals      Analytical Method: EPA 200.8 Dissolved      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/07/23	06/07/23 11:03	1064
Arsenic	ND	ug/L	1.0		1	06/07/23	06/07/23 11:03	1064
Beryllium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:03	1064
Cadmium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:03	1064
Chromium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:03	1064
Copper	ND	ug/L	1.0		1	06/07/23	06/07/23 11:03	1064
Lead	ND	ug/L	1.0		1	06/07/23	06/07/23 20:09	1064
Mercury	ND	ug/L	0.20		1	06/07/23	06/07/23 11:03	1064
Nickel	ND	ug/L	1.0		1	06/07/23	06/07/23 11:03	1064
Selenium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:03	1064
Silver	ND	ug/L	1.0		1	06/07/23	06/07/23 11:03	1064
Thallium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:03	1064
Zinc	ND	ug/L	20		1	06/07/23	06/07/23 11:03	1064

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Sample ID: GTA-TC-12**      **Date/Time Sampled: 06/06/2023 12:15**      **PSS Sample ID: 23060614-004**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

Inorganic Anions      Analytical Method: EPA 300.0      Preparation Method: E300.OP  
Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoride	ND	mg/L	0.25		1	06/06/23	06/06/23 17:35	1053

Total Residual Chlorine      Analytical Method: SM 4500-CL G -2011  
Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Total Chlorine	ND	mg/L	0.20		1	06/06/23	06/06/23 18:30	1073

Total Cyanide      Analytical Method: SM 4500-CN C,E -2016      Preparation Method: SM4500CN-C  
Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Cyanide, Total	ND	mg/L	0.010		1	06/07/23	06/07/23 13:38	1073

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B  
Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	06/06/23	06/06/23 17:22	1011
Benzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Bromochloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Bromoform	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Bromomethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	06/06/23	06/06/23 17:22	1011
Carbon Disulfide	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Carbon tetrachloride	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011



**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Sample ID: GTA-TC-12**      **Date/Time Sampled: 06/06/2023 12:15**      **PSS Sample ID: 23060614-004**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Chlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Chloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Chloroform	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Chloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Cyclohexane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Ethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	06/06/23	06/06/23 17:22	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Methyl Acetate	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Methylcyclohexane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Methylene chloride	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	06/06/23	06/06/23 17:22	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Naphthalene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Styrene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Toluene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011

### Certificate of Analysis

Project Name: Quantum Frederick

PSS Project No.: 23060614

**Sample ID: GTA-TC-12**      **Date/Time Sampled: 06/06/2023 12:15**      **PSS Sample ID: 23060614-004**

**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Trichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,2,4-Trimethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
1,3,5-Trimethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
Vinyl chloride	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
m&p-Xylene	ND	ug/L	2.0		1	06/06/23	06/06/23 17:22	1011
o-Xylene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:22	1011
<b>Surrogate(s)</b>	<b>Recovery</b>		<b>Limits</b>					
4-Bromofluorobenzene	108 %		88-120		1	06/06/23	06/06/23 17:22	1011
Dibromofluoromethane	97 %		92-107		1	06/06/23	06/06/23 17:22	1011
Toluene-D8	99 %		95-106		1	06/06/23	06/06/23 17:22	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Sample ID: GTA-TC-13**      **Date/Time Sampled: 06/06/2023 12:45**      **PSS Sample ID: 23060614-005**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

Priority Pollutant Metals      Analytical Method: EPA 200.8      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204119 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/06/23	06/07/23 12:43	1064
Arsenic	6.1	ug/L	1.0		1	06/06/23	06/07/23 12:43	1064
Beryllium	1.2	ug/L	1.0		1	06/06/23	06/07/23 12:43	1064
Cadmium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:43	1064
Chromium	16.6	ug/L	1.00		1	06/06/23	06/07/23 12:43	1064
Copper	49.0	ug/L	1.00		1	06/06/23	06/07/23 12:43	1064
Lead	32.5	ug/L	1.00		1	06/06/23	06/07/23 21:29	1064
Mercury	ND	ug/L	0.20		1	06/06/23	06/07/23 12:43	1064
Nickel	37.5	ug/L	1.00		1	06/06/23	06/07/23 12:43	1064
Selenium	1.8	ug/L	1.0		1	06/06/23	06/07/23 12:43	1064
Silver	ND	ug/L	1.0		1	06/06/23	06/07/23 12:43	1064
Thallium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:43	1064
Zinc	130	ug/L	20.0		1	06/06/23	06/07/23 12:43	1064

Dissolved Priority Pollutant Metals      Analytical Method: EPA 200.8 Dissolved      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/07/23	06/07/23 11:08	1064
Arsenic	ND	ug/L	1.0		1	06/07/23	06/07/23 11:08	1064
Beryllium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:08	1064
Cadmium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:08	1064
Chromium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:08	1064
Copper	3.0	ug/L	1.0		1	06/07/23	06/07/23 11:08	1064
Lead	ND	ug/L	1.0		1	06/07/23	06/07/23 20:28	1064
Mercury	ND	ug/L	0.20		1	06/07/23	06/07/23 11:08	1064
Nickel	1.5	ug/L	1.0		1	06/07/23	06/07/23 11:08	1064
Selenium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:08	1064
Silver	ND	ug/L	1.0		1	06/07/23	06/07/23 11:08	1064
Thallium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:08	1064
Zinc	ND	ug/L	20		1	06/07/23	06/07/23 11:08	1064

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Sample ID: GTA-TC-13**      **Date/Time Sampled: 06/06/2023 12:45**      **PSS Sample ID: 23060614-005**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

Inorganic Anions      Analytical Method: EPA 300.0      Preparation Method: E300.OP  
Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoride	ND	mg/L	0.25		1	06/06/23	06/06/23 17:58	1053

Total Residual Chlorine      Analytical Method: SM 4500-CL G -2011  
Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Total Chlorine	ND	mg/L	0.20		1	06/06/23	06/06/23 18:30	1073

Total Cyanide      Analytical Method: SM 4500-CN C,E -2016      Preparation Method: SM4500CN-C  
Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Cyanide, Total	ND	mg/L	0.010		1	06/07/23	06/07/23 13:40	1073

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B  
Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	06/06/23	06/06/23 18:07	1011
Benzene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Bromochloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Bromoform	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Bromomethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	06/06/23	06/06/23 18:07	1011
Carbon Disulfide	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Carbon tetrachloride	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011

### Certificate of Analysis

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Sample ID: GTA-TC-13**      **Date/Time Sampled: 06/06/2023 12:45**      **PSS Sample ID: 23060614-005**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Chlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Chloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Chloroform	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Chloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Cyclohexane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Ethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	06/06/23	06/06/23 18:07	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Methyl Acetate	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Methylcyclohexane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Methylene chloride	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	06/06/23	06/06/23 18:07	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Naphthalene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Styrene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Toluene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011

### Certificate of Analysis

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Sample ID: GTA-TC-13**      **Date/Time Sampled: 06/06/2023 12:45**      **PSS Sample ID: 23060614-005**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Trichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,2,4-Trimethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
1,3,5-Trimethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
Vinyl chloride	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
m&p-Xylene	ND	ug/L	2.0		1	06/06/23	06/06/23 18:07	1011
o-Xylene	ND	ug/L	1.0		1	06/06/23	06/06/23 18:07	1011
<b>Surrogate(s)</b>	<b>Recovery</b>		<b>Limits</b>					
4-Bromofluorobenzene	107 %		88-120		1	06/06/23	06/06/23 18:07	1011
Dibromofluoromethane	98 %		92-107		1	06/06/23	06/06/23 18:07	1011
Toluene-D8	99 %		95-106		1	06/06/23	06/06/23 18:07	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Sample ID: GTA-TC-5**      **Date/Time Sampled: 06/06/2023 13:30**      **PSS Sample ID: 23060614-006**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

Priority Pollutant Metals      Analytical Method: EPA 200.8      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204119 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/06/23	06/07/23 12:48	1064
Arsenic	ND	ug/L	1.0		1	06/06/23	06/07/23 12:48	1064
Beryllium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:48	1064
Cadmium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:48	1064
Chromium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:48	1064
Copper	ND	ug/L	1.0		1	06/06/23	06/07/23 12:48	1064
Lead	ND	ug/L	1.0		1	06/06/23	06/07/23 21:34	1064
Mercury	ND	ug/L	0.20		1	06/06/23	06/07/23 12:48	1064
Nickel	ND	ug/L	1.0		1	06/06/23	06/07/23 12:48	1064
Selenium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:48	1064
Silver	ND	ug/L	1.0		1	06/06/23	06/07/23 12:48	1064
Thallium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:48	1064
Zinc	ND	ug/L	20		1	06/06/23	06/07/23 12:48	1064

Dissolved Priority Pollutant Metals      Analytical Method: EPA 200.8 Dissolved      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/07/23	06/07/23 11:13	1064
Arsenic	ND	ug/L	1.0		1	06/07/23	06/07/23 11:13	1064
Beryllium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:13	1064
Cadmium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:13	1064
Chromium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:13	1064
Copper	ND	ug/L	1.0		1	06/07/23	06/07/23 11:13	1064
Lead	ND	ug/L	1.0		1	06/07/23	06/07/23 20:32	1064
Mercury	ND	ug/L	0.20		1	06/07/23	06/07/23 11:13	1064
Nickel	ND	ug/L	1.0		1	06/07/23	06/07/23 11:13	1064
Selenium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:13	1064
Silver	ND	ug/L	1.0		1	06/07/23	06/07/23 11:13	1064
Thallium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:13	1064
Zinc	ND	ug/L	20		1	06/07/23	06/07/23 11:13	1064

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Sample ID: GTA-TC-5**      **Date/Time Sampled: 06/06/2023 13:30**      **PSS Sample ID: 23060614-006**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

Inorganic Anions      Analytical Method: EPA 300.0      Preparation Method: E300.OP  
Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoride	0.36	mg/L	0.25		1	06/06/23	06/06/23 18:21	1053

Total Residual Chlorine      Analytical Method: SM 4500-CL G -2011  
Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Total Chlorine	ND	mg/L	0.20		1	06/06/23	06/06/23 18:30	1073

Total Cyanide      Analytical Method: SM 4500-CN C,E -2016      Preparation Method: SM4500CN-C  
Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Cyanide, Total	ND	mg/L	0.010		1	06/07/23	06/07/23 13:46	1073

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B  
Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	06/06/23	06/06/23 17:45	1011
Benzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Bromochloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Bromoform	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Bromomethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	06/06/23	06/06/23 17:45	1011
Carbon Disulfide	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Carbon tetrachloride	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011



**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Sample ID: GTA-TC-5**      **Date/Time Sampled: 06/06/2023 13:30**      **PSS Sample ID: 23060614-006**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Chlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Chloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Chloroform	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Chloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Cyclohexane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Ethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	06/06/23	06/06/23 17:45	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Methyl Acetate	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Methylcyclohexane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Methylene chloride	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	06/06/23	06/06/23 17:45	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Naphthalene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Styrene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Toluene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Sample ID: GTA-TC-5**      **Date/Time Sampled: 06/06/2023 13:30**      **PSS Sample ID: 23060614-006**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 15:15**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Sample Receipt section on Case Narrative. See Batch 204069 on Case Narrative.

	<b>Result</b>	<b>Units</b>	<b>RL</b>	<b>Flag</b>	<b>Dil</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Analyst</b>
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Trichloroethene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,2,4-Trimethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
1,3,5-Trimethylbenzene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
Vinyl chloride	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
m&p-Xylene	ND	ug/L	2.0		1	06/06/23	06/06/23 17:45	1011
o-Xylene	ND	ug/L	1.0		1	06/06/23	06/06/23 17:45	1011
<b>Surrogate(s)</b>	<b>Recovery</b>		<b>Limits</b>					
4-Bromofluorobenzene	109 %		88-120		1	06/06/23	06/06/23 17:45	1011
Dibromofluoromethane	97 %		92-107		1	06/06/23	06/06/23 17:45	1011
Toluene-D8	98 %		95-106		1	06/06/23	06/06/23 17:45	1011

## Case Narrative

Project Name: Quantum Frederick

PSS Project No.: 23060614

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Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

### **Sample Receipt:**

Sample aliquots for dissolved metals were not field filtered and were received unpreserved; as such, associated sample results are not suitable for compliance under the Clean Water Act and/or Safe Drinking Water Act.

Received sample 005 unpreserved for total metals and cyanide analysis. Samples were preserved upon receipt.

Received sample 005 in a plastic unpreserved container with headspace, inappropriate for the following analyses: VOCs. Transferred to a 40ml vial preserved with HCL for analysis.

The analyses of chlorine for potable/non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

### **Analytical:**

#### **Priority Pollutant Metals**

##### **Batch: 204119**

Method exceedance: A target analyte was detected in the method blank; see QC summary.

### **Analytical:**

#### **MDE TCL Volatile Organic Compounds**

##### **Batch: 204069**

Laboratory control sample/laboratory (LCS) exceedances identified; see QC summary. Exceedances meet marginal exceedance criteria.

### **Analytical:**

#### **TCL Volatile Organic Compounds**

##### **Batch: 204112**

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Method exceedance: Laboratory control sample (LCS) exceedance identified; see QC summary.

**NELAP accreditation was held for all analyses performed unless noted below. See [www.phaseonline.com](http://www.phaseonline.com) for complete PSS scope of accreditation.**

Prep Method(s): SW-846 5030

**Lab Chronology**

Project Name: Quantum Frederick  
PSS Project No.: 23060614

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed	
<b>EPA 200.8</b>	GTA-TC-3	Initial	23060614-001	W	95750	204119	06/06/2023 18:30	06/07/2023 12:07	
	GTA-TC-6	Initial	23060614-003	W	95750	204119	06/06/2023 18:30	06/07/2023 12:20	
	GTA-TC-12	Initial	23060614-004	W	95750	204119	06/06/2023 18:30	06/07/2023 12:24	
	GTA-TC-13	Initial	23060614-005	W	95750	204119	06/06/2023 18:30	06/07/2023 12:43	
	GTA-TC-5	Initial	23060614-006	W	95750	204119	06/06/2023 18:30	06/07/2023 12:48	
	95750-1-BKS	BKS	95750-1-BKS	W	95750	204119	06/06/2023 18:30	06/07/2023 12:02	
	95750-1-BLK	BLK	95750-1-BLK	W	95750	204119	06/06/2023 18:30	06/07/2023 11:57	
	GTA-TC-3 S	MS	23060614-001 S	W	95750	204119	06/06/2023 18:30	06/07/2023 12:11	
	GTA-TC-3 SD	MSD	23060614-001 S	W	95750	204119	06/06/2023 18:30	06/07/2023 12:16	
	95750-1-BKS	Reanalysis	95750-1-BKS	W	95750	204142	06/06/2023 18:30	06/07/2023 20:48	
	95750-1-BLK	Reanalysis	95750-1-BLK	W	95750	204142	06/06/2023 18:30	06/07/2023 20:44	
	GTA-TC-3	Reanalysis	23060614-001	W	95750	204142	06/06/2023 18:30	06/07/2023 20:53	
	GTA-TC-6	Reanalysis	23060614-003	W	95750	204142	06/06/2023 18:30	06/07/2023 21:06	
	GTA-TC-12	Reanalysis	23060614-004	W	95750	204142	06/06/2023 18:30	06/07/2023 21:25	
	GTA-TC-13	Reanalysis	23060614-005	W	95750	204142	06/06/2023 18:30	06/07/2023 21:29	
	GTA-TC-5	Reanalysis	23060614-006	W	95750	204142	06/06/2023 18:30	06/07/2023 21:34	
	GTA-TC-3 S	Reanalysis	23060614-001 S	W	95750	204143	06/06/2023 18:30	06/07/2023 19:56	
	GTA-TC-3 SD	Reanalysis	23060614-001 S	W	95750	204143	06/06/2023 18:30	06/07/2023 20:00	
	<b>EPA 200.8 Dissolved</b>	GTA-TC-3	Initial	23060614-001	W	95757	204116	06/07/2023 09:33	06/07/2023 10:45
		GTA-TC-6	Initial	23060614-003	W	95757	204116	06/07/2023 09:33	06/07/2023 10:59
GTA-TC-12		Initial	23060614-004	W	95757	204116	06/07/2023 09:33	06/07/2023 11:03	
GTA-TC-13		Initial	23060614-005	W	95757	204116	06/07/2023 09:33	06/07/2023 11:08	
GTA-TC-5		Initial	23060614-006	W	95757	204116	06/07/2023 09:33	06/07/2023 11:13	
95757-1-BKS		BKS	95757-1-BKS	W	95757	204116	06/07/2023 09:33	06/07/2023 10:40	
95757-1-BLK		BLK	95757-1-BLK	W	95757	204116	06/07/2023 09:33	06/07/2023 10:35	
GTA-TC-3 S		MS	23060614-001 S	W	95757	204116	06/07/2023 09:33	06/07/2023 10:50	
GTA-TC-3 SD		MSD	23060614-001 S	W	95757	204116	06/07/2023 09:33	06/07/2023 10:55	
95757-1-BKS		Reanalysis	95757-1-BKS	W	95757	204143	06/07/2023 09:33	06/07/2023 19:48	
95757-1-BLK		Reanalysis	95757-1-BLK	W	95757	204143	06/07/2023 09:33	06/07/2023 19:44	
GTA-TC-3 S		Reanalysis	23060614-001 S	W	95757	204143	06/07/2023 09:33	06/07/2023 19:56	
GTA-TC-3 SD		Reanalysis	23060614-001 S	W	95757	204143	06/07/2023 09:33	06/07/2023 20:00	
GTA-TC-3		Reanalysis	23060614-001	W	95757	204143	06/07/2023 09:33	06/07/2023 19:52	
GTA-TC-6		Reanalysis	23060614-003	W	95757	204143	06/07/2023 09:33	06/07/2023 20:04	
GTA-TC-12		Reanalysis	23060614-004	W	95757	204143	06/07/2023 09:33	06/07/2023 20:09	
GTA-TC-13		Reanalysis	23060614-005	W	95757	204143	06/07/2023 09:33	06/07/2023 20:28	
GTA-TC-5		Reanalysis	23060614-006	W	95757	204143	06/07/2023 09:33	06/07/2023 20:32	
<b>EPA 300.0</b>		GTA-TC-3	Initial	23060614-001	W	95746	204092	06/06/2023 15:59	06/06/2023 16:04
		GTA-TC-6	Initial	23060614-003	W	95746	204092	06/06/2023 15:59	06/06/2023 17:12
	GTA-TC-12	Initial	23060614-004	W	95746	204092	06/06/2023 15:59	06/06/2023 17:35	
	GTA-TC-13	Initial	23060614-005	W	95746	204092	06/06/2023 15:59	06/06/2023 17:58	
	GTA-TC-5	Initial	23060614-006	W	95746	204092	06/06/2023 15:59	06/06/2023 18:21	
	95746-1-BKS	BKS	95746-1-BKS	W	95746	204092	06/06/2023 10:20	06/06/2023 11:52	
	95746-1-BLK	BLK	95746-1-BLK	W	95746	204092	06/06/2023 10:20	06/06/2023 11:29	
	GTA-TC-3 S	MS	23060614-001 S	W	95746	204092	06/06/2023 15:59	06/06/2023 16:27	
	GTA-TC-3 SD	MSD	23060614-001 S	W	95746	204092	06/06/2023 15:59	06/06/2023 16:49	

**Lab Chronology**

Project Name: Quantum Frederick  
PSS Project No.: 23060614

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
<b>EPA 300.0</b>	GTA-TC-3	Initial	23060614-002	S	95739	204093	06/06/2023 15:35	06/06/2023 21:25
	95739-1-BKS	BKS	95739-1-BKS	S	95739	204093	06/06/2023 12:46	06/06/2023 19:53
	95739-1-BLK	BLK	95739-1-BLK	S	95739	204093	06/06/2023 12:46	06/06/2023 19:30
	95739-1-BSD	BSD	95739-1-BSD	S	95739	204093	06/06/2023 12:46	06/06/2023 20:16
	GTA-TC-3 S	MS	23060614-002 S	S	95739	204093	06/06/2023 15:35	06/06/2023 21:48
	GTA-TC-3 SD	MSD	23060614-002 S	S	95739	204093	06/06/2023 15:35	06/06/2023 22:11
	<b>SM 4500-CL G - 2011</b>	GTA-TC-3	Initial	23060614-001	W	204086	204086	06/06/2023 18:30
GTA-TC-6		Initial	23060614-003	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
GTA-TC-12		Initial	23060614-004	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
GTA-TC-13		Initial	23060614-005	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
GTA-TC-5		Initial	23060614-006	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
204086-1-BKS		BKS	204086-1-BKS	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
204086-1-BLK		BLK	204086-1-BLK	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
GTA-TC-3 D		MD	23060614-001 D	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
<b>SM 4500-CN C,E - 2016</b>	GTA-TC-3	Initial	23060614-001	W	95761	204108	06/07/2023 10:47	06/07/2023 13:30
	GTA-TC-6	Initial	23060614-003	W	95761	204108	06/07/2023 10:47	06/07/2023 13:36
	GTA-TC-12	Initial	23060614-004	W	95761	204108	06/07/2023 10:47	06/07/2023 13:38
	GTA-TC-13	Initial	23060614-005	W	95761	204108	06/07/2023 10:47	06/07/2023 13:40
	GTA-TC-5	Initial	23060614-006	W	95761	204108	06/07/2023 10:47	06/07/2023 13:46
	95761-1-BKS	BKS	95761-1-BKS	W	95761	204108	06/07/2023 10:47	06/07/2023 13:24
	95761-1-BLK	BLK	95761-1-BLK	W	95761	204108	06/07/2023 10:47	06/07/2023 13:22
	95761-1-BSD	BSD	95761-1-BSD	W	95761	204108	06/07/2023 10:47	06/07/2023 13:26
	23060614-001 S	MS	23060614-001 S	W	95761	204108	06/07/2023 10:47	06/07/2023 13:32
	23060614-001 SD	MSD	23060614-001 S	W	95761	204108	06/07/2023 10:47	06/07/2023 13:34
	<b>SM2540G</b>	GTA-TC-3	Initial	23060614-002	S	204067	204067	06/06/2023 18:59
204067-1-BLK		BLK	204067-1-BLK	S	204067	204067	06/06/2023 18:59	06/06/2023 18:59
GTA-TC-3 D		MD	23060614-002 D	S	204067	204067	06/06/2023 18:59	06/06/2023 18:59
<b>SW-846 6020 B</b>	GTA-TC-3	Initial	23060614-002	S	95747	204115	06/06/2023 18:30	06/07/2023 14:05
	95747-1-BKS	BKS	95747-1-BKS	S	95747	204115	06/06/2023 18:30	06/07/2023 13:11
	95747-1-BLK	BLK	95747-1-BLK	S	95747	204115	06/06/2023 18:30	06/07/2023 13:06
	Batch 444 S	MS	23060606-001 S	S	95747	204115	06/06/2023 18:30	06/07/2023 13:20
	Batch 444 SD	MSD	23060606-001 S	S	95747	204115	06/06/2023 18:30	06/07/2023 13:25
	95747-1-BKS	Reanalysis	95747-1-BKS	S	95747	204146	06/06/2023 18:30	06/07/2023 18:52
	95747-1-BLK	Reanalysis	95747-1-BLK	S	95747	204146	06/06/2023 18:30	06/07/2023 18:48
	Batch 444 S	Reanalysis	23060606-001 S	S	95747	204146	06/06/2023 18:30	06/07/2023 19:01
	Batch 444 SD	Reanalysis	23060606-001 S	S	95747	204146	06/06/2023 18:30	06/07/2023 19:05
	GTA-TC-3	Reanalysis	23060614-002	S	95747	204146	06/06/2023 18:30	06/07/2023 19:32
	<b>SW-846 8082 A</b>	95724-1-BKS	BKS	95724-1-BKS	S	95724	204073	06/05/2023 21:00
95724-1-BLK		BLK	95724-1-BLK	S	95724	204073	06/05/2023 21:00	06/06/2023 16:09
95724-1-BSD		BSD	95724-1-BSD	S	95724	204073	06/05/2023 21:00	06/06/2023 17:05
Batch 443 S		MS	23060503-001 S	S	95724	204073	06/05/2023 21:00	06/06/2023 18:02
Batch 443 SD		MSD	23060503-001 S	S	95724	204073	06/05/2023 21:00	06/06/2023 18:30
GTA-TC-3		Initial	23060614-002	S	95724	204078	06/06/2023 16:09	06/07/2023 08:31

**Lab Chronology**

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
<b>SW-846 8260 D</b>	GTA-TC-3	Initial	23060614-001	W	95754	204069	06/06/2023 11:19	06/06/2023 16:37
	GTA-TC-6	Initial	23060614-003	W	95754	204069	06/06/2023 11:19	06/06/2023 16:59
	GTA-TC-12	Initial	23060614-004	W	95754	204069	06/06/2023 11:19	06/06/2023 17:22
	GTA-TC-13	Initial	23060614-005	W	95754	204069	06/06/2023 11:19	06/06/2023 18:07
	GTA-TC-5	Initial	23060614-006	W	95754	204069	06/06/2023 11:19	06/06/2023 17:45
	95754-1-BKS	BKS	95754-1-BKS	W	95754	204069	06/06/2023 11:19	06/06/2023 11:19
	95754-1-BLK	BLK	95754-1-BLK	W	95754	204069	06/06/2023 11:19	06/06/2023 12:35
	GTA-TC-3 S	MS	23060614-001 S	W	95754	204069	06/06/2023 11:19	06/06/2023 18:30
	GTA-TC-3 SD	MSD	23060614-001 S	W	95754	204069	06/06/2023 11:19	06/06/2023 18:53
	GTA-TC-3	Initial	23060614-002	S	95772	204112	06/07/2023 09:05	06/07/2023 13:12
	95772-1-BKS	BKS	95772-1-BKS	S	95772	204112	06/07/2023 09:05	06/07/2023 10:14
	95772-1-BLK	BLK	95772-1-BLK	S	95772	204112	06/07/2023 09:05	06/07/2023 12:27
	95772-1-BSD	BSD	95772-1-BSD	S	95772	204112	06/07/2023 09:05	06/07/2023 10:36
	13842-Comp-1ft S	MS	23060515-001 S	S	95772	204112	06/07/2023 09:05	06/07/2023 10:58
	13842-Comp-1ft SD	MSD	23060515-001 S	S	95772	204112	06/07/2023 09:05	06/07/2023 11:20
	<b>SW-846 9014</b>	GTA-TC-3	Initial	23060614-002	S	95738	204106	06/06/2023 15:31
95738-1-BKS		BKS	95738-1-BKS	S	95738	204106	06/06/2023 15:31	06/06/2023 16:48
95738-1-BLK		BLK	95738-1-BLK	S	95738	204106	06/06/2023 15:31	06/06/2023 16:46
95738-1-BSD		BSD	95738-1-BSD	S	95738	204106	06/06/2023 15:31	06/06/2023 16:50
23060114-001 S		MS	23060114-001 S	S	95738	204106	06/06/2023 15:31	06/06/2023 16:55
23060114-001 SD		MSD	23060114-001 S	S	95738	204106	06/06/2023 15:31	06/06/2023 16:57

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SM 4500-CL G -2011**

Seq Number: 204086 Matrix: Water  
MB Sample Id: 204086-1-BLK LCS Sample Id: 204086-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Chlorine	<0.2000	1.000	1.079	108	90-110	mg/L	

**Analytical Method: SM 4500-CL G -2011**

Seq Number: 204086 Matrix: Surface Water  
Parent Sample Id: 23060614-001 MD Sample Id: 23060614-001 D

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Total Chlorine	<0.2000	<0.2000	NC	20	mg/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204108 Matrix: Water Prep Method: SM4500CN-CPRE  
MB Sample Id: 95761-1-BLK LCS Sample Id: 95761-1-BKS Date Prep: 06/07/23  
LCSD Sample Id: 95761-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Cyanide, Total	<0.01000	0.1000	0.1048	105	0.1061	106	83-117	1	20	mg/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204108 Matrix: Surface Water Prep Method: SM4500CN-CPRE  
Parent Sample Id: 23060614-001 MS Sample Id: 23060614-001 S Date Prep: 06/07/23  
MSD Sample Id: 23060614-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Cyanide, Total	<0.01000	0.1000	0.1124	112	0.1121	112	67-124	0	20	mg/L	

**Analytical Method: SW-846 9014**

Seq Number: 204106 Matrix: Solid Prep Method: SW9010C  
MB Sample Id: 95738-1-BLK LCS Sample Id: 95738-1-BKS Date Prep: 06/06/23  
LCSD Sample Id: 95738-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Cyanide, Total	<0.05505	0.5714	0.5795	101	0.6116	105	87-115	5	25	mg/kg	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: EPA 200.8**

Seq Number: 204119

MB Sample Id: 95750-1-BLK

Matrix: Water

LCS Sample Id: 95750-1-BKS

Prep Method: E200.8\_PREP

Date Prep: 06/06/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<5.000	25.00	23.16	93	85-115	ug/L	
Arsenic	<1.000	50.00	47.51	95	85-115	ug/L	
Beryllium	<1.000	50.00	49.79	100	85-115	ug/L	
Cadmium	<1.000	50.00	45.85	92	85-115	ug/L	
Chromium	<1.000	50.00	46.88	94	85-115	ug/L	
Copper	<1.000	50.00	47.99	96	85-115	ug/L	
Mercury	<0.2000	1.000	1.025	103	85-115	ug/L	
Nickel	1.814	50.00	46.85	94	85-115	ug/L	
Selenium	<1.000	50.00	49.31	99	85-115	ug/L	
Silver	<1.000	5.000	4.802	96	85-115	ug/L	
Thallium	<1.000	50.00	45.90	92	85-115	ug/L	
Zinc	<20.00	100	92.49	92	85-115	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204142

MB Sample Id: 95750-1-BLK

Matrix: Water

LCS Sample Id: 95750-1-BKS

Prep Method: E200.8\_PREP

Date Prep: 06/06/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Lead	<1.000	50.00	47.01	94	85-115	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204119

Parent Sample Id: 23060614-001

Matrix: Surface Water

MS Sample Id: 23060614-001 S

Prep Method: E200.8\_PREP

Date Prep: 06/06/23

MSD Sample Id: 23060614-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Antimony	<5.000	25.00	23.74	95	23.68	95	70-130	0	25	ug/L	
Arsenic	<1.000	50.00	48.92	98	48.56	97	70-130	1	25	ug/L	
Beryllium	<1.000	50.00	49.73	99	52.46	105	70-130	5	25	ug/L	
Cadmium	<1.000	50.00	46.39	93	46.34	93	70-130	0	25	ug/L	
Chromium	<1.000	50.00	48.20	96	47.96	96	70-130	0	25	ug/L	
Copper	<1.000	50.00	47.64	95	47.66	95	70-130	0	25	ug/L	
Mercury	<0.2000	1.000	1.038	104	1.110	111	70-130	7	25	ug/L	
Nickel	<1.000	50.00	46.41	93	46.48	93	70-130	0	25	ug/L	
Selenium	<1.000	50.00	49.95	100	49.78	100	70-130	0	25	ug/L	
Silver	<1.000	5.000	4.836	97	4.847	97	70-130	0	25	ug/L	
Thallium	<1.000	50.00	46.63	93	47.24	94	70-130	1	25	ug/L	
Zinc	<20.00	100	96.63	97	95.68	96	70-130	1	25	ug/L	



Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: EPA 200.8**

Seq Number: 204143

Parent Sample Id: 23060614-001

Matrix: Surface Water

MS Sample Id: 23060614-001 S

Prep Method: E200.8\_PREP

Date Prep: 06/06/23

MSD Sample Id: 23060614-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Lead	<1.000	50.00	47.52	95	47.68	95	70-130	0	25	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204116

MB Sample Id: 95757-1-BLK

Matrix: Water

LCS Sample Id: 95757-1-BKS

Prep Method: E200.8\_PREP

Date Prep: 06/07/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<5.000	25.00	22.81	91	85-115	ug/L	
Arsenic	<1.000	50.00	47.21	94	85-115	ug/L	
Beryllium	<1.000	50.00	48.07	96	85-115	ug/L	
Cadmium	<1.000	50.00	45.32	91	85-115	ug/L	
Chromium	<1.000	50.00	45.96	92	85-115	ug/L	
Copper	<1.000	50.00	46.49	93	85-115	ug/L	
Mercury	<0.2000	1.000	1.018	102	85-115	ug/L	
Nickel	<1.000	50.00	45.76	92	85-115	ug/L	
Selenium	<1.000	50.00	47.90	96	85-115	ug/L	
Silver	<1.000	5.000	4.696	94	85-115	ug/L	
Thallium	<1.000	50.00	44.83	90	85-115	ug/L	
Zinc	<20.00	100	91.93	92	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

MB Sample Id: 95757-1-BLK

Matrix: Water

LCS Sample Id: 95757-1-BKS

Prep Method: E200.8\_PREP

Date Prep: 06/07/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Lead	<1.000	50.00	47.74	95	85-115	ug/L	

Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204116

Parent Sample Id: 23060614-001

Matrix: Surface Water

MS Sample Id: 23060614-001 S

Prep Method: E200.8\_PREP

Date Prep: 06/07/23

MSD Sample Id: 23060614-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Antimony	<5.000	25.00	24.14	97	24.05	96	70-130	0	25	ug/L	
Arsenic	<1.000	50.00	52.18	104	51.25	103	70-130	2	25	ug/L	
Beryllium	<1.000	50.00	50.86	102	52.68	105	70-130	4	25	ug/L	
Cadmium	<1.000	50.00	47.07	94	46.70	93	70-130	1	25	ug/L	
Chromium	<1.000	50.00	49.56	99	49.02	98	70-130	1	25	ug/L	
Copper	<1.000	50.00	48.57	97	48.39	97	70-130	0	25	ug/L	
Mercury	<0.2000	1.000	1.001	100	1.117	112	70-130	11	25	ug/L	
Nickel	<1.000	50.00	47.34	95	47.20	94	70-130	0	25	ug/L	
Selenium	<1.000	50.00	53.95	108	54.61	109	70-130	1	25	ug/L	
Silver	<1.000	5.000	4.947	99	4.847	97	70-130	2	25	ug/L	
Thallium	<1.000	50.00	47.36	95	47.58	95	70-130	0	25	ug/L	
Zinc	<20.00	100	94.53	95	94.14	94	70-130	0	25	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Parent Sample Id: 23060614-001

Matrix: Surface Water

MS Sample Id: 23060614-001 S

Prep Method: E200.8\_PREP

Date Prep: 06/07/23

MSD Sample Id: 23060614-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Lead	<1.000	50.00	47.52	95	47.68	95	70-130	0	25	ug/L	

**Analytical Method: EPA 300.0**

Seq Number: 204093

MB Sample Id: 95739-1-BLK

Matrix: Solid

LCS Sample Id: 95739-1-BKS

Prep Method: E300.0P

Date Prep: 06/06/23

LCSD Sample Id: 95739-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Fluoride	<2.604	24.88	26.41	106	27.25	106	90-110	3	20	mg/kg	

**Analytical Method: EPA 300.0**

Seq Number: 204092

MB Sample Id: 95746-1-BLK

Matrix: Water

LCS Sample Id: 95746-1-BKS

Prep Method: E300.0P

Date Prep: 06/06/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Fluoride	<0.2500	2.500	2.536	101	90-110	mg/L	

**Analytical Method: EPA 300.0**

Seq Number: 204093

Parent Sample Id: 23060614-002

Matrix: Soil

MS Sample Id: 23060614-002 S

Prep Method: E300.0P

Date Prep: 06/06/23

MSD Sample Id: 23060614-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Fluoride	4.540	40.24	40.58	90	39.66	88	14-98	2	20	mg/kg	

Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: EPA 300.0**

Seq Number: 204092 Matrix: Surface Water Prep Method: E300.0P  
Parent Sample Id: 23060614-001 MS Sample Id: 23060614-001 S Date Prep: 06/06/23  
MSD Sample Id: 23060614-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Fluoride	0.6823	2.500	3.464	111	3.403	109	90-121	2	20	mg/L	

**Analytical Method: SW-846 6020 B**

Seq Number: 204115 Matrix: Solid Prep Method: SW3050B  
MB Sample Id: 95747-1-BLK LCS Sample Id: 95747-1-BKS Date Prep: 06/06/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<2.135	11.05	10.60	96	80-120	mg/kg	
Arsenic	<0.4269	22.11	21.40	97	80-120	mg/kg	
Beryllium	<0.4269	22.11	23.72	107	80-120	mg/kg	
Cadmium	<0.4269	22.11	20.64	93	80-120	mg/kg	
Chromium	<0.4269	22.11	21.11	95	80-120	mg/kg	
Copper	<0.4269	22.11	21.12	96	80-120	mg/kg	
Mercury	<0.08539	0.4421	0.4629	105	80-120	mg/kg	
Nickel	<0.4269	22.11	20.93	95	80-120	mg/kg	
Selenium	<0.4269	22.11	21.44	97	80-120	mg/kg	
Silver	<0.4269	2.211	2.187	99	80-120	mg/kg	
Thallium	<0.4269	22.11	20.91	95	80-120	mg/kg	
Zinc	<8.539	44.21	40.67	92	80-120	mg/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204146 Matrix: Solid Prep Method: SW3050B  
MB Sample Id: 95747-1-BLK LCS Sample Id: 95747-1-BKS Date Prep: 06/06/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Lead	<0.4269	22.11	21.51	97	80-120	mg/kg	

**Analytical Method: SM2540G**

Seq Number: 204067 Matrix: Soil  
Parent Sample Id: 23060614-002 MD Sample Id: 23060614-002 D

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Solids, percent	63.4	54.2	16	10	%	F

**QC Summary**

Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: SW-846 8082 A**

Seq Number: 204073

MB Sample Id: 95724-1-BLK

Matrix: Solid

LCS Sample Id: 95724-1-BKS

Prep Method: SW3550C

Date Prep: 06/05/23

LCSD Sample Id: 95724-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
PCB-1016	<0.05030	0.4965	0.4687	94	0.4648	93	60-105	1	25	mg/kg	
PCB-1260	<0.05030	0.4965	0.5113	103	0.5094	102	60-120	0	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Decachlorobiphenyl	113		123		123		48-145	%
Tetrachloro-m-xylene	92		94		92		43-117	%

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 204112

Matrix: Solid

Prep Method: SW5030

Date Prep: 06/07/23

MB Sample Id: 95772-1-BLK

LCS Sample Id: 95772-1-BKS

LCSD Sample Id: 95772-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acetone	<0.02000	0.06000	0.06553	109	0.06281	105	40-147	4	25	mg/kg	
Benzene	<0.001000	0.06000	0.06121	102	0.06146	102	85-118	0	25	mg/kg	
Bromochloromethane	<0.001000	0.06000	0.05465	91	0.05709	95	84-121	4	25	mg/kg	
Bromodichloromethane	<0.001000	0.06000	0.05751	96	0.05878	98	88-121	2	25	mg/kg	
Bromoform	<0.001000	0.06000	0.05643	94	0.05282	88	78-129	7	25	mg/kg	
Bromomethane	<0.001000	0.06000	0.05010	84	0.04905	82	66-117	2	25	mg/kg	
2-Butanone (MEK)	<0.005000	0.06000	0.06408	107	0.06641	111	62-115	4	25	mg/kg	
Carbon Disulfide	<0.001000	0.06000	0.05996	100	0.06092	102	79-128	2	25	mg/kg	
Carbon tetrachloride	<0.001000	0.06000	0.06146	102	0.06070	101	87-121	1	25	mg/kg	
Chlorobenzene	<0.001000	0.06000	0.06351	106	0.05847	97	85-119	8	25	mg/kg	
Chloroethane	<0.001000	0.06000	0.06011	100	0.05482	91	75-115	9	25	mg/kg	
Chloroform	<0.005000	0.06000	0.05740	96	0.05931	99	82-116	3	25	mg/kg	
Chloromethane	<0.001000	0.06000	0.05608	93	0.05475	91	69-124	2	25	mg/kg	
Cyclohexane	<0.001000	0.06000	0.06301	105	0.06308	105	72-132	0	25	mg/kg	
1,2-Dibromo-3-chloropropane	<0.001000	0.06000	0.05768	96	0.05398	90	64-141	7	25	mg/kg	
Dibromochloromethane	<0.001000	0.06000	0.05966	99	0.05726	95	87-122	4	25	mg/kg	
1,2-Dibromoethane	<0.001000	0.06000	0.05836	97	0.05701	95	87-117	2	25	mg/kg	
1,2-Dichlorobenzene	<0.001000	0.06000	0.05869	98	0.05861	98	83-121	0	25	mg/kg	
1,3-Dichlorobenzene	<0.001000	0.06000	0.06223	104	0.05734	96	84-121	8	25	mg/kg	
1,4-Dichlorobenzene	<0.001000	0.06000	0.05999	100	0.05901	98	84-121	2	25	mg/kg	
Dichlorodifluoromethane	<0.001000	0.06000	0.06457	108	0.06192	103	56-134	4	25	mg/kg	
1,1-Dichloroethane	<0.001000	0.06000	0.05937	99	0.06168	103	83-120	4	25	mg/kg	
1,2-Dichloroethane	<0.001000	0.06000	0.05594	93	0.05860	98	85-118	5	25	mg/kg	
1,1-Dichloroethene	<0.001000	0.06000	0.05991	100	0.06033	101	83-122	1	25	mg/kg	
1,2-Dichloropropane	<0.001000	0.06000	0.06014	100	0.05978	100	84-120	1	25	mg/kg	
cis-1,2-Dichloroethene	<0.001000	0.06000	0.06027	100	0.06170	103	84-120	2	25	mg/kg	
cis-1,3-Dichloropropene	<0.001000	0.06000	0.06178	103	0.06149	102	84-120	0	25	mg/kg	
trans-1,2-Dichloroethene	<0.001000	0.06000	0.06078	101	0.06200	103	84-121	2	25	mg/kg	
trans-1,3-Dichloropropene	<0.001000	0.06000	0.06121	102	0.06140	102	80-123	0	25	mg/kg	
Ethylbenzene	<0.001000	0.06000	0.06742	112	0.06212	104	87-121	8	25	mg/kg	
2-Hexanone (MBK)	<0.001000	0.06000	0.06934	116	0.06716	112	72-119	3	25	mg/kg	
Isopropylbenzene	<0.001000	0.06000	0.06435	107	0.06348	106	85-121	1	25	mg/kg	
Methyl Acetate	<0.02500	0.06000	0.05382	90	0.05408	90	75-123	0	25	mg/kg	
Methylcyclohexane	<0.001000	0.06000	0.06435	107	0.06546	109	84-123	2	25	mg/kg	
Methylene chloride	<0.005000	0.06000	0.05319	89	0.05543	92	81-117	4	25	mg/kg	
4-Methyl-2-Pentanone (MIBK)	<0.001000	0.06000	0.05756	96	0.05852	98	75-118	2	25	mg/kg	
Methyl-t-Butyl Ether	<0.001000	0.06000	0.06569	109	0.06202	103	74-122	6	25	mg/kg	
Naphthalene	<0.001000	0.06000	0.07732	129	0.07198	120	77-120	7	25	mg/kg	H
Styrene	<0.001000	0.06000	0.06245	104	0.06142	102	83-124	2	25	mg/kg	
1,1,2,2-Tetrachloroethane	<0.001000	0.06000	0.05727	95	0.05564	93	75-123	3	25	mg/kg	
Tetrachloroethene	<0.001000	0.06000	0.06116	102	0.06160	103	82-119	1	25	mg/kg	
Toluene	<0.001000	0.06000	0.06231	104	0.06179	103	84-118	1	25	mg/kg	
1,2,3-Trichlorobenzene	<0.001000	0.06000	0.07587	126	0.07508	125	76-127	1	25	mg/kg	
1,2,4-Trichlorobenzene	<0.001000	0.06000	0.07402	123	0.06924	115	82-131	7	25	mg/kg	
1,1,1-Trichloroethane	<0.001000	0.06000	0.06489	108	0.06358	106	84-121	2	25	mg/kg	
1,1,2-Trichloroethane	<0.001000	0.06000	0.05696	95	0.05766	96	83-118	1	25	mg/kg	
Trichloroethene	<0.001000	0.06000	0.06193	103	0.06014	100	85-118	3	25	mg/kg	
Trichlorofluoromethane	<0.001000	0.06000	0.06117	102	0.06133	102	81-121	0	25	mg/kg	
1,1,2-Trichlorotrifluoroethane	<0.001000	0.06000	0.06082	101	0.06087	101	83-122	0	25	mg/kg	
1,2,4-Trimethylbenzene	<0.001000	0.06000	0.06406	107	0.06547	109	87-121	2	25	mg/kg	
1,3,5-Trimethylbenzene	<0.001000	0.06000	0.06823	114	0.06494	108	85-120	5	25	mg/kg	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 204112

MB Sample Id: 95772-1-BLK

Matrix: Solid

LCS Sample Id: 95772-1-BKS

Prep Method: SW5030

Date Prep: 06/07/23

LCSD Sample Id: 95772-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Vinyl chloride	<0.005000	0.06000	0.06629	110	0.06701	112	69-129	1	25	mg/kg	
m&p-Xylene	<0.002000	0.1200	0.1291	108	0.1245	104	86-123	4	25	mg/kg	
o-Xylene	<0.001000	0.06000	0.06408	107	0.06015	100	84-121	6	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
4-Bromofluorobenzene	109		100		96		89-111	%
Dibromofluoromethane	92		97		98		91-108	%
Toluene-D8	94		94		101		93-104	%

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 204069

Matrix: Water

Prep Method: SW5030B

Date Prep: 06/06/23

MB Sample Id: 95754-1-BLK

LCS Sample Id: 95754-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acetone	<5.000	50.00	56.30	113	49-154	ug/L	
Benzene	<1.000	50.00	50.06	100	76-112	ug/L	
Bromochloromethane	<1.000	50.00	45.62	91	74-119	ug/L	
Bromodichloromethane	<1.000	50.00	51.01	102	78-117	ug/L	
Bromoform	<1.000	50.00	42.88	86	69-123	ug/L	
Bromomethane	<1.000	50.00	44.63	89	42-118	ug/L	
2-Butanone (MEK)	<5.000	50.00	55.88	112	55-136	ug/L	
Carbon Disulfide	<1.000	50.00	52.40	105	80-124	ug/L	
Carbon tetrachloride	<1.000	50.00	45.47	91	77-119	ug/L	
Chlorobenzene	<1.000	50.00	47.64	95	76-114	ug/L	
Chloroethane	<1.000	50.00	57.18	114	61-113	ug/L	H
Chloroform	<1.000	50.00	49.38	99	75-113	ug/L	
Chloromethane	<1.000	50.00	57.33	115	41-148	ug/L	
Cyclohexane	<1.000	50.00	55.06	110	76-135	ug/L	
1,2-Dibromo-3-chloropropane	<1.000	50.00	43.00	86	52-131	ug/L	
Dibromochloromethane	<1.000	50.00	45.01	90	79-121	ug/L	
1,2-Dibromoethane	<1.000	50.00	47.04	94	77-119	ug/L	
1,2-Dichlorobenzene	<1.000	50.00	46.73	93	75-121	ug/L	
1,3-Dichlorobenzene	<1.000	50.00	46.90	94	77-120	ug/L	
Dichlorodifluoromethane	<1.000	50.00	58.34	117	49-122	ug/L	
1,4-Dichlorobenzene	<1.000	50.00	46.89	94	76-118	ug/L	
1,1-Dichloroethane	<1.000	50.00	53.32	107	75-118	ug/L	
1,2-Dichloroethane	<1.000	50.00	49.68	99	72-115	ug/L	
cis-1,2-Dichloroethene	<1.000	50.00	47.16	94	75-119	ug/L	
1,1-Dichloroethene	<1.000	50.00	44.30	89	74-119	ug/L	
1,2-Dichloropropane	<1.000	50.00	53.67	107	76-115	ug/L	
cis-1,3-Dichloropropene	<1.000	50.00	49.57	99	83-122	ug/L	
trans-1,3-Dichloropropene	<1.000	50.00	43.32	87	76-118	ug/L	
trans-1,2-Dichloroethene	<1.000	50.00	47.39	95	73-121	ug/L	
Ethylbenzene	<1.000	50.00	50.61	101	78-118	ug/L	
2-Hexanone (MBK)	<5.000	50.00	59.98	120	55-136	ug/L	
Isopropylbenzene	<1.000	50.00	49.93	100	76-126	ug/L	
Methyl Acetate	<1.000	50.00	44.98	90	61-117	ug/L	
Methylcyclohexane	<1.000	50.00	48.31	97	82-126	ug/L	
Methylene chloride	<1.000	50.00	47.81	96	75-113	ug/L	
4-Methyl-2-Pentanone (MIBK)	<5.000	50.00	56.71	113	57-127	ug/L	
Methyl-t-Butyl Ether	<1.000	50.00	44.53	89	71-114	ug/L	
Naphthalene	<1.000	50.00	45.49	91	60-122	ug/L	
Styrene	<1.000	50.00	50.10	100	81-124	ug/L	
1,1,2,2-Tetrachloroethane	<1.000	50.00	50.99	102	66-123	ug/L	
Tetrachloroethene	<1.000	50.00	44.34	89	76-123	ug/L	
Toluene	<1.000	50.00	48.20	96	77-112	ug/L	
1,2,3-Trichlorobenzene	<1.000	50.00	41.82	84	73-129	ug/L	
1,2,4-Trichlorobenzene	<1.000	50.00	43.28	87	73-130	ug/L	
1,1,1-Trichloroethane	<1.000	50.00	45.22	90	79-118	ug/L	
Trichloroethene	<1.000	50.00	47.06	94	77-112	ug/L	
1,1,2-Trichloroethane	<1.000	50.00	49.46	99	75-115	ug/L	
Trichlorofluoromethane	<1.000	50.00	46.97	94	74-125	ug/L	
1,1,2-Trichlorotrifluoroethane	<1.000	50.00	44.64	89	77-123	ug/L	
1,2,4-Trimethylbenzene	<1.000	50.00	49.98	100	76-127	ug/L	
1,3,5-Trimethylbenzene	<1.000	50.00	49.54	99	76-126	ug/L	

Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 204069

MB Sample Id: 95754-1-BLK

Matrix: Water

LCS Sample Id: 95754-1-BKS

Prep Method: SW5030B

Date Prep: 06/06/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Vinyl chloride	<1.000	50.00	55.65	111	53-151	ug/L	
m&p-Xylene	<2.000	100	98.18	98	79-121	ug/L	
o-Xylene	<1.000	50.00	48.48	97	78-122	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
4-Bromofluorobenzene	107		104		88-120	%
Dibromofluoromethane	96		99		92-107	%
Toluene-D8	98		100		95-106	%



Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 204069

Parent Sample Id: 23060614-001

Matrix: Surface Water

MS Sample Id: 23060614-001 S

Prep Method: SW5030B

Date Prep: 06/06/23

MSD Sample Id: 23060614-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acetone	<5.000	50.00	28.90	58	29.66	59	32-96	3	25	ug/L	
Benzene	<1.000	50.00	51.19	102	49.94	100	73-114	2	25	ug/L	
Bromochloromethane	<1.000	50.00	45.40	91	45.42	91	70-114	0	25	ug/L	
Bromodichloromethane	<1.000	50.00	52.03	104	51.52	103	71-118	1	25	ug/L	
Bromoform	<1.000	50.00	44.29	89	45.28	91	59-127	2	25	ug/L	
Bromomethane	<1.000	50.00	45.27	91	44.52	89	26-131	2	25	ug/L	
2-Butanone (MEK)	<5.000	50.00	39.88	80	42.24	84	45-109	6	25	ug/L	
Carbon Disulfide	<1.000	50.00	56.46	113	54.83	110	71-130	3	25	ug/L	
Carbon tetrachloride	<1.000	50.00	46.75	94	45.98	92	74-119	2	25	ug/L	
Chlorobenzene	<1.000	50.00	47.37	95	47.67	95	73-115	1	25	ug/L	
Chloroethane	<1.000	50.00	57.09	114	53.86	108	60-124	6	25	ug/L	
Chloroform	<1.000	50.00	50.14	100	49.15	98	70-113	2	25	ug/L	
Chloromethane	<1.000	50.00	57.34	115	52.17	104	32-170	9	25	ug/L	
Cyclohexane	<1.000	50.00	56.34	113	54.36	109	64-144	4	25	ug/L	
1,2-Dibromo-3-chloropropane	<1.000	50.00	43.27	87	46.31	93	48-140	7	25	ug/L	
Dibromochloromethane	<1.000	50.00	45.21	90	46.11	92	73-120	2	25	ug/L	
1,2-Dibromoethane	<1.000	50.00	46.55	93	47.54	95	71-119	2	25	ug/L	
1,2-Dichlorobenzene	<1.000	50.00	44.07	88	45.39	91	68-122	3	25	ug/L	
1,3-Dichlorobenzene	<1.000	50.00	44.05	88	45.70	91	69-122	4	25	ug/L	
Dichlorodifluoromethane	<1.000	50.00	58.74	117	54.82	110	61-118	7	25	ug/L	
1,4-Dichlorobenzene	<1.000	50.00	44.04	88	45.40	91	68-120	3	25	ug/L	
1,1-Dichloroethane	<1.000	50.00	54.13	108	52.86	106	68-122	2	25	ug/L	
1,2-Dichloroethane	<1.000	50.00	49.79	100	48.83	98	61-120	2	25	ug/L	
cis-1,2-Dichloroethene	<1.000	50.00	47.95	96	47.08	94	71-116	2	25	ug/L	
1,1-Dichloroethene	<1.000	50.00	44.74	89	43.07	86	69-120	4	25	ug/L	
1,2-Dichloropropane	<1.000	50.00	54.28	109	53.37	107	69-119	2	25	ug/L	
cis-1,3-Dichloropropene	<1.000	50.00	49.87	100	50.15	100	72-123	1	25	ug/L	
trans-1,3-Dichloropropene	<1.000	50.00	43.94	88	44.69	89	67-123	2	25	ug/L	
trans-1,2-Dichloroethene	<1.000	50.00	47.62	95	46.69	93	70-118	2	25	ug/L	
Ethylbenzene	<1.000	50.00	50.42	101	49.97	100	74-121	1	25	ug/L	
2-Hexanone (MBK)	<5.000	50.00	51.29	103	52.47	105	44-131	2	25	ug/L	
Isopropylbenzene	<1.000	50.00	47.21	94	49.76	100	68-131	5	25	ug/L	
Methyl Acetate	<1.000	50.00	41.89	84	44.14	88	55-117	5	25	ug/L	
Methylcyclohexane	<1.000	50.00	48.56	97	46.65	93	71-126	4	25	ug/L	
Methylene chloride	<1.000	50.00	50.17	100	49.49	99	72-114	1	25	ug/L	
4-Methyl-2-Pentanone (MIBK)	<5.000	50.00	56.42	113	57.71	115	49-133	2	25	ug/L	
Methyl-t-Butyl Ether	<1.000	50.00	43.71	87	44.30	89	67-112	1	25	ug/L	
Naphthalene	<1.000	50.00	42.40	85	45.15	90	53-128	6	25	ug/L	
Styrene	<1.000	50.00	49.57	99	49.01	98	75-126	1	25	ug/L	
1,1,2,2-Tetrachloroethane	<1.000	50.00	48.27	97	51.43	103	61-125	6	25	ug/L	
Tetrachloroethene	<1.000	50.00	44.24	88	43.66	87	71-121	1	25	ug/L	
Toluene	<1.000	50.00	48.82	98	48.01	96	71-115	2	25	ug/L	
1,2,3-Trichlorobenzene	<1.000	50.00	39.07	78	41.42	83	60-124	6	25	ug/L	
1,2,4-Trichlorobenzene	<1.000	50.00	39.48	79	41.41	83	57-126	5	25	ug/L	
1,1,1-Trichloroethane	<1.000	50.00	46.31	93	45.89	92	72-121	1	25	ug/L	
Trichloroethene	<1.000	50.00	47.81	96	46.48	93	72-115	3	25	ug/L	
1,1,2-Trichloroethane	<1.000	50.00	49.43	99	49.48	99	70-114	0	25	ug/L	
Trichlorofluoromethane	<1.000	50.00	48.13	96	46.01	92	66-130	5	25	ug/L	
1,1,2-Trichlorotrifluoroethane	<1.000	50.00	44.46	89	42.09	84	71-121	5	25	ug/L	
1,2,4-Trimethylbenzene	<1.000	50.00	46.67	93	48.40	97	66-133	4	25	ug/L	
1,3,5-Trimethylbenzene	<1.000	50.00	46.43	93	48.17	96	66-133	4	25	ug/L	

Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 204069

Parent Sample Id: 23060614-001

Matrix: Surface Water

MS Sample Id: 23060614-001 S

Prep Method: SW5030B

Date Prep: 06/06/23

MSD Sample Id: 23060614-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Vinyl chloride	<1.000	50.00	53.84	108	51.14	102	40-160	5	25	ug/L	
m&p-Xylene	<2.000	100	96.74	97	95.83	96	73-125	1	25	ug/L	
o-Xylene	<1.000	50.00	47.86	96	47.36	95	71-126	1	25	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
4-Bromofluorobenzene	102		106		88-120	%
Dibromofluoromethane	98		98		92-107	%
Toluene-D8	101		100		95-106	%

F = RPD exceeded the laboratory control limits  
X = Recovery of MS, MSD or both outside of QC Criteria  
H= Recovery of BS,BSD or both exceeded the laboratory control limits  
L = Recovery of BS,BSD or both below the laboratory control limits

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: SM 4500-CL G -2011**

Seq Number: 204086 Matrix: Water  
CCV Sample Id: CCV-01

Analyzed Date: 06/06/23 18:30

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Total Chlorine	1.000	1.079	108	90-110	mg/L	

**Analytical Method: SM 4500-CL G -2011**

Seq Number: 204086 Matrix: Water  
CCV Sample Id: CCV-02

Analyzed Date: 06/06/23 18:30

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Total Chlorine	1.637	1.612	98	90-110	mg/L	

**Analytical Method: SM 4500-CL G -2011**

Seq Number: 181400 Matrix: Water  
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01

Analyzed Date: 01/12/21 15:18

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Total Chlorine	1.000	1.100	110	90-110	mg/L	

**Analytical Method: SM 4500-CL G -2011**

Seq Number: 204086 Matrix: Water  
Parent Sample Id: MRL-01 MRL Sample Id: MRL-01

Analyzed Date: 06/06/23 18:30

Parameter	Spike Amount	MRL Result	MRL %Rec	Limits	Units	Flag
Total Chlorine	0.2000	0.2220	111	50-150	mg/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204108 Matrix: Water  
CCV Sample Id: CCV-01

Analyzed Date: 06/06/23 13:32

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	102	102	90-110	ug/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204108 Matrix: Water  
CCV Sample Id: CCV-01

Analyzed Date: 06/07/23 13:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	105.3	105	90-110	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204108

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/07/23 13:42

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	103.8	104	90-110	ug/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204108

Matrix: Water

CCV Sample Id: CCV-03

Analyzed Date: 06/07/23 13:56

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	106.6	107	90-110	ug/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204096

Matrix: Water

Parent Sample Id: ICV

ICV Sample Id: ICV

Analyzed Date: 06/06/23 13:15

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Cyanide, Total	100	100.5	101	90-110	ug/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204100

Matrix: Water

Parent Sample Id: MRL-01

MRL Sample Id: MRL-01

Analyzed Date: 06/06/23 13:25

Parameter	Spike Amount	MRL Result	MRL %Rec	Limits	Units	Flag
Cyanide, Total	10.00	11.92	119	50-150	ug/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204108

Matrix: Water

Parent Sample Id: MRL-01

MRL Sample Id: MRL-01

Analyzed Date: 06/07/23 13:28

Parameter	Spike Amount	MRL Result	MRL %Rec	Limits	Units	Flag
Cyanide, Total	10.00	12.70	127	50-150	ug/L	

**Analytical Method: SW-846 9014**

Seq Number: 204106

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/06/23 16:41

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	98.93	99	90-110	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 9014**

Seq Number: 204106

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/06/23 17:01

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	105.2	105	90-110	ug/L	

**Analytical Method: SW-846 9014**

Seq Number: 204099

Matrix: Solid

Parent Sample Id: ICV

ICV Sample Id: ICV

Analyzed Date: 06/06/23 13:15

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Cyanide, Total	100	100.5	101	85-115	ug/kg	

**Analytical Method: SW-846 9014**

Seq Number: 204106

Matrix: Water

Parent Sample Id: MRL-01

MRL Sample Id: MRL-01

Analyzed Date: 06/06/23 16:52

Parameter	Spike Amount	MRL Result	MRL %Rec	Limits	Units	Flag
Cyanide, Total	10.00	13.73	137	50-150	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204119

Matrix: Water

CCV Sample Id: CCV 1

Analyzed Date: 06/07/23 11:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.75	98	85-115	ug/L	
Arsenic	100	98.47	98	85-115	ug/L	
Beryllium	100	103.5	104	85-115	ug/L	
Cadmium	100	95.33	95	85-115	ug/L	
Chromium	100	96.34	96	85-115	ug/L	
Copper	100	96.98	97	85-115	ug/L	
Mercury	1.000	1.032	103	85-115	ug/L	
Nickel	100	95.88	96	85-115	ug/L	
Selenium	100	101.9	102	85-115	ug/L	
Silver	10.00	10.08	101	85-115	ug/L	
Thallium	100	101.1	101	85-115	ug/L	
Zinc	200	191.4	96	85-115	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: EPA 200.8**

Seq Number: 204119

Matrix: Water

CCV Sample Id: CCV 2

Analyzed Date: 06/07/23 12:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.83	98	85-115	ug/L	
Arsenic	100	98.30	98	85-115	ug/L	
Beryllium	100	108.3	108	85-115	ug/L	
Cadmium	100	95.75	96	85-115	ug/L	
Chromium	100	96.81	97	85-115	ug/L	
Copper	100	97.47	97	85-115	ug/L	
Mercury	1.000	1.030	103	85-115	ug/L	
Nickel	100	95.81	96	85-115	ug/L	
Selenium	100	101.9	102	85-115	ug/L	
Silver	10.00	9.995	100	85-115	ug/L	
Thallium	100	101	101	85-115	ug/L	
Zinc	200	191.4	96	85-115	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204119

Matrix: Water

CCV Sample Id: CCV 3

Analyzed Date: 06/07/23 13:35

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.94	98	85-115	ug/L	
Arsenic	100	100.4	100	85-115	ug/L	
Beryllium	100	105	105	85-115	ug/L	
Cadmium	100	95.99	96	85-115	ug/L	
Chromium	100	99.08	99	85-115	ug/L	
Copper	100	99.25	99	85-115	ug/L	
Mercury	1.000	1.037	104	85-115	ug/L	
Nickel	100	97.80	98	85-115	ug/L	
Selenium	100	107.3	107	85-115	ug/L	
Silver	10.00	10.09	101	85-115	ug/L	
Thallium	100	101.9	102	85-115	ug/L	
Zinc	200	195	98	85-115	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204142

Matrix: Water

CCV Sample Id: CCV 2

Analyzed Date: 06/07/23 20:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	100.9	101	85-115	ug/L	

Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: EPA 200.8**

Seq Number: 204142  
CCV Sample Id: CCV 3

Matrix: Water

Analyzed Date: 06/07/23 21:15

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101	101	85-115	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204142  
CCV Sample Id: CCV 4

Matrix: Water

Analyzed Date: 06/07/23 22:14

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101.1	101	85-115	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204119  
Parent Sample Id: ICV 1

Matrix: Water  
ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 10:11

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	25.00	24.80	99	90-110	ug/L	
Arsenic	50.00	51.34	103	90-110	ug/L	
Beryllium	50.00	50.87	102	90-110	ug/L	
Cadmium	50.00	49.26	99	90-110	ug/L	
Chromium	50.00	50.59	101	90-110	ug/L	
Copper	50.00	50.65	101	90-110	ug/L	
Mercury	1.000	1.033	103	90-110	ug/L	
Nickel	50.00	49.78	100	90-110	ug/L	
Selenium	50.00	52.81	106	90-110	ug/L	
Silver	5.000	5.113	102	90-110	ug/L	
Thallium	50.00	48.76	98	90-110	ug/L	
Zinc	100	100.4	100	90-110	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204142  
Parent Sample Id: ICV 1

Matrix: Water  
ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 17:55

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Lead	50.00	51.12	102	90-110	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204116

Matrix: Water

CCV Sample Id: CCV 1

Analyzed Date: 06/07/23 11:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.75	98	85-115	ug/L	
Arsenic	100	98.47	98	85-115	ug/L	
Beryllium	100	103.5	104	85-115	ug/L	
Cadmium	100	95.33	95	85-115	ug/L	
Chromium	100	96.34	96	85-115	ug/L	
Copper	100	96.98	97	85-115	ug/L	
Mercury	1.000	1.032	103	85-115	ug/L	
Nickel	100	95.88	96	85-115	ug/L	
Selenium	100	101.9	102	85-115	ug/L	
Silver	10.00	10.08	101	85-115	ug/L	
Thallium	100	101.1	101	85-115	ug/L	
Zinc	200	191.4	96	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204116

Matrix: Water

CCV Sample Id: CCV 2

Analyzed Date: 06/07/23 12:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.83	98	85-115	ug/L	
Arsenic	100	98.30	98	85-115	ug/L	
Beryllium	100	108.3	108	85-115	ug/L	
Cadmium	100	95.75	96	85-115	ug/L	
Chromium	100	96.81	97	85-115	ug/L	
Copper	100	97.47	97	85-115	ug/L	
Mercury	1.000	1.030	103	85-115	ug/L	
Nickel	100	95.81	96	85-115	ug/L	
Selenium	100	101.9	102	85-115	ug/L	
Silver	10.00	9.995	100	85-115	ug/L	
Thallium	100	101	101	85-115	ug/L	
Zinc	200	191.4	96	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

CCV Sample Id: CCV 1

Analyzed Date: 06/07/23 19:22

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101.3	101	85-115	ug/L	



Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

CCV Sample Id: CCV 2

Analyzed Date: 06/07/23 20:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	100.9	101	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

CCV Sample Id: CCV 3

Analyzed Date: 06/07/23 21:15

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101	101	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

CCV Sample Id: CCV 4

Analyzed Date: 06/07/23 22:14

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101.1	101	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

CCV Sample Id: CCV 5

Analyzed Date: 06/07/23 23:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	114.1	114	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204116

Matrix: Water

Parent Sample Id: ICV 1

ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 10:11

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	25.00	24.80	99	90-110	ug/L	
Arsenic	50.00	51.34	103	90-110	ug/L	
Beryllium	50.00	50.87	102	90-110	ug/L	
Cadmium	50.00	49.26	99	90-110	ug/L	
Chromium	50.00	50.59	101	90-110	ug/L	
Copper	50.00	50.65	101	90-110	ug/L	
Mercury	1.000	1.033	103	90-110	ug/L	
Nickel	50.00	49.78	100	90-110	ug/L	
Selenium	50.00	52.81	106	90-110	ug/L	
Silver	5.000	5.113	102	90-110	ug/L	
Thallium	50.00	48.76	98	90-110	ug/L	
Zinc	100	100.4	100	90-110	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

Parent Sample Id: ICV 1

ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 17:55

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Lead	50.00	51.12	102	90-110	ug/L	

**Analytical Method: EPA 300.0**

Seq Number: 204092

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/06/23 10:43

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Fluoride	2.500	2.587	103	90-110	mg/L	

**Analytical Method: EPA 300.0**

Seq Number: 204092

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/06/23 14:23

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Fluoride	2.500	2.515	101	90-110	mg/L	

**Analytical Method: EPA 300.0**

Seq Number: 204092

Matrix: Water

CCV Sample Id: CCV-03

Analyzed Date: 06/06/23 18:44

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Fluoride	2.500	2.584	103	90-110	mg/L	

**Analytical Method: EPA 300.0**

Seq Number: 204093

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/06/23 18:44

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Fluoride	2.500	2.584	103	90-110	mg/L	

**Analytical Method: EPA 300.0**

Seq Number: 204093

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/07/23 00:29

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Fluoride	2.500	2.643	106	90-110	mg/L	

Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: EPA 300.0**

Seq Number: 204034  
Parent Sample Id: ICV-01

Matrix: Water  
ICV Sample Id: ICV-01

Analyzed Date: 06/05/23 15:34

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Fluoride	2.500	2.537	101	90-110	mg/L	

**Analytical Method: EPA 300.0**

Seq Number: 204037  
Parent Sample Id: ICV-01

Matrix: Water  
ICV Sample Id: ICV-01

Analyzed Date: 06/05/23 15:34

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Fluoride	2.500	2.537	101	90-110	mg/L	

**Analytical Method: SW-846 6020 B**

Seq Number: 204115  
CCV Sample Id: CCV 2

Matrix: Solid

Analyzed Date: 06/07/23 12:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.83	98	90-110	ug/kg	
Arsenic	100	98.30	98	90-110	ug/kg	
Beryllium	100	108.3	108	90-110	ug/kg	
Cadmium	100	95.75	96	90-110	ug/kg	
Chromium	100	96.81	97	90-110	ug/kg	
Copper	100	97.47	97	90-110	ug/kg	
Mercury	1.000	1.030	103	90-110	ug/kg	
Nickel	100	95.81	96	90-110	ug/kg	
Selenium	100	101.9	102	90-110	ug/kg	
Silver	10.00	9.995	100	90-110	ug/kg	
Thallium	100	101	101	90-110	ug/kg	
Zinc	200	191.4	96	90-110	ug/kg	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 6020 B**

Seq Number: 204115

Matrix: Solid

CCV Sample Id: CCV 3

Analyzed Date: 06/07/23 13:35

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.94	98	90-110	ug/kg	
Arsenic	100	100.4	100	90-110	ug/kg	
Beryllium	100	105	105	90-110	ug/kg	
Cadmium	100	95.99	96	90-110	ug/kg	
Chromium	100	99.08	99	90-110	ug/kg	
Copper	100	99.25	99	90-110	ug/kg	
Mercury	1.000	1.037	104	90-110	ug/kg	
Nickel	100	97.80	98	90-110	ug/kg	
Selenium	100	107.3	107	90-110	ug/kg	
Silver	10.00	10.09	101	90-110	ug/kg	
Thallium	100	101.9	102	90-110	ug/kg	
Zinc	200	195	98	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204115

Matrix: Solid

CCV Sample Id: CCV 4

Analyzed Date: 06/07/23 14:29

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.79	98	90-110	ug/kg	
Arsenic	100	99.79	100	90-110	ug/kg	
Beryllium	100	106.9	107	90-110	ug/kg	
Cadmium	100	95.86	96	90-110	ug/kg	
Chromium	100	98.68	99	90-110	ug/kg	
Copper	100	98.92	99	90-110	ug/kg	
Mercury	1.000	1.027	103	90-110	ug/kg	
Nickel	100	97.84	98	90-110	ug/kg	
Selenium	100	106.6	107	90-110	ug/kg	
Silver	10.00	10.09	101	90-110	ug/kg	
Thallium	100	104.5	105	90-110	ug/kg	
Zinc	200	194.1	97	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204146

Matrix: Solid

CCV Sample Id: CCV 1

Analyzed Date: 06/07/23 19:22

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101.3	101	90-110	ug/kg	

Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: SW-846 6020 B**

Seq Number: 204146 Matrix: Solid  
CCV Sample Id: CCV 2

Analyzed Date: 06/07/23 20:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	100.9	101	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204146 Matrix: Solid  
CCV Sample Id: CCV 3

Analyzed Date: 06/07/23 21:15

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101	101	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204146 Matrix: Solid  
CCV Sample Id: CCV 4

Analyzed Date: 06/07/23 22:14

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101.1	101	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204115 Matrix: Solid  
Parent Sample Id: ICV 1 ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 10:11

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	25.00	24.80	99	90-110	ug/kg	
Arsenic	50.00	51.34	103	90-110	ug/kg	
Beryllium	50.00	50.87	102	90-110	ug/kg	
Cadmium	50.00	49.26	99	90-110	ug/kg	
Chromium	50.00	50.59	101	90-110	ug/kg	
Copper	50.00	50.65	101	90-110	ug/kg	
Mercury	1.000	1.033	103	90-110	ug/kg	
Nickel	50.00	49.78	100	90-110	ug/kg	
Selenium	50.00	52.81	106	90-110	ug/kg	
Silver	5.000	5.113	102	90-110	ug/kg	
Thallium	50.00	48.76	98	90-110	ug/kg	
Zinc	100	100.4	100	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204146 Matrix: Solid  
Parent Sample Id: ICV 1 ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 17:55

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Lead	50.00	51.12	102	90-110	ug/kg	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8082 A**

Seq Number: 204073

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/06/23 07:42

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	91.82	92	80-120	ug/L	
PCB-1016	100	96.55	97	80-120	ug/L	
PCB-1016	100	98.56	99	80-120	ug/L	
PCB-1016	100	97.43	97	80-120	ug/L	
PCB-1016	100	97.44	97	80-120	ug/L	
PCB-1260	100	97.79	98	80-120	ug/L	
PCB-1260	100	98.35	98	80-120	ug/L	
PCB-1260	100	95.42	95	80-120	ug/L	
PCB-1260	100	98.48	98	80-120	ug/L	
PCB-1260	100	96.96	97	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	118	80-120	%	
Tetrachloro-m-xylene	88	80-120	%	

**Analytical Method: SW-846 8082 A**

Seq Number: 204073

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/06/23 12:53

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	91.65	92	80-120	ug/L	
PCB-1016	100	95.44	95	80-120	ug/L	
PCB-1016	100	96.58	97	80-120	ug/L	
PCB-1016	100	95.80	96	80-120	ug/L	
PCB-1016	100	95.94	96	80-120	ug/L	
PCB-1260	100	96.37	96	80-120	ug/L	
PCB-1260	100	96.25	96	80-120	ug/L	
PCB-1260	100	93.33	93	80-120	ug/L	
PCB-1260	100	95.78	96	80-120	ug/L	
PCB-1260	100	94.32	94	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	115	80-120	%	
Tetrachloro-m-xylene	88	80-120	%	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8082 A**

Seq Number: 204073

Matrix: Water

CCV Sample Id: CCV-03

Analyzed Date: 06/06/23 17:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	88.17	88	80-120	ug/L	
PCB-1016	100	94.50	95	80-120	ug/L	
PCB-1016	100	97.15	97	80-120	ug/L	
PCB-1016	100	95.18	95	80-120	ug/L	
PCB-1016	100	95.42	95	80-120	ug/L	
PCB-1260	100	95.40	95	80-120	ug/L	
PCB-1260	100	96.37	96	80-120	ug/L	
PCB-1260	100	92.37	92	80-120	ug/L	
PCB-1260	100	95.92	96	80-120	ug/L	
PCB-1260	100	94.06	94	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	113	80-120	%	
Tetrachloro-m-xylene	85	80-120	%	

**Analytical Method: SW-846 8082 A**

Seq Number: 204073

Matrix: Water

CCV Sample Id: CCV-04

Analyzed Date: 06/07/23 07:31

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	88.18	88	80-120	ug/L	
PCB-1016	100	93.38	93	80-120	ug/L	
PCB-1016	100	95.69	96	80-120	ug/L	
PCB-1016	100	94.04	94	80-120	ug/L	
PCB-1016	100	94.77	95	80-120	ug/L	
PCB-1260	100	94.07	94	80-120	ug/L	
PCB-1260	100	94.55	95	80-120	ug/L	
PCB-1260	100	91.75	92	80-120	ug/L	
PCB-1260	100	94.57	95	80-120	ug/L	
PCB-1260	100	93.17	93	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	112	80-120	%	
Tetrachloro-m-xylene	86	80-120	%	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8082 A**

Seq Number: 204078

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/07/23 07:31

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	88.18	88	80-120	ug/L	
PCB-1016	100	93.38	93	80-120	ug/L	
PCB-1016	100	95.69	96	80-120	ug/L	
PCB-1016	100	94.04	94	80-120	ug/L	
PCB-1016	100	94.77	95	80-120	ug/L	
PCB-1260	100	94.07	94	80-120	ug/L	
PCB-1260	100	94.55	95	80-120	ug/L	
PCB-1260	100	91.75	92	80-120	ug/L	
PCB-1260	100	94.57	95	80-120	ug/L	
PCB-1260	100	93.17	93	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	112	80-120	%	
Tetrachloro-m-xylene	86	80-120	%	

**Analytical Method: SW-846 8082 A**

Seq Number: 204078

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/07/23 10:23

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	85.52	86	80-120	ug/L	
PCB-1016	100	90.77	91	80-120	ug/L	
PCB-1016	100	91.91	92	80-120	ug/L	
PCB-1016	100	90.81	91	80-120	ug/L	
PCB-1016	100	91.11	91	80-120	ug/L	
PCB-1260	100	91.49	91	80-120	ug/L	
PCB-1260	100	91.53	92	80-120	ug/L	
PCB-1260	100	88.88	89	80-120	ug/L	
PCB-1260	100	91.00	91	80-120	ug/L	
PCB-1260	100	89.71	90	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	109	80-120	%	
Tetrachloro-m-xylene	82	80-120	%	



Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 10/20/20 12:18

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1016	100	107.2	107	80-120	ug/L	
PCB-1016	100	108.8	109	80-120	ug/L	
PCB-1016	100	103.1	103	80-120	ug/L	
PCB-1016	100	106.6	107	80-120	ug/L	
PCB-1016	100	106.7	107	80-120	ug/L	
PCB-1260	100	112	112	80-120	ug/L	
PCB-1260	100	106.8	107	80-120	ug/L	
PCB-1260	100	106	106	80-120	ug/L	
PCB-1260	100	104	104	80-120	ug/L	
PCB-1260	100	103.9	104	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
Decachlorobiphenyl	82	80-120	%	
Tetrachloro-m-xylene	80	80-120	%	

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-02

ICV Sample Id: ICV-02

Analyzed Date: 10/20/20 16:36

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1221	100	104.5	105	80-120	ug/L	
PCB-1221	100	108.4	108	80-120	ug/L	
PCB-1221	100	101.2	101	80-120	ug/L	
PCB-1221	100	102.1	102	80-120	ug/L	
PCB-1221	100	102.3	102	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-03

ICV Sample Id: ICV-03

Analyzed Date: 10/20/20 19:53

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1232	100	116.5	117	80-120	ug/L	
PCB-1232	100	116.3	116	80-120	ug/L	
PCB-1232	100	112.7	113	80-120	ug/L	
PCB-1232	100	114.6	115	80-120	ug/L	
PCB-1232	100	114	114	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-04

ICV Sample Id: ICV-04

Analyzed Date: 10/20/20 23:12

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1242	100	116.2	116	80-120	ug/L	
PCB-1242	100	110.8	111	80-120	ug/L	
PCB-1242	100	113.8	114	80-120	ug/L	
PCB-1242	100	114.5	115	80-120	ug/L	
PCB-1242	100	113	113	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-05

ICV Sample Id: ICV-05

Analyzed Date: 10/21/20 02:28

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1248	100	104.6	105	80-120	ug/L	
PCB-1248	100	106.6	107	80-120	ug/L	
PCB-1248	100	106.7	107	80-120	ug/L	
PCB-1248	100	105.8	106	80-120	ug/L	
PCB-1248	100	106.1	106	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-06

ICV Sample Id: ICV-06

Analyzed Date: 10/21/20 05:44

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1254	100	106.1	106	80-120	ug/L	
PCB-1254	100	105.6	106	80-120	ug/L	
PCB-1254	100	107.8	108	80-120	ug/L	
PCB-1254	100	108.1	108	80-120	ug/L	
PCB-1254	100	104.5	105	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 204069

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/06/23 11:19

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acetone	50.00	56.30	113	80-120	ug/L	
Benzene	50.00	50.06	100	80-120	ug/L	
Bromochloromethane	50.00	45.62	91	80-120	ug/L	
Bromodichloromethane	50.00	51.01	102	80-120	ug/L	
Bromoform	50.00	42.88	86	80-120	ug/L	
Bromomethane	50.00	44.63	89	80-120	ug/L	
2-Butanone (MEK)	50.00	55.88	112	80-120	ug/L	
Carbon Disulfide	50.00	52.40	105	80-120	ug/L	
Carbon tetrachloride	50.00	45.47	91	80-120	ug/L	
Chlorobenzene	50.00	47.64	95	80-120	ug/L	
Chloroethane	50.00	57.18	114	80-120	ug/L	
Chloroform	50.00	49.38	99	80-120	ug/L	
Chloromethane	50.00	57.33	115	80-120	ug/L	
Cyclohexane	50.00	55.06	110	80-120	ug/L	
1,2-Dibromo-3-chloropropane	50.00	43.00	86	80-120	ug/L	
Dibromochloromethane	50.00	45.01	90	80-120	ug/L	
1,2-Dibromoethane	50.00	47.04	94	80-120	ug/L	
1,2-Dichlorobenzene	50.00	46.73	93	80-120	ug/L	
1,3-Dichlorobenzene	50.00	46.90	94	80-120	ug/L	
Dichlorodifluoromethane	50.00	58.34	117	80-120	ug/L	
1,4-Dichlorobenzene	50.00	46.89	94	80-120	ug/L	
1,1-Dichloroethane	50.00	53.32	107	80-120	ug/L	
1,2-Dichloroethane	50.00	49.68	99	80-120	ug/L	
cis-1,2-Dichloroethene	50.00	47.16	94	80-120	ug/L	
1,1-Dichloroethene	50.00	44.30	89	80-120	ug/L	
1,2-Dichloropropane	50.00	53.67	107	80-120	ug/L	
cis-1,3-Dichloropropene	50.00	49.57	99	80-120	ug/L	
trans-1,3-Dichloropropene	50.00	43.32	87	80-120	ug/L	
trans-1,2-Dichloroethene	50.00	47.39	95	80-120	ug/L	
Ethylbenzene	50.00	50.61	101	80-120	ug/L	
2-Hexanone (MBK)	50.00	59.98	120	80-120	ug/L	
Isopropylbenzene	50.00	49.93	100	80-120	ug/L	
Methyl Acetate	50.00	44.98	90	80-120	ug/L	
Methylcyclohexane	50.00	48.31	97	80-120	ug/L	
Methylene chloride	50.00	47.81	96	80-120	ug/L	
4-Methyl-2-Pentanone (MIBK)	50.00	56.71	113	80-120	ug/L	
Methyl-t-Butyl Ether	50.00	44.53	89	80-120	ug/L	
Naphthalene	50.00	45.49	91	80-120	ug/L	
Styrene	50.00	50.10	100	80-120	ug/L	
1,1,2,2-Tetrachloroethane	50.00	50.99	102	80-120	ug/L	
Tetrachloroethene	50.00	44.34	89	80-120	ug/L	
Toluene	50.00	48.20	96	80-120	ug/L	
1,2,3-Trichlorobenzene	50.00	41.82	84	80-120	ug/L	
1,2,4-Trichlorobenzene	50.00	43.28	87	80-120	ug/L	
1,1,1-Trichloroethane	50.00	45.22	90	80-120	ug/L	
Trichloroethene	50.00	47.06	94	80-120	ug/L	
1,1,2-Trichloroethane	50.00	49.46	99	80-120	ug/L	
Trichlorofluoromethane	50.00	46.97	94	80-120	ug/L	
1,1,2-Trichlorotrifluoroethane	50.00	44.64	89	80-120	ug/L	
1,2,4-Trimethylbenzene	50.00	49.98	100	80-120	ug/L	
1,3,5-Trimethylbenzene	50.00	49.54	99	80-120	ug/L	

Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 204069

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/06/23 11:19

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Vinyl chloride	50.00	55.65	111	80-120	ug/L	
m&p-Xylene	100	98.18	98	80-120	ug/L	
o-Xylene	50.00	48.48	97	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
4-Bromofluorobenzene	104	80-120	%	
Dibromofluoromethane	99	80-120	%	
Toluene-D8	100	80-120	%	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 204112

Matrix: Solid

CCV Sample Id: CCV, VOC-1

Analyzed Date: 06/07/23 09:05

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acetone	0.06000	0.06262	104	80-120	mg/kg	
Benzene	0.06000	0.06274	105	80-120	mg/kg	
Bromochloromethane	0.06000	0.05448	91	80-120	mg/kg	
Bromodichloromethane	0.06000	0.05844	97	80-120	mg/kg	
Bromoform	0.06000	0.05425	90	80-120	mg/kg	
Bromomethane	0.06000	0.04270	71	80-120	mg/kg	X
2-Butanone (MEK)	0.06000	0.06613	110	80-120	mg/kg	
Carbon Disulfide	0.06000	0.06184	103	80-120	mg/kg	
Carbon tetrachloride	0.06000	0.06438	107	80-120	mg/kg	
Chlorobenzene	0.06000	0.05972	100	80-120	mg/kg	
Chloroethane	0.06000	0.06076	101	80-120	mg/kg	
Chloroform	0.06000	0.05841	97	80-120	mg/kg	
Chloromethane	0.06000	0.05272	88	80-120	mg/kg	
Cyclohexane	0.06000	0.06503	108	80-120	mg/kg	
1,2-Dibromo-3-chloropropane	0.06000	0.05801	97	80-120	mg/kg	
Dibromochloromethane	0.06000	0.05476	91	80-120	mg/kg	
1,2-Dibromoethane	0.06000	0.05671	95	80-120	mg/kg	
1,2-Dichlorobenzene	0.06000	0.06265	104	80-120	mg/kg	
1,3-Dichlorobenzene	0.06000	0.06522	109	80-120	mg/kg	
1,4-Dichlorobenzene	0.06000	0.06194	103	80-120	mg/kg	
Dichlorodifluoromethane	0.06000	0.06631	111	80-120	mg/kg	
1,1-Dichloroethane	0.06000	0.06219	104	80-120	mg/kg	
1,2-Dichloroethane	0.06000	0.05757	96	80-120	mg/kg	
1,1-Dichloroethene	0.06000	0.06219	104	80-120	mg/kg	
1,2-Dichloropropane	0.06000	0.05847	97	80-120	mg/kg	
cis-1,2-Dichloroethene	0.06000	0.05925	99	80-120	mg/kg	
cis-1,3-Dichloropropene	0.06000	0.06232	104	80-120	mg/kg	
trans-1,2-Dichloroethene	0.06000	0.06205	103	80-120	mg/kg	
trans-1,3-Dichloropropene	0.06000	0.06230	104	80-120	mg/kg	
Ethylbenzene	0.06000	0.06476	108	80-120	mg/kg	
2-Hexanone (MBK)	0.06000	0.06644	111	80-120	mg/kg	
Isopropylbenzene	0.06000	0.06935	116	80-120	mg/kg	
Methyl Acetate	0.06000	0.05210	87	80-120	mg/kg	
Methylcyclohexane	0.06000	0.06824	114	80-120	mg/kg	
Methylene chloride	0.06000	0.05406	90	80-120	mg/kg	
4-Methyl-2-Pentanone (MIBK)	0.06000	0.05352	89	80-120	mg/kg	
Methyl-t-Butyl Ether	0.06000	0.06524	109	80-120	mg/kg	
Naphthalene	0.06000	0.05717	95	80-120	mg/kg	
Styrene	0.06000	0.05964	99	80-120	mg/kg	
1,1,2,2-Tetrachloroethane	0.06000	0.06106	102	80-120	mg/kg	
Tetrachloroethene	0.06000	0.06079	101	80-120	mg/kg	
Toluene	0.06000	0.06211	104	80-120	mg/kg	
1,2,3-Trichlorobenzene	0.06000	0.06135	102	80-120	mg/kg	
1,2,4-Trichlorobenzene	0.06000	0.06333	106	80-120	mg/kg	
1,1,1-Trichloroethane	0.06000	0.06712	112	80-120	mg/kg	
1,1,2-Trichloroethane	0.06000	0.05527	92	80-120	mg/kg	
Trichloroethene	0.06000	0.06206	103	80-120	mg/kg	
Trichlorofluoromethane	0.06000	0.06410	107	80-120	mg/kg	
1,1,2-Trichlorotrifluoroethane	0.06000	0.06239	104	80-120	mg/kg	
1,2,4-Trimethylbenzene	0.06000	0.07229	120	80-120	mg/kg	
1,3,5-Trimethylbenzene	0.06000	0.07158	119	80-120	mg/kg	

Project Name: Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 204112

Matrix: Solid

CCV Sample Id: CCV, VOC-1

Analyzed Date: 06/07/23 09:05

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Vinyl chloride	0.06000	0.06648	111	80-120	mg/kg	
m&p-Xylene	0.1200	0.1243	104	80-120	mg/kg	
o-Xylene	0.06000	0.06144	102	80-120	mg/kg	

Surrogate	CCV Result	Limits	Units	Flag
4-Bromofluorobenzene	104	80-120	%	
Dibromofluoromethane	95	80-120	%	
Toluene-D8	99	80-120	%	

Project Name Quantum Frederick

PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 203365

Matrix: Water

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 05/10/23 12:41

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acetone	50.00	44.92	90	70-130	ug/L	
Benzene	50.00	47.90	96	70-130	ug/L	
Bromochloromethane	50.00	46.91	94	70-130	ug/L	
Bromodichloromethane	50.00	49.95	100	70-130	ug/L	
Bromoform	50.00	45.02	90	70-130	ug/L	
Bromomethane	50.00	46.46	93	70-130	ug/L	
2-Butanone (MEK)	50.00	45.39	91	70-130	ug/L	
Carbon Disulfide	50.00	49.58	99	70-130	ug/L	
Carbon tetrachloride	50.00	48.79	98	70-130	ug/L	
Chlorobenzene	50.00	47.96	96	70-130	ug/L	
Chloroethane	50.00	47.23	94	70-130	ug/L	
Chloroform	50.00	47.86	96	70-130	ug/L	
Chloromethane	50.00	47.85	96	70-130	ug/L	
Cyclohexane	50.00	48.54	97	70-130	ug/L	
1,2-Dibromo-3-chloropropane	50.00	44.59	89	70-130	ug/L	
Dibromochloromethane	50.00	46.12	92	70-130	ug/L	
1,2-Dibromoethane	50.00	47.99	96	70-130	ug/L	
1,2-Dichlorobenzene	50.00	47.36	95	70-130	ug/L	
1,3-Dichlorobenzene	50.00	47.53	95	70-130	ug/L	
Dichlorodifluoromethane	50.00	42.92	86	70-130	ug/L	
1,4-Dichlorobenzene	50.00	47.56	95	70-130	ug/L	
1,1-Dichloroethane	50.00	48.31	97	70-130	ug/L	
1,2-Dichloroethane	50.00	47.38	95	70-130	ug/L	
cis-1,2-Dichloroethene	50.00	47.15	94	70-130	ug/L	
1,1-Dichloroethene	50.00	47.17	94	70-130	ug/L	
1,2-Dichloropropane	50.00	48.24	96	70-130	ug/L	
cis-1,3-Dichloropropene	50.00	50.40	101	70-130	ug/L	
trans-1,3-Dichloropropene	50.00	46.31	93	70-130	ug/L	
trans-1,2-Dichloroethene	50.00	46.78	94	70-130	ug/L	
Ethylbenzene	50.00	49.23	98	70-130	ug/L	
2-Hexanone (MBK)	50.00	47.16	94	70-130	ug/L	
Isopropylbenzene	50.00	49.22	98	70-130	ug/L	
Methyl Acetate	50.00	44.65	89	70-130	ug/L	
Methylcyclohexane	50.00	49.09	98	70-130	ug/L	
Methylene chloride	50.00	46.97	94	70-130	ug/L	
4-Methyl-2-Pentanone (MIBK)	50.00	46.44	93	70-130	ug/L	
Methyl-t-Butyl Ether	50.00	46.61	93	70-130	ug/L	
Naphthalene	50.00	46.34	93	70-130	ug/L	
Styrene	50.00	50.11	100	70-130	ug/L	
1,1,2,2-Tetrachloroethane	50.00	46.51	93	70-130	ug/L	
Tetrachloroethene	50.00	47.08	94	70-130	ug/L	
Toluene	50.00	47.80	96	70-130	ug/L	
1,2,3-Trichlorobenzene	50.00	45.40	91	70-130	ug/L	
1,2,4-Trichlorobenzene	50.00	46.02	92	70-130	ug/L	
1,1,1-Trichloroethane	50.00	48.14	96	70-130	ug/L	
Trichloroethene	50.00	47.39	95	70-130	ug/L	
1,1,2-Trichloroethane	50.00	47.10	94	70-130	ug/L	
Trichlorofluoromethane	50.00	47.72	95	70-130	ug/L	
1,1,2-Trichlorotrifluoroethane	50.00	47.53	95	70-130	ug/L	
1,2,4-Trimethylbenzene	50.00	49.21	98	70-130	ug/L	
1,3,5-Trimethylbenzene	50.00	49.04	98	70-130	ug/L	

Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 203365

Matrix: Water

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 05/10/23 12:41

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Vinyl chloride	50.00	39.90	80	70-130	ug/L	
m&p-Xylene	100	98.57	99	70-130	ug/L	
o-Xylene	50.00	48.32	97	70-130	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
4-Bromofluorobenzene	101	70-130	%	
Dibromofluoromethane	99	70-130	%	
Toluene-D8	100	70-130	%	



Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 203852

Matrix: Solid

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 05/30/23 15:40

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acetone	0.06000	0.06517	109	70-130	mg/kg	
Benzene	0.06000	0.05282	88	70-130	mg/kg	
Bromochloromethane	0.06000	0.05594	93	70-130	mg/kg	
Bromodichloromethane	0.06000	0.05595	93	70-130	mg/kg	
Bromoform	0.06000	0.06117	102	70-130	mg/kg	
Bromomethane	0.06000	0.06458	108	70-130	mg/kg	
2-Butanone (MEK)	0.06000	0.06587	110	70-130	mg/kg	
Carbon Disulfide	0.06000	0.05436	91	70-130	mg/kg	
Carbon tetrachloride	0.06000	0.05395	90	70-130	mg/kg	
Chlorobenzene	0.06000	0.05691	95	70-130	mg/kg	
Chloroethane	0.06000	0.05668	94	70-130	mg/kg	
Chloroform	0.06000	0.05330	89	70-130	mg/kg	
Chloromethane	0.06000	0.05405	90	70-130	mg/kg	
Cyclohexane	0.06000	0.05301	88	70-130	mg/kg	
1,2-Dibromo-3-chloropropane	0.06000	0.06109	102	70-130	mg/kg	
Dibromochloromethane	0.06000	0.06066	101	70-130	mg/kg	
1,2-Dibromoethane	0.06000	0.06310	105	70-130	mg/kg	
1,2-Dichlorobenzene	0.06000	0.05619	94	70-130	mg/kg	
1,3-Dichlorobenzene	0.06000	0.05729	95	70-130	mg/kg	
1,4-Dichlorobenzene	0.06000	0.05827	97	70-130	mg/kg	
Dichlorodifluoromethane	0.06000	0.05405	90	70-130	mg/kg	
1,1-Dichloroethane	0.06000	0.05314	89	70-130	mg/kg	
1,2-Dichloroethane	0.06000	0.05615	94	70-130	mg/kg	
1,1-Dichloroethene	0.06000	0.05345	89	70-130	mg/kg	
1,2-Dichloropropane	0.06000	0.05312	89	70-130	mg/kg	
cis-1,2-Dichloroethene	0.06000	0.05290	88	70-130	mg/kg	
cis-1,3-Dichloropropene	0.06000	0.05850	98	70-130	mg/kg	
trans-1,2-Dichloroethene	0.06000	0.05447	91	70-130	mg/kg	
trans-1,3-Dichloropropene	0.06000	0.05983	100	70-130	mg/kg	
Ethylbenzene	0.06000	0.05757	96	70-130	mg/kg	
2-Hexanone (MBK)	0.06000	0.06537	109	70-130	mg/kg	
Isopropylbenzene	0.06000	0.05884	98	70-130	mg/kg	
Methyl Acetate	0.06000	0.05831	97	70-130	mg/kg	
Methylcyclohexane	0.06000	0.05678	95	70-130	mg/kg	
Methylene chloride	0.06000	0.05679	95	70-130	mg/kg	
4-Methyl-2-Pentanone (MIBK)	0.06000	0.06215	104	70-130	mg/kg	
Methyl-t-Butyl Ether	0.06000	0.05756	96	70-130	mg/kg	
Naphthalene	0.06000	0.05233	87	70-130	mg/kg	
Styrene	0.06000	0.06042	101	70-130	mg/kg	
1,1,2,2-Tetrachloroethane	0.06000	0.06205	103	70-130	mg/kg	
Tetrachloroethene	0.06000	0.05372	90	70-130	mg/kg	
Toluene	0.06000	0.05475	91	70-130	mg/kg	
1,2,3-Trichlorobenzene	0.06000	0.05386	90	70-130	mg/kg	
1,2,4-Trichlorobenzene	0.06000	0.05359	89	70-130	mg/kg	
1,1,1-Trichloroethane	0.06000	0.05515	92	70-130	mg/kg	
1,1,2-Trichloroethane	0.06000	0.05741	96	70-130	mg/kg	
Trichloroethene	0.06000	0.05396	90	70-130	mg/kg	
Trichlorofluoromethane	0.06000	0.05477	91	70-130	mg/kg	
1,1,2-Trichlorotrifluoroethane	0.06000	0.05367	89	70-130	mg/kg	
1,2,4-Trimethylbenzene	0.06000	0.05905	98	70-130	mg/kg	
1,3,5-Trimethylbenzene	0.06000	0.05975	100	70-130	mg/kg	

Project Name Quantum Frederick  
PSS Project No.: 23060614

**Analytical Method: SW-846 8260 D**

Seq Number: 203852

Matrix: Solid

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 05/30/23 15:40

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Vinyl chloride	0.06000	0.05806	97	70-130	mg/kg	
m&p-Xylene	0.1200	0.1135	95	70-130	mg/kg	
o-Xylene	0.06000	0.05492	92	70-130	mg/kg	

Surrogate	ICV Result	Limits	Units	Flag
4-Bromofluorobenzene	101	70-130	%	
Dibromofluoromethane	99	70-130	%	
Toluene-D8	97	70-130	%	

X = Recovery outside of QC Criteria

**PHASE  
SEPARATION  
SCIENCE**

**CHAIN OF CUSTODY FORM**

All fields must be completed accurately. Shaded sections for lab use only.

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6630 Baltimore National Pike • Suite 103-A • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047

PSS CLIENT: <b>GTA</b>		OFFICE LOCATION: <b>BALTIMORE</b>		PSS Work Order #: <b>23060614</b>			PAGE ____ OF ____										
BILL TO (if different):		PHONE #: <b>(443) 286-5506</b>		Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe													
CONTACT: <b>KEVIN PROCEK</b>		EMAIL: <b>KPROCEK@GTAENG.COM</b>		# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes										Preservative Codes	
PROJECT NAME: <b>31222314</b>		PROJECT #: <b>31222314</b>				<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Analysis/Method Required</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> <b>VOCs</b>  <b>Total Metals</b>  <b>Dissolved Metals</b>  <b>Fluoride</b>  <b>Total Cyanide</b>  <b>Chlorine</b>  <b>PCBs</b> </div> </div>										1 - HCL	
SITE LOCATION: <b>FREDERICK</b>		P.O. #:														9 - TerraCore Kit	
SAMPLER(S): <b>CMM</b>		DW CERT #:															
PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	VOCs	Total Metals	Dissolved Metals	Fluoride	Total Cyanide	Chlorine	PCBs				
1	GTA-TC-3	6/6/23	10:15	SW	8	G	X	X	X	X	X	X	X				
2	GTA-TC-3	6/6/23	10:15	S	2	G	X	X		X	X		X				
3	GPA-TC-6	6/6/23	10:40	SW	8	G	X	X	X	X	X	X					
4	GTA-TC-12	6/6/23	12:15	SW	8	G	X	X	X	X	X	X					
5	GTA-TC-13	6/6/23	12:45	SW	6	G	X	X	X	X	X	X					
6	GTA-TC-5	6/6/23	13:30	SW	8	G	X	X	X	X	X	X					
Relinquished By: (1) <i>Kevin Procek</i>		Date	Time	Received By:		Requested TAT (One TAT per COC)		Ice Present:									
		6/6/23	14:00	<i>[Signature]</i>		<input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input checked="" type="checkbox"/> Emergency <input type="checkbox"/> Other		PRES									
Relinquished By: (2) <i>[Signature]</i>		Date	Time	Received By:		STATE RESULTS REPORTED TO:		# Coolers:									
		6/6/23	15:15	<i>[Signature]</i>		<input type="checkbox"/> MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER		2									
Relinquished By: (3)		Date	Time	Received By:		COMPLIANCE?		Shipping Carrier:									
						<input type="checkbox"/> DW <input type="checkbox"/> WW		CLIENT									
Relinquished By: (4)		Date	Time	Received By:		Special Instructions:		EDD FORMAT TYPE									

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

## Sample Receipt Checklist

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

**Client Name**      GTA - Baltimore  
**Disposal Date**    07/11/2023

**Received By**      Tyler Enwright  
**Date Received**    06/06/2023 03:15:00 PM  
**Delivered By**      Client  
**Tracking No**        Not Applicable  
**Logged In By**      Tyler Enwright

**Shipping Container(s)**

No. of Coolers      2

Custody Seal(s) Intact?      N/A  
 Seal(s) Signed / Dated?      N/A

Ice                                  Present  
 Temp (deg C)                  9.6  
 Temp Blank Present      No

**Documentation**

COC agrees with sample labels?      Yes  
 Chain of Custody                          Yes

Sampler Name              Colleen McMullen  
 MD DW Cert. No.          N/A

**Sample Container**

Appropriate for Specified Analysis?      Yes  
 Intact?    Yes  
 Labeled and Labels Legible?              Yes

Custody Seal(s) Intact?      Not Applicable  
 Seal(s) Signed / Dated      Not Applicable

**Holding Time**

All Samples Received Within Holding Time(s)?      Yes

Total No. of Samples Received      6  
 Total No. of Containers Received    44

**Preservation**

Total Metals                                  (pH<2)                  No  
 Dissolved Metals, filtered within 15 minutes of collection      (pH<2)                  No  
 Orthophosphorus, filtered within 15 minutes of collection      N/A  
 Cyanides    (pH>12)                No  
 Sulfide    (pH>9)                  N/A  
 TOC, DOC (field filtered), COD, Phenols                          (pH<2)                  N/A  
 TOX, TKN, NH3, Total Phos    (pH<2)                  N/A  
 VOC, BTEX (VOA Vials Rcvd Preserved)                              (pH<2)                  No  
 Do VOA vials have zero headspace?                                      No  
 624 VOC (Rcvd at least one unpreserved VOA vial)                      N/A  
 524 VOC (Rcvd with trip blanks)    (pH<2)                  N/A

### Sample Receipt Checklist

Project Name: Quantum Frederick  
 PSS Project No.: 23060614

<b>Client Name</b>	GTA - Baltimore	<b>Received By</b>	Tyler Enwright
<b>Disposal Date</b>	07/11/2023	<b>Date Received</b>	06/06/2023 03:15:00 PM
		<b>Delivered By</b>	Client
		<b>Tracking No</b>	Not Applicable
		<b>Logged In By</b>	Tyler Enwright

**Comments: (Any "No" response must be detailed in the comments section below.)**

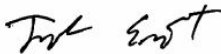
For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.


Sample aliquots for dissolved metals were not field filtered and were received unpreserved; as such, associated sample results are not suitable for compliance under the Clean Water Act and/or Safe Drinking Water Act.

Received sample 005 unpreserved for total metals and cyanide analysis. Samples were preserved upon receipt.

Received sample 005 in a plastic unpreserved container with headspace, inappropriate for the following analyses: VOCs. Transferred to a 40ml vial preserved with HCL for analysis.

The analyses of chlorine for potable/non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Samples Inspected/Checklist Completed By:  Date: 06/06/2023  
 Tyler Enwright

PM Review and Approval:  Date: 06/06/2023  
 Lynn Jackson

Project Name: Quantum Frederick  
PSS Project No.: 23060619

June 8, 2023

**Kevin Plocek**  
**GTA - Baltimore**  
1414 Key Highway, Ste. 201P  
Baltimore, MD 21230



Reference: PSS Project No: **23060619**  
Project Name: Quantum Frederick  
Project Location: Frederick  
Project ID.: 31222314

Dear Kevin Plocek:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **23060619**.

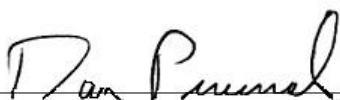
All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on July 11, 2023, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

  
Dan Prucnal

Laboratory Manager



## Explanation of Qualifiers

Project Name: Quantum Frederick  
PSS Project No.: 23060619

### Project ID: 31222314

The following samples were received under chain of custody by Phase Separation Science (PSS) on 06/06/2023 at 05:05 pm

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
23060619-001	GTA-TC-2	SURFACE WATER	06/06/23 15:15
23060619-002	GTA-TC-2	SOIL	06/06/23 15:15
23060619-003	GTA-TC-4	SURFACE WATER	06/06/23 14:30
23060619-004	GTA-TC-4	SOIL	06/06/23 14:30

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

#### Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

#### Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J The target analyte was positively identified below the reporting limit but greater than the MDL.
- MDL This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

#### Certifications:

NELAP Certifications: PA 68-03330, VA 460156  
State Certifications: MD 179, WV 303  
Regulated Soil Permit: P330-12-00268  
NSWC USCG Accepted Laboratory  
LDBE MWAA LD1997-0041-2015

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060619

**Sample ID: GTA-TC-2**      **Date/Time Sampled: 06/06/2023 15:15**      **PSS Sample ID: 23060619-001**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 17:05**

Priority Pollutant Metals      Analytical Method: EPA 200.8      Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/06/23	06/07/23 12:57	1064
Arsenic	ND	ug/L	1.0		1	06/06/23	06/07/23 12:57	1064
Beryllium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:57	1064
Cadmium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:57	1064
Chromium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:57	1064
Copper	1.4	ug/L	1.0		1	06/06/23	06/07/23 12:57	1064
Lead	ND	ug/L	1.0		1	06/06/23	06/07/23 21:38	1064
Mercury	ND	ug/L	0.20		1	06/06/23	06/07/23 12:57	1064
Nickel	ND	ug/L	1.0		1	06/06/23	06/07/23 12:57	1064
Selenium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:57	1064
Silver	ND	ug/L	1.0		1	06/06/23	06/07/23 12:57	1064
Thallium	ND	ug/L	1.0		1	06/06/23	06/07/23 12:57	1064
Zinc	ND	ug/L	20		1	06/06/23	06/07/23 12:57	1064

Dissolved Priority Pollutant Metals      Analytical Method: EPA 200.8 Dissolved      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/07/23	06/07/23 11:48	1064
Arsenic	ND	ug/L	1.0		1	06/07/23	06/07/23 11:48	1064
Beryllium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:48	1064
Cadmium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:48	1064
Chromium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:48	1064
Copper	ND	ug/L	1.0		1	06/07/23	06/07/23 11:48	1064
Lead	ND	ug/L	1.0		1	06/07/23	06/07/23 20:36	1064
Mercury	ND	ug/L	0.20		1	06/07/23	06/07/23 11:48	1064
Nickel	ND	ug/L	1.0		1	06/07/23	06/07/23 11:48	1064
Selenium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:48	1064
Silver	ND	ug/L	1.0		1	06/07/23	06/07/23 11:48	1064
Thallium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:48	1064
Zinc	ND	ug/L	20		1	06/07/23	06/07/23 11:48	1064



**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060619

**Sample ID: GTA-TC-2**      **Date/Time Sampled: 06/06/2023 15:15**      **PSS Sample ID: 23060619-001**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 17:05**

Inorganic Anions      Analytical Method: EPA 300.0      Preparation Method: E300.OP

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoride	ND	mg/kg	0.25		1	06/07/23	06/07/23 11:03	1053

Total Residual Chlorine      Analytical Method: SM 4500-CL G -2011

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Total Chlorine	ND	mg/L	0.20		1	06/06/23	06/06/23 18:30	1073

Total Cyanide      Analytical Method: SM 4500-CN C,E -2016      Preparation Method: SM4500CN-C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Cyanide, Total	ND	mg/L	0.010		1	06/07/23	06/07/23 13:48	1073

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Batch 204103 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	06/07/23	06/07/23 11:10	1011
Benzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Bromochloromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Bromoform	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Bromomethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	06/07/23	06/07/23 11:10	1011
Carbon Disulfide	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Carbon tetrachloride	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060619

**Sample ID: GTA-TC-2**      **Date/Time Sampled: 06/06/2023 15:15**      **PSS Sample ID: 23060619-001**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 17:05**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Batch 204103 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Chlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Chloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Chloroform	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Chloromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Cyclohexane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Ethylbenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	06/07/23	06/07/23 11:10	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Methyl Acetate	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Methylcyclohexane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Methylene chloride	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	06/07/23	06/07/23 11:10	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Naphthalene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Styrene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Toluene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060619

**Sample ID: GTA-TC-2**      **Date/Time Sampled: 06/06/2023 15:15**      **PSS Sample ID: 23060619-001**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 17:05**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Batch 204103 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Trichloroethene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,2,4-Trimethylbenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
1,3,5-Trimethylbenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
Vinyl chloride	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
m&p-Xylene	ND	ug/L	2.0		1	06/07/23	06/07/23 11:10	1011
o-Xylene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:10	1011
<b>Surrogate(s)</b>	<b>Recovery</b>		<b>Limits</b>					
4-Bromofluorobenzene	108 %		88-120		1	06/07/23	06/07/23 11:10	1011
Dibromofluoromethane	98 %		92-107		1	06/07/23	06/07/23 11:10	1011
Toluene-D8	99 %		95-106		1	06/07/23	06/07/23 11:10	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060619

**Sample ID: GTA-TC-2**      **Date/Time Sampled: 06/06/2023 15:15**      **PSS Sample ID: 23060619-002**  
**Matrix: SOIL**      **Date/Time Received: 06/06/2023 17:05**      **% Solids SM2540G-11: 71.6**

Inorganic Anions      Analytical Method: EPA 300.0      Preparation Method: E300.OP  
 Qualifier(s): See Batch 204124 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoride	ND	mg/kg	3.5		1	06/07/23	06/07/23 13:20	1053

MDE PP Metals      Analytical Method: SW-846 6020 B      Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.6		1	06/06/23	06/07/23 14:14	1064
Arsenic	<b>11</b>	mg/kg	0.52		1	06/06/23	06/07/23 14:14	1064
Beryllium	<b>1.4</b>	mg/kg	0.52		1	06/06/23	06/07/23 14:14	1064
Cadmium	ND	mg/kg	0.52		1	06/06/23	06/07/23 14:14	1064
Chromium	<b>33</b>	mg/kg	0.52		1	06/06/23	06/07/23 14:14	1064
Copper	<b>13</b>	mg/kg	0.52		1	06/06/23	06/07/23 14:14	1064
Lead	<b>18</b>	mg/kg	0.52		1	06/06/23	06/07/23 19:36	1064
Mercury	ND	mg/kg	0.10		1	06/06/23	06/07/23 14:14	1064
Nickel	<b>24</b>	mg/kg	0.52		1	06/06/23	06/07/23 14:14	1064
Selenium	ND	mg/kg	0.52		1	06/06/23	06/07/23 14:14	1064
Silver	ND	mg/kg	0.52		1	06/06/23	06/07/23 14:14	1064
Thallium	ND	mg/kg	0.52		1	06/06/23	06/07/23 14:14	1064
Zinc	<b>76</b>	mg/kg	10		1	06/06/23	06/07/23 14:14	1064

Polychlorinated Biphenyls      Analytical Method: SW-846 8082 A      Preparation Method: SW3550C  
 Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.071		1	06/06/23	06/07/23 09:00	1029
PCB-1221	ND	mg/kg	0.071		1	06/06/23	06/07/23 09:00	1029
PCB-1232	ND	mg/kg	0.071		1	06/06/23	06/07/23 09:00	1029
PCB-1242	ND	mg/kg	0.071		1	06/06/23	06/07/23 09:00	1029
PCB-1248	ND	mg/kg	0.071		1	06/06/23	06/07/23 09:00	1029
PCB-1254	ND	mg/kg	0.071		1	06/06/23	06/07/23 09:00	1029
PCB-1260	ND	mg/kg	0.071		1	06/06/23	06/07/23 09:00	1029

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060619

<b>Sample ID: GTA-TC-2</b>	<b>Date/Time Sampled: 06/06/2023 15:15</b>	<b>PSS Sample ID: 23060619-002</b>
<b>Matrix: SOIL</b>	<b>Date/Time Received: 06/06/2023 17:05</b>	<b>% Solids SM2540G-11: 71.6</b>
Polychlorinated Biphenyls	Analytical Method: SW-846 8082 A	Preparation Method: SW3550C
		Clean up Method: SW846 3665A

<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>					
<i>Decachlorobiphenyl</i>	112 %		48-145	1	06/06/23	06/07/23 09:00	1029	
<i>Tetrachloro-m-xylene</i>	79 %		43-117	1	06/06/23	06/07/23 09:00	1029	

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 D Preparation Method: SW5030  
 Qualifier(s): See Batch 204112 on Case Narrative.

	<b>Result</b>	<b>Units</b>	<b>RL</b>	<b>Flag</b>	<b>Dil</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Analyst</b>
Acetone	ND	mg/kg	0.027		1	06/07/23	06/07/23 13:34	1045
Benzene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Bromochloromethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Bromodichloromethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Bromoform	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Bromomethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
2-Butanone (MEK)	ND	mg/kg	0.0067		1	06/07/23	06/07/23 13:34	1045
Carbon Disulfide	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Carbon tetrachloride	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Chlorobenzene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Chloroethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Chloroform	ND	mg/kg	0.0067		1	06/07/23	06/07/23 13:34	1045
Chloromethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Cyclohexane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Dibromochloromethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,2-Dibromoethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Dichlorodifluoromethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,1-Dichloroethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,2-Dichloroethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,1-Dichloroethene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,2-Dichloropropane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060619

**Sample ID: GTA-TC-2**      **Date/Time Sampled: 06/06/2023 15:15**      **PSS Sample ID: 23060619-002**  
**Matrix: SOIL**      **Date/Time Received: 06/06/2023 17:05**      **% Solids SM2540G-11: 71.6**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030

Qualifier(s): See Batch 204112 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Ethylbenzene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
2-Hexanone (MBK)	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Isopropylbenzene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Methyl Acetate	ND	mg/kg	0.034		1	06/07/23	06/07/23 13:34	1045
Methylcyclohexane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Methylene chloride	ND	mg/kg	0.0067		1	06/07/23	06/07/23 13:34	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Naphthalene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Styrene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Tetrachloroethene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Toluene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Trichloroethene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Trichlorofluoromethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,2,4-Trimethylbenzene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
1,3,5-Trimethylbenzene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045
Vinyl chloride	ND	mg/kg	0.0067		1	06/07/23	06/07/23 13:34	1045
m&p-Xylene	ND	mg/kg	0.0027		1	06/07/23	06/07/23 13:34	1045
o-Xylene	ND	mg/kg	0.0013		1	06/07/23	06/07/23 13:34	1045

Surrogate(s)	Recovery	Limits			
4-Bromofluorobenzene	104 %	89-111	1	06/07/23	06/07/23 13:34 1045
Dibromofluoromethane	97 %	91-108	1	06/07/23	06/07/23 13:34 1045
Toluene-D8	101 %	93-104	1	06/07/23	06/07/23 13:34 1045

### Certificate of Analysis

Project Name: Quantum Frederick  
 PSS Project No.: 23060619

<b>Sample ID: GTA-TC-2</b>	<b>Date/Time Sampled: 06/06/2023 15:15</b>	<b>PSS Sample ID: 23060619-002</b>
<b>Matrix: SOIL</b>	<b>Date/Time Received: 06/06/2023 17:05</b>	<b>% Solids SM2540G-11: 71.6</b>
Cyanide	Analytical Method: SW-846 9014	Preparation Method: SW9010C

	<u>Result</u>	<u>Units</u>	<u>RL</u>	<u>Flag</u>	<u>Dil</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Analyst</u>
Cyanide, Total	<b>0.16</b>	mg/kg	0.089		1	06/07/23	06/07/23 14:52	1053

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060619

**Sample ID: GTA-TC-4**      **Date/Time Sampled: 06/06/2023 14:30**      **PSS Sample ID: 23060619-003**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 17:05**

Priority Pollutant Metals      Analytical Method: EPA 200.8      Preparation Method: E200.8

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/06/23	06/07/23 13:01	1064
Arsenic	ND	ug/L	1.0		1	06/06/23	06/07/23 13:01	1064
Beryllium	ND	ug/L	1.0		1	06/06/23	06/07/23 13:01	1064
Cadmium	ND	ug/L	1.0		1	06/06/23	06/07/23 13:01	1064
Chromium	ND	ug/L	1.0		1	06/06/23	06/07/23 13:01	1064
Copper	ND	ug/L	1.0		1	06/06/23	06/07/23 13:01	1064
Lead	ND	ug/L	1.0		1	06/06/23	06/07/23 21:42	1064
Mercury	ND	ug/L	0.20		1	06/06/23	06/07/23 13:01	1064
Nickel	ND	ug/L	1.0		1	06/06/23	06/07/23 13:01	1064
Selenium	ND	ug/L	1.0		1	06/06/23	06/07/23 13:01	1064
Silver	ND	ug/L	1.0		1	06/06/23	06/07/23 13:01	1064
Thallium	ND	ug/L	1.0		1	06/06/23	06/07/23 13:01	1064
Zinc	ND	ug/L	20		1	06/06/23	06/07/23 13:01	1064

Dissolved Priority Pollutant Metals      Analytical Method: EPA 200.8 Dissolved      Preparation Method: E200.8

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	06/07/23	06/07/23 11:53	1064
Arsenic	ND	ug/L	1.0		1	06/07/23	06/07/23 11:53	1064
Beryllium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:53	1064
Cadmium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:53	1064
Chromium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:53	1064
Copper	ND	ug/L	1.0		1	06/07/23	06/07/23 11:53	1064
Lead	ND	ug/L	1.0		1	06/07/23	06/07/23 20:40	1064
Mercury	ND	ug/L	0.20		1	06/07/23	06/07/23 11:53	1064
Nickel	ND	ug/L	1.0		1	06/07/23	06/07/23 11:53	1064
Selenium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:53	1064
Silver	ND	ug/L	1.0		1	06/07/23	06/07/23 11:53	1064
Thallium	ND	ug/L	1.0		1	06/07/23	06/07/23 11:53	1064
Zinc	ND	ug/L	20		1	06/07/23	06/07/23 11:53	1064



**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060619

**Sample ID: GTA-TC-4**      **Date/Time Sampled: 06/06/2023 14:30**      **PSS Sample ID: 23060619-003**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 17:05**

Inorganic Anions      Analytical Method: EPA 300.0      Preparation Method: E300.OP

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoride	ND	mg/kg	0.25		1	06/07/23	06/07/23 12:12	1053

Total Residual Chlorine      Analytical Method: SM 4500-CL G -2011

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Total Chlorine	ND	mg/L	0.20		1	06/06/23	06/06/23 18:30	1073

Total Cyanide      Analytical Method: SM 4500-CN C,E -2016      Preparation Method: SM4500CN-C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Cyanide, Total	ND	mg/L	0.010		1	06/07/23	06/07/23 13:50	1073

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Batch 204103 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	5.0		1	06/07/23	06/07/23 11:33	1011
Benzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Bromochloromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Bromodichloromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Bromoform	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Bromomethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	06/07/23	06/07/23 11:33	1011
Carbon Disulfide	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Carbon tetrachloride	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060619

**Sample ID: GTA-TC-4**      **Date/Time Sampled: 06/06/2023 14:30**      **PSS Sample ID: 23060619-003**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 17:05**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B  
Qualifier(s): See Batch 204103 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Chlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Chloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Chloroform	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Chloromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Cyclohexane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Dibromochloromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Ethylbenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	06/07/23	06/07/23 11:33	1011
Isopropylbenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Methyl Acetate	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Methylcyclohexane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Methylene chloride	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	06/07/23	06/07/23 11:33	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Naphthalene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Styrene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Tetrachloroethene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Toluene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
 PSS Project No.: 23060619

**Sample ID: GTA-TC-4**      **Date/Time Sampled: 06/06/2023 14:30**      **PSS Sample ID: 23060619-003**  
**Matrix: SURFACE WATER**      **Date/Time Received: 06/06/2023 17:05**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030B

Qualifier(s): See Batch 204103 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
1,1,1-Trichloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Trichloroethene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,2,4-Trimethylbenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
1,3,5-Trimethylbenzene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
Vinyl chloride	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
m&p-Xylene	ND	ug/L	2.0		1	06/07/23	06/07/23 11:33	1011
o-Xylene	ND	ug/L	1.0		1	06/07/23	06/07/23 11:33	1011
<b>Surrogate(s)</b>	<b>Recovery</b>		<b>Limits</b>					
4-Bromofluorobenzene	112 %		88-120		1	06/07/23	06/07/23 11:33	1011
Dibromofluoromethane	97 %		92-107		1	06/07/23	06/07/23 11:33	1011
Toluene-D8	98 %		95-106		1	06/07/23	06/07/23 11:33	1011

**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060619

**Sample ID: GTA-TC-4**      **Date/Time Sampled: 06/06/2023 14:30**      **PSS Sample ID: 23060619-004**  
**Matrix: SOIL**      **Date/Time Received: 06/06/2023 17:05**      **% Solids SM2540G-11: 60.7**

Inorganic Anions      Analytical Method: EPA 300.0      Preparation Method: E300.OP

Qualifier(s): See Batch 204124 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Fluoride	ND	mg/kg	4.0		1	06/07/23	06/07/23 14:29	1053

MDE PP Metals      Analytical Method: SW-846 6020 B      Preparation Method: SW3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.9		1	06/06/23	06/07/23 14:19	1064
Arsenic	<b>1.8</b>	mg/kg	0.58		1	06/06/23	06/07/23 14:19	1064
Beryllium	ND	mg/kg	0.58		1	06/06/23	06/07/23 14:19	1064
Cadmium	ND	mg/kg	0.58		1	06/06/23	06/07/23 14:19	1064
Chromium	<b>18</b>	mg/kg	0.58		1	06/06/23	06/07/23 14:19	1064
Copper	<b>5.6</b>	mg/kg	0.58		1	06/06/23	06/07/23 14:19	1064
Lead	<b>11</b>	mg/kg	0.58		1	06/06/23	06/07/23 19:40	1064
Mercury	ND	mg/kg	0.12		1	06/06/23	06/07/23 14:19	1064
Nickel	<b>12</b>	mg/kg	0.58		1	06/06/23	06/07/23 14:19	1064
Selenium	ND	mg/kg	0.58		1	06/06/23	06/07/23 14:19	1064
Silver	ND	mg/kg	0.58		1	06/06/23	06/07/23 14:19	1064
Thallium	ND	mg/kg	0.58		1	06/06/23	06/07/23 14:19	1064
Zinc	<b>41</b>	mg/kg	12		1	06/06/23	06/07/23 14:19	1064

Polychlorinated Biphenyls      Analytical Method: SW-846 8082 A      Preparation Method: SW3550C  
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.080		1	06/06/23	06/07/23 09:28	1029
PCB-1221	ND	mg/kg	0.080		1	06/06/23	06/07/23 09:28	1029
PCB-1232	ND	mg/kg	0.080		1	06/06/23	06/07/23 09:28	1029
PCB-1242	ND	mg/kg	0.080		1	06/06/23	06/07/23 09:28	1029
PCB-1248	ND	mg/kg	0.080		1	06/06/23	06/07/23 09:28	1029
PCB-1254	ND	mg/kg	0.080		1	06/06/23	06/07/23 09:28	1029
PCB-1260	ND	mg/kg	0.080		1	06/06/23	06/07/23 09:28	1029



**Certificate of Analysis**

Project Name: Quantum Frederick  
PSS Project No.: 23060619

**Sample ID: GTA-TC-4**      **Date/Time Sampled: 06/06/2023 14:30**      **PSS Sample ID: 23060619-004**  
**Matrix: SOIL**      **Date/Time Received: 06/06/2023 17:05**      **% Solids SM2540G-11: 60.7**

MDE TCL Volatile Organic Compounds      Analytical Method: SW-846 8260 D      Preparation Method: SW5030

Qualifier(s): See Batch 204112 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Ethylbenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
2-Hexanone (MBK)	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Isopropylbenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Methyl Acetate	ND	mg/kg	0.040		1	06/07/23	06/07/23 13:56	1045
Methylcyclohexane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Methylene chloride	ND	mg/kg	0.0081		1	06/07/23	06/07/23 13:56	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Naphthalene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Styrene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Tetrachloroethene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Toluene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Trichloroethene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Trichlorofluoromethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
1,2,4-Trimethylbenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
1,3,5-Trimethylbenzene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045
Vinyl chloride	ND	mg/kg	0.0081		1	06/07/23	06/07/23 13:56	1045
m&p-Xylene	ND	mg/kg	0.0032		1	06/07/23	06/07/23 13:56	1045
o-Xylene	ND	mg/kg	0.0016		1	06/07/23	06/07/23 13:56	1045

Surrogate(s)	Recovery	Limits				
4-Bromofluorobenzene	111 %	89-111	1	06/07/23	06/07/23 13:56	1045
Dibromofluoromethane	98 %	91-108	1	06/07/23	06/07/23 13:56	1045
Toluene-D8	100 %	93-104	1	06/07/23	06/07/23 13:56	1045

### Certificate of Analysis

Project Name: Quantum Frederick

PSS Project No.: 23060619

**Sample ID: GTA-TC-4**      **Date/Time Sampled: 06/06/2023 14:30**      **PSS Sample ID: 23060619-004**

**Matrix: SOIL**      **Date/Time Received: 06/06/2023 17:05**      **% Solids SM2540G-11: 60.7**

Cyanide      Analytical Method: SW-846 9014      Preparation Method: SW9010C

	<b>Result</b>	<b>Units</b>	<b>RL</b>	<b>Flag</b>	<b>Dil</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Analyst</b>
Cyanide, Total	<b>0.27</b>	mg/kg	0.10		1	06/07/23	06/07/23 14:57	1053

## Case Narrative

Project Name: Quantum Frederick

PSS Project No.: 23060619

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Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

### Sample Receipt:

Sample aliquots for dissolved metals were not field filtered and were received unpreserved; as such, associated sample results are not suitable for compliance under the Clean Water Act and/or Safe Drinking Water Act. The analyses of chlorine for potable/non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

### Analytical:

#### Inorganic Anions

##### Batch: 204124

Matrix spike/matrix spike duplicate (MS/MSD) exceedance identified; see QC summary.

### Analytical:

#### MDE TCL Volatile Organic Compounds

##### Batch: 204103

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Laboratory control sample (LCS) exceedances identified; see QC summary. Exceedances meet marginal exceedance criteria.

Matrix spike/matrix spike duplicate (MS/MSD) and Relative Percent Difference (RPD) exceedances identified; see QC summary.

### Analytical:

#### TCL Volatile Organic Compounds

##### Batch: 204112

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

Method exceedance: Laboratory control sample (LCS) exceedance identified; see QC summary.

Matrix spike/matrix spike duplicate (MS/MSD) and Relative Percent Difference (RPD) exceedances identified; see QC summary.

**NELAP accreditation was held for all analyses performed unless noted below. See [www.phaseonline.com](http://www.phaseonline.com) for complete PSS scope of accreditation.**

Prep Method(s): SW-846 5030



## Case Narrative

Project Name: Quantum Frederick

PSS Project No.: 23060619

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Project Name: Quantum Frederick  
PSS Project No.: 23060619

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
<b>EPA 200.8</b>	GTA-TC-2	Initial	23060619-001	W	95750	204119	06/06/2023 18:30	06/07/2023 12:57
	GTA-TC-4	Initial	23060619-003	W	95750	204119	06/06/2023 18:30	06/07/2023 13:01
	95750-1-BKS	BKS	95750-1-BKS	W	95750	204119	06/06/2023 18:30	06/07/2023 12:02
	95750-1-BLK	BLK	95750-1-BLK	W	95750	204119	06/06/2023 18:30	06/07/2023 11:57
	GTA-TC-3 S	MS	23060614-001 S	W	95750	204119	06/06/2023 18:30	06/07/2023 12:11
	GTA-TC-3 SD	MSD	23060614-001 S	W	95750	204119	06/06/2023 18:30	06/07/2023 12:16
	95750-1-BKS	Reanalysis	95750-1-BKS	W	95750	204142	06/06/2023 18:30	06/07/2023 20:48
	95750-1-BLK	Reanalysis	95750-1-BLK	W	95750	204142	06/06/2023 18:30	06/07/2023 20:44
	GTA-TC-2	Reanalysis	23060619-001	W	95750	204142	06/06/2023 18:30	06/07/2023 21:38
	GTA-TC-4	Reanalysis	23060619-003	W	95750	204142	06/06/2023 18:30	06/07/2023 21:42
	GTA-TC-3 S	Reanalysis	23060614-001 S	W	95750	204143	06/06/2023 18:30	06/07/2023 19:56
	GTA-TC-3 SD	Reanalysis	23060614-001 S	W	95750	204143	06/06/2023 18:30	06/07/2023 20:00
<b>EPA 200.8 Dissolved</b>	GTA-TC-2	Initial	23060619-001	W	95757	204116	06/07/2023 09:33	06/07/2023 11:48
	GTA-TC-4	Initial	23060619-003	W	95757	204116	06/07/2023 09:33	06/07/2023 11:53
	95757-1-BKS	BKS	95757-1-BKS	W	95757	204116	06/07/2023 09:33	06/07/2023 10:40
	95757-1-BLK	BLK	95757-1-BLK	W	95757	204116	06/07/2023 09:33	06/07/2023 10:35
	GTA-TC-3 S	MS	23060614-001 S	W	95757	204116	06/07/2023 09:33	06/07/2023 10:50
	GTA-TC-3 SD	MSD	23060614-001 S	W	95757	204116	06/07/2023 09:33	06/07/2023 10:55
	95757-1-BKS	Reanalysis	95757-1-BKS	W	95757	204143	06/07/2023 09:33	06/07/2023 19:48
	95757-1-BLK	Reanalysis	95757-1-BLK	W	95757	204143	06/07/2023 09:33	06/07/2023 19:44
	GTA-TC-3 S	Reanalysis	23060614-001 S	W	95757	204143	06/07/2023 09:33	06/07/2023 19:56
	GTA-TC-3 SD	Reanalysis	23060614-001 S	W	95757	204143	06/07/2023 09:33	06/07/2023 20:00
	GTA-TC-2	Reanalysis	23060619-001	W	95757	204143	06/07/2023 09:33	06/07/2023 20:36
	GTA-TC-4	Reanalysis	23060619-003	W	95757	204143	06/07/2023 09:33	06/07/2023 20:40
<b>EPA 300.0</b>	GTA-TC-2	Initial	23060619-001	W	95760	204123	06/07/2023 08:45	06/07/2023 11:03
	GTA-TC-4	Initial	23060619-003	W	95760	204123	06/07/2023 08:45	06/07/2023 12:12
	95760-1-BKS	BKS	95760-1-BKS	W	95760	204123	06/07/2023 08:45	06/07/2023 10:17
	95760-1-BLK	BLK	95760-1-BLK	W	95760	204123	06/07/2023 08:45	06/07/2023 09:54
	GTA-TC-2 S	MS	23060619-001 S	W	95760	204123	06/07/2023 08:45	06/07/2023 11:26
	GTA-TC-2 SD	MSD	23060619-001 S	W	95760	204123	06/07/2023 08:45	06/07/2023 11:49
	GTA-TC-2	Initial	23060619-002	S	95766	204124	06/07/2023 11:38	06/07/2023 13:20
	GTA-TC-4	Initial	23060619-004	S	95766	204124	06/07/2023 11:38	06/07/2023 14:29
	95766-1-BKS	BKS	95766-1-BKS	S	95766	204124	06/07/2023 11:38	06/07/2023 12:58
	95766-1-BLK	BLK	95766-1-BLK	S	95766	204124	06/07/2023 11:38	06/07/2023 12:35
	GTA-TC-2 S	MS	23060619-002 S	S	95766	204124	06/07/2023 11:38	06/07/2023 13:43
	GTA-TC-2 SD	MSD	23060619-002 S	S	95766	204124	06/07/2023 11:38	06/07/2023 14:06
<b>SM 4500-CL G - 2011</b>	GTA-TC-2	Initial	23060619-001	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
	GTA-TC-4	Initial	23060619-003	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
	204086-1-BKS	BKS	204086-1-BKS	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
	204086-1-BLK	BLK	204086-1-BLK	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
	GTA-TC-3 D	MD	23060614-001 D	W	204086	204086	06/06/2023 18:30	06/06/2023 18:30
<b>SM 4500-CN C,E - 2016</b>	GTA-TC-2	Initial	23060619-001	W	95761	204108	06/07/2023 10:47	06/07/2023 13:48
	GTA-TC-4	Initial	23060619-003	W	95761	204108	06/07/2023 10:47	06/07/2023 13:50
	95761-1-BKS	BKS	95761-1-BKS	W	95761	204108	06/07/2023 10:47	06/07/2023 13:24

Project Name: Quantum Frederick  
PSS Project No.: 23060619

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
<b>SM 4500-CN C,E - 2016</b>	95761-1-BLK	BLK	95761-1-BLK	W	95761	204108	06/07/2023 10:47	06/07/2023 13:22
	95761-1-BSD	BSD	95761-1-BSD	W	95761	204108	06/07/2023 10:47	06/07/2023 13:26
	23060614-001 S	MS	23060614-001 S	W	95761	204108	06/07/2023 10:47	06/07/2023 13:32
	23060614-001 SD	MSD	23060614-001 S	W	95761	204108	06/07/2023 10:47	06/07/2023 13:34
<b>SM2540G</b>	GTA-TC-2	Initial	23060619-002	S	204067	204067	06/06/2023 18:59	06/06/2023 18:59
	GTA-TC-4	Initial	23060619-004	S	204067	204067	06/06/2023 18:59	06/06/2023 18:59
	204067-1-BLK	BLK	204067-1-BLK	S	204067	204067	06/06/2023 18:59	06/06/2023 18:59
	GTA-TC-3 D	MD	23060614-002 D	S	204067	204067	06/06/2023 18:59	06/06/2023 18:59
<b>SW-846 6020 B</b>	GTA-TC-2	Initial	23060619-002	S	95747	204115	06/06/2023 18:30	06/07/2023 14:14
	GTA-TC-4	Initial	23060619-004	S	95747	204115	06/06/2023 18:30	06/07/2023 14:19
	95747-1-BKS	BKS	95747-1-BKS	S	95747	204115	06/06/2023 18:30	06/07/2023 13:11
	95747-1-BLK	BLK	95747-1-BLK	S	95747	204115	06/06/2023 18:30	06/07/2023 13:06
	Batch 444 S	MS	23060606-001 S	S	95747	204115	06/06/2023 18:30	06/07/2023 13:20
	Batch 444 SD	MSD	23060606-001 S	S	95747	204115	06/06/2023 18:30	06/07/2023 13:25
	95747-1-BKS	Reanalysis	95747-1-BKS	S	95747	204146	06/06/2023 18:30	06/07/2023 18:52
	95747-1-BLK	Reanalysis	95747-1-BLK	S	95747	204146	06/06/2023 18:30	06/07/2023 18:48
	Batch 444 S	Reanalysis	23060606-001 S	S	95747	204146	06/06/2023 18:30	06/07/2023 19:01
	Batch 444 SD	Reanalysis	23060606-001 S	S	95747	204146	06/06/2023 18:30	06/07/2023 19:05
	GTA-TC-2	Reanalysis	23060619-002	S	95747	204146	06/06/2023 18:30	06/07/2023 19:36
	GTA-TC-4	Reanalysis	23060619-004	S	95747	204146	06/06/2023 18:30	06/07/2023 19:40
<b>SW-846 8082 A</b>	95724-1-BKS	BKS	95724-1-BKS	S	95724	204073	06/05/2023 21:00	06/06/2023 16:37
	95724-1-BLK	BLK	95724-1-BLK	S	95724	204073	06/05/2023 21:00	06/06/2023 16:09
	95724-1-BSD	BSD	95724-1-BSD	S	95724	204073	06/05/2023 21:00	06/06/2023 17:05
	Batch 443 S	MS	23060503-001 S	S	95724	204073	06/05/2023 21:00	06/06/2023 18:02
	Batch 443 SD	MSD	23060503-001 S	S	95724	204073	06/05/2023 21:00	06/06/2023 18:30
	GTA-TC-2	Initial	23060619-002	S	95724	204078	06/06/2023 17:23	06/07/2023 09:00
	GTA-TC-4	Initial	23060619-004	S	95724	204078	06/06/2023 17:23	06/07/2023 09:28
	<b>SW-846 8260 D</b>	GTA-TC-2	Initial	23060619-001	W	95770	204103	06/07/2023 09:05
GTA-TC-4		Initial	23060619-003	W	95770	204103	06/07/2023 09:05	06/07/2023 11:33
95770-1-BKS		BKS	95770-1-BKS	W	95770	204103	06/07/2023 09:05	06/07/2023 09:05
95770-1-BLK		BLK	95770-1-BLK	W	95770	204103	06/07/2023 09:05	06/07/2023 10:48
GTA-TC-2 S		MS	23060619-001 S	W	95770	204103	06/07/2023 09:05	06/07/2023 12:21
GTA-TC-2 SD		MSD	23060619-001 S	W	95770	204103	06/07/2023 09:05	06/07/2023 12:44
GTA-TC-2		Initial	23060619-002	S	95772	204112	06/07/2023 09:05	06/07/2023 13:34
GTA-TC-4		Initial	23060619-004	S	95772	204112	06/07/2023 09:05	06/07/2023 13:56
95772-1-BKS		BKS	95772-1-BKS	S	95772	204112	06/07/2023 09:05	06/07/2023 10:14
95772-1-BLK		BLK	95772-1-BLK	S	95772	204112	06/07/2023 09:05	06/07/2023 12:27
95772-1-BSD		BSD	95772-1-BSD	S	95772	204112	06/07/2023 09:05	06/07/2023 10:36
13842-Comp-1ft S		MS	23060515-001 S	S	95772	204112	06/07/2023 09:05	06/07/2023 10:58
13842-Comp-1ft SD		MSD	23060515-001 S	S	95772	204112	06/07/2023 09:05	06/07/2023 11:20
<b>SW-846 9014</b>		GTA-TC-2	Initial	23060619-002	S	95767	204122	06/07/2023 12:28
	GTA-TC-4	Initial	23060619-004	S	95767	204122	06/07/2023 12:28	06/07/2023 14:57
	95767-1-BKS	BKS	95767-1-BKS	S	95767	204122	06/07/2023 12:28	06/07/2023 14:48

**Lab Chronology**

Project Name: Quantum Frederick  
 PSS Project No.: 23060619

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
<b>SW-846 9014</b>	95767-1-BLK	BLK	95767-1-BLK	S	95767	204122	06/07/2023 12:28	06/07/2023 14:46
	95767-1-BSD	BSD	95767-1-BSD	S	95767	204122	06/07/2023 12:28	06/07/2023 14:50
	23060619-002 S	MS	23060619-002 S	S	95767	204122	06/07/2023 12:28	06/07/2023 14:53
	23060619-002 SD	MSD	23060619-002 S	S	95767	204122	06/07/2023 12:28	06/07/2023 14:55

Project Name Quantum Frederick  
PSS Project No.: 23060619

**Analytical Method: SM 4500-CL G -2011**

Seq Number: 204086 Matrix: Water  
MB Sample Id: 204086-1-BLK LCS Sample Id: 204086-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total Chlorine	<0.2000	1.000	1.079	108	90-110	mg/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204108 Matrix: Water Prep Method: SM4500CN-CPRE  
MB Sample Id: 95761-1-BLK LCS Sample Id: 95761-1-BKS Date Prep: 06/07/23  
LCSD Sample Id: 95761-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Cyanide, Total	<0.01000	0.1000	0.1048	105	0.1061	106	83-117	1	20	mg/L	

**Analytical Method: SW-846 9014**

Seq Number: 204122 Matrix: Solid Prep Method: SW9010C  
MB Sample Id: 95767-1-BLK LCS Sample Id: 95767-1-BKS Date Prep: 06/07/23  
LCSD Sample Id: 95767-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Cyanide, Total	<0.05505	0.5660	0.5748	102	0.6059	102	87-115	5	25	mg/kg	

**Analytical Method: SW-846 9014**

Seq Number: 204122 Matrix: Soil Prep Method: SW9010C  
Parent Sample Id: 23060619-002 MS Sample Id: 23060619-002 S Date Prep: 06/07/23  
MSD Sample Id: 23060619-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Cyanide, Total	0.1581	0.9109	0.9897	91	0.9994	100	68-118	1	25	mg/kg	

**Analytical Method: EPA 200.8**

Seq Number: 204119 Matrix: Water Prep Method: E200.8\_PREP  
MB Sample Id: 95750-1-BLK LCS Sample Id: 95750-1-BKS Date Prep: 06/06/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<5.000	25.00	23.16	93	85-115	ug/L	
Arsenic	<1.000	50.00	47.51	95	85-115	ug/L	
Beryllium	<1.000	50.00	49.79	100	85-115	ug/L	
Cadmium	<1.000	50.00	45.85	92	85-115	ug/L	
Chromium	<1.000	50.00	46.88	94	85-115	ug/L	
Copper	<1.000	50.00	47.99	96	85-115	ug/L	
Mercury	<0.2000	1.000	1.025	103	85-115	ug/L	
Nickel	1.814	50.00	46.85	94	85-115	ug/L	
Selenium	<1.000	50.00	49.31	99	85-115	ug/L	
Silver	<1.000	5.000	4.802	96	85-115	ug/L	
Thallium	<1.000	50.00	45.90	92	85-115	ug/L	
Zinc	<20.00	100	92.49	92	85-115	ug/L	

Project Name Quantum Frederick  
PSS Project No.: 23060619

**Analytical Method: EPA 200.8**

Seq Number: 204142 Matrix: Water  
MB Sample Id: 95750-1-BLK LCS Sample Id: 95750-1-BKS

Prep Method: E200.8\_PREP  
Date Prep: 06/06/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Lead	<1.000	50.00	47.01	94	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204116 Matrix: Water  
MB Sample Id: 95757-1-BLK LCS Sample Id: 95757-1-BKS

Prep Method: E200.8\_PREP  
Date Prep: 06/07/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<5.000	25.00	22.81	91	85-115	ug/L	
Arsenic	<1.000	50.00	47.21	94	85-115	ug/L	
Beryllium	<1.000	50.00	48.07	96	85-115	ug/L	
Cadmium	<1.000	50.00	45.32	91	85-115	ug/L	
Chromium	<1.000	50.00	45.96	92	85-115	ug/L	
Copper	<1.000	50.00	46.49	93	85-115	ug/L	
Mercury	<0.2000	1.000	1.018	102	85-115	ug/L	
Nickel	<1.000	50.00	45.76	92	85-115	ug/L	
Selenium	<1.000	50.00	47.90	96	85-115	ug/L	
Silver	<1.000	5.000	4.696	94	85-115	ug/L	
Thallium	<1.000	50.00	44.83	90	85-115	ug/L	
Zinc	<20.00	100	91.93	92	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143 Matrix: Water  
MB Sample Id: 95757-1-BLK LCS Sample Id: 95757-1-BKS

Prep Method: E200.8\_PREP  
Date Prep: 06/07/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Lead	<1.000	50.00	47.74	95	85-115	ug/L	

**Analytical Method: EPA 300.0**

Seq Number: 204123 Matrix: Water  
MB Sample Id: 95760-1-BLK LCS Sample Id: 95760-1-BKS

Prep Method: E300.0P  
Date Prep: 06/07/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Fluoride	<0.2500	2.500	2.614	105	90-110	mg/kg	

**Analytical Method: EPA 300.0**

Seq Number: 204124 Matrix: Solid  
MB Sample Id: 95766-1-BLK LCS Sample Id: 95766-1-BKS

Prep Method: E300.0P  
Date Prep: 06/07/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Fluoride	<2.525	2.538	2.538	100	90-110	mg/kg	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: EPA 300.0**

Seq Number: 204123

Parent Sample Id: 23060619-001

Matrix: Surface Water

MS Sample Id: 23060619-001 S

Prep Method: E300.0P

Date Prep: 06/07/23

MSD Sample Id: 23060619-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Fluoride	<0.2500	2.500	2.797	112	2.813	113	90-121	1	20	mg/kg	

**Analytical Method: EPA 300.0**

Seq Number: 204124

Parent Sample Id: 23060619-002

Matrix: Soil

MS Sample Id: 23060619-002 S

Prep Method: E300.0P

Date Prep: 06/07/23

MSD Sample Id: 23060619-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Fluoride	<3.509	3.581	3.713	104	3.618	101	14-98	3	20	mg/kg	X

**Analytical Method: SW-846 6020 B**

Seq Number: 204115

MB Sample Id: 95747-1-BLK

Matrix: Solid

LCS Sample Id: 95747-1-BKS

Prep Method: SW3050B

Date Prep: 06/06/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<2.135	11.05	10.60	96	80-120	mg/kg	
Arsenic	<0.4269	22.11	21.40	97	80-120	mg/kg	
Beryllium	<0.4269	22.11	23.72	107	80-120	mg/kg	
Cadmium	<0.4269	22.11	20.64	93	80-120	mg/kg	
Chromium	<0.4269	22.11	21.11	95	80-120	mg/kg	
Copper	<0.4269	22.11	21.12	96	80-120	mg/kg	
Mercury	<0.08539	0.4421	0.4629	105	80-120	mg/kg	
Nickel	<0.4269	22.11	20.93	95	80-120	mg/kg	
Selenium	<0.4269	22.11	21.44	97	80-120	mg/kg	
Silver	<0.4269	2.211	2.187	99	80-120	mg/kg	
Thallium	<0.4269	22.11	20.91	95	80-120	mg/kg	
Zinc	<8.539	44.21	40.67	92	80-120	mg/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204146

MB Sample Id: 95747-1-BLK

Matrix: Solid

LCS Sample Id: 95747-1-BKS

Prep Method: SW3050B

Date Prep: 06/06/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Lead	<0.4269	22.11	21.51	97	80-120	mg/kg	

Project Name Quantum Frederick  
PSS Project No.: 23060619

**Analytical Method: SW-846 8082 A**

Seq Number: 204073

MB Sample Id: 95724-1-BLK

Matrix: Solid

LCS Sample Id: 95724-1-BKS

Prep Method: SW3550C

Date Prep: 06/05/23

LCSD Sample Id: 95724-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
PCB-1016	<0.05030	0.4965	0.4687	94	0.4648	93	60-105	1	25	mg/kg	
PCB-1260	<0.05030	0.4965	0.5113	103	0.5094	102	60-120	0	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Decachlorobiphenyl	113		123		123		48-145	%
Tetrachloro-m-xylene	92		94		92		43-117	%



Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 204112

Matrix: Solid

Prep Method: SW5030

Date Prep: 06/07/23

MB Sample Id: 95772-1-BLK

LCS Sample Id: 95772-1-BKS

LCSD Sample Id: 95772-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acetone	<0.02000	0.06000	0.06553	109	0.06281	105	40-147	4	25	mg/kg	
Benzene	<0.001000	0.06000	0.06121	102	0.06146	102	85-118	0	25	mg/kg	
Bromochloromethane	<0.001000	0.06000	0.05465	91	0.05709	95	84-121	4	25	mg/kg	
Bromodichloromethane	<0.001000	0.06000	0.05751	96	0.05878	98	88-121	2	25	mg/kg	
Bromoform	<0.001000	0.06000	0.05643	94	0.05282	88	78-129	7	25	mg/kg	
Bromomethane	<0.001000	0.06000	0.05010	84	0.04905	82	66-117	2	25	mg/kg	
2-Butanone (MEK)	<0.005000	0.06000	0.06408	107	0.06641	111	62-115	4	25	mg/kg	
Carbon Disulfide	<0.001000	0.06000	0.05996	100	0.06092	102	79-128	2	25	mg/kg	
Carbon tetrachloride	<0.001000	0.06000	0.06146	102	0.06070	101	87-121	1	25	mg/kg	
Chlorobenzene	<0.001000	0.06000	0.06351	106	0.05847	97	85-119	8	25	mg/kg	
Chloroethane	<0.001000	0.06000	0.06011	100	0.05482	91	75-115	9	25	mg/kg	
Chloroform	<0.005000	0.06000	0.05740	96	0.05931	99	82-116	3	25	mg/kg	
Chloromethane	<0.001000	0.06000	0.05608	93	0.05475	91	69-124	2	25	mg/kg	
Cyclohexane	<0.001000	0.06000	0.06301	105	0.06308	105	72-132	0	25	mg/kg	
1,2-Dibromo-3-chloropropane	<0.001000	0.06000	0.05768	96	0.05398	90	64-141	7	25	mg/kg	
Dibromochloromethane	<0.001000	0.06000	0.05966	99	0.05726	95	87-122	4	25	mg/kg	
1,2-Dibromoethane	<0.001000	0.06000	0.05836	97	0.05701	95	87-117	2	25	mg/kg	
1,2-Dichlorobenzene	<0.001000	0.06000	0.05869	98	0.05861	98	83-121	0	25	mg/kg	
1,3-Dichlorobenzene	<0.001000	0.06000	0.06223	104	0.05734	96	84-121	8	25	mg/kg	
1,4-Dichlorobenzene	<0.001000	0.06000	0.05999	100	0.05901	98	84-121	2	25	mg/kg	
Dichlorodifluoromethane	<0.001000	0.06000	0.06457	108	0.06192	103	56-134	4	25	mg/kg	
1,1-Dichloroethane	<0.001000	0.06000	0.05937	99	0.06168	103	83-120	4	25	mg/kg	
1,2-Dichloroethane	<0.001000	0.06000	0.05594	93	0.05860	98	85-118	5	25	mg/kg	
1,1-Dichloroethene	<0.001000	0.06000	0.05991	100	0.06033	101	83-122	1	25	mg/kg	
1,2-Dichloropropane	<0.001000	0.06000	0.06014	100	0.05978	100	84-120	1	25	mg/kg	
cis-1,2-Dichloroethene	<0.001000	0.06000	0.06027	100	0.06170	103	84-120	2	25	mg/kg	
cis-1,3-Dichloropropene	<0.001000	0.06000	0.06178	103	0.06149	102	84-120	0	25	mg/kg	
trans-1,2-Dichloroethene	<0.001000	0.06000	0.06078	101	0.06200	103	84-121	2	25	mg/kg	
trans-1,3-Dichloropropene	<0.001000	0.06000	0.06121	102	0.06140	102	80-123	0	25	mg/kg	
Ethylbenzene	<0.001000	0.06000	0.06742	112	0.06212	104	87-121	8	25	mg/kg	
2-Hexanone (MBK)	<0.001000	0.06000	0.06934	116	0.06716	112	72-119	3	25	mg/kg	
Isopropylbenzene	<0.001000	0.06000	0.06435	107	0.06348	106	85-121	1	25	mg/kg	
Methyl Acetate	<0.02500	0.06000	0.05382	90	0.05408	90	75-123	0	25	mg/kg	
Methylcyclohexane	<0.001000	0.06000	0.06435	107	0.06546	109	84-123	2	25	mg/kg	
Methylene chloride	<0.005000	0.06000	0.05319	89	0.05543	92	81-117	4	25	mg/kg	
4-Methyl-2-Pentanone (MIBK)	<0.001000	0.06000	0.05756	96	0.05852	98	75-118	2	25	mg/kg	
Methyl-t-Butyl Ether	<0.001000	0.06000	0.06569	109	0.06202	103	74-122	6	25	mg/kg	
Naphthalene	<0.001000	0.06000	0.07732	129	0.07198	120	77-120	7	25	mg/kg	H
Styrene	<0.001000	0.06000	0.06245	104	0.06142	102	83-124	2	25	mg/kg	
1,1,2,2-Tetrachloroethane	<0.001000	0.06000	0.05727	95	0.05564	93	75-123	3	25	mg/kg	
Tetrachloroethene	<0.001000	0.06000	0.06116	102	0.06160	103	82-119	1	25	mg/kg	
Toluene	<0.001000	0.06000	0.06231	104	0.06179	103	84-118	1	25	mg/kg	
1,2,3-Trichlorobenzene	<0.001000	0.06000	0.07587	126	0.07508	125	76-127	1	25	mg/kg	
1,2,4-Trichlorobenzene	<0.001000	0.06000	0.07402	123	0.06924	115	82-131	7	25	mg/kg	
1,1,1-Trichloroethane	<0.001000	0.06000	0.06489	108	0.06358	106	84-121	2	25	mg/kg	
1,1,2-Trichloroethane	<0.001000	0.06000	0.05696	95	0.05766	96	83-118	1	25	mg/kg	
Trichloroethene	<0.001000	0.06000	0.06193	103	0.06014	100	85-118	3	25	mg/kg	
Trichlorofluoromethane	<0.001000	0.06000	0.06117	102	0.06133	102	81-121	0	25	mg/kg	
1,1,2-Trichlorotrifluoroethane	<0.001000	0.06000	0.06082	101	0.06087	101	83-122	0	25	mg/kg	
1,2,4-Trimethylbenzene	<0.001000	0.06000	0.06406	107	0.06547	109	87-121	2	25	mg/kg	
1,3,5-Trimethylbenzene	<0.001000	0.06000	0.06823	114	0.06494	108	85-120	5	25	mg/kg	

Project Name Quantum Frederick  
PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 204112

MB Sample Id: 95772-1-BLK

Matrix: Solid

LCS Sample Id: 95772-1-BKS

Prep Method: SW5030

Date Prep: 06/07/23

LCSD Sample Id: 95772-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Vinyl chloride	<0.005000	0.06000	0.06629	110	0.06701	112	69-129	1	25	mg/kg	
m&p-Xylene	<0.002000	0.1200	0.1291	108	0.1245	104	86-123	4	25	mg/kg	
o-Xylene	<0.001000	0.06000	0.06408	107	0.06015	100	84-121	6	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
4-Bromofluorobenzene	109		100		96		89-111	%
Dibromofluoromethane	92		97		98		91-108	%
Toluene-D8	94		94		101		93-104	%

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 204103

Matrix: Water

Prep Method: SW5030B

Date Prep: 06/07/23

MB Sample Id: 95770-1-BLK

LCS Sample Id: 95770-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acetone	<5.000	50.00	57.86	116	49-154	ug/L	
Benzene	<1.000	50.00	52.62	105	76-112	ug/L	
Bromochloromethane	<1.000	50.00	47.82	96	74-119	ug/L	
Bromodichloromethane	<1.000	50.00	55.25	111	78-117	ug/L	
Bromoform	<1.000	50.00	50.80	102	69-123	ug/L	
Bromomethane	<1.000	50.00	45.63	91	42-118	ug/L	
2-Butanone (MEK)	<5.000	50.00	61.31	123	55-136	ug/L	
Carbon Disulfide	<1.000	50.00	57.69	115	80-124	ug/L	
Carbon tetrachloride	<1.000	50.00	48.72	97	77-119	ug/L	
Chlorobenzene	<1.000	50.00	50.51	101	76-114	ug/L	
Chloroethane	<1.000	50.00	58.89	118	61-113	ug/L	H
Chloroform	<1.000	50.00	51.79	104	75-113	ug/L	
Chloromethane	<1.000	50.00	57.39	115	41-148	ug/L	
Cyclohexane	<1.000	50.00	57.31	115	76-135	ug/L	
1,2-Dibromo-3-chloropropane	<1.000	50.00	54.41	109	52-131	ug/L	
Dibromochloromethane	<1.000	50.00	50.49	101	79-121	ug/L	
1,2-Dibromoethane	<1.000	50.00	51.51	103	77-119	ug/L	
1,2-Dichlorobenzene	<1.000	50.00	49.59	99	75-121	ug/L	
1,3-Dichlorobenzene	<1.000	50.00	49.75	100	77-120	ug/L	
Dichlorodifluoromethane	<1.000	50.00	59.22	118	49-122	ug/L	
1,4-Dichlorobenzene	<1.000	50.00	49.74	99	76-118	ug/L	
1,1-Dichloroethane	<1.000	50.00	56.01	112	75-118	ug/L	
1,2-Dichloroethane	<1.000	50.00	52.41	105	72-115	ug/L	
cis-1,2-Dichloroethene	<1.000	50.00	49.11	98	75-119	ug/L	
1,1-Dichloroethene	<1.000	50.00	45.22	90	74-119	ug/L	
1,2-Dichloropropane	<1.000	50.00	56.93	114	76-115	ug/L	
cis-1,3-Dichloropropene	<1.000	50.00	53.72	107	83-122	ug/L	
trans-1,3-Dichloropropene	<1.000	50.00	48.05	96	76-118	ug/L	
trans-1,2-Dichloroethene	<1.000	50.00	48.60	97	73-121	ug/L	
Ethylbenzene	<1.000	50.00	53.62	107	78-118	ug/L	
2-Hexanone (MBK)	<5.000	50.00	70.16	140	55-136	ug/L	H
Isopropylbenzene	<1.000	50.00	53.58	107	76-126	ug/L	
Methyl Acetate	<1.000	50.00	48.44	97	61-117	ug/L	
Methylcyclohexane	<1.000	50.00	49.38	99	82-126	ug/L	
Methylene chloride	<1.000	50.00	52.64	105	75-113	ug/L	
4-Methyl-2-Pentanone (MIBK)	<5.000	50.00	67.04	134	57-127	ug/L	H
Methyl-t-Butyl Ether	<1.000	50.00	48.46	97	71-114	ug/L	
Naphthalene	<1.000	50.00	50.19	100	60-122	ug/L	
Styrene	<1.000	50.00	53.00	106	81-124	ug/L	
1,1,2,2-Tetrachloroethane	<1.000	50.00	58.58	117	66-123	ug/L	
Tetrachloroethene	<1.000	50.00	45.39	91	76-123	ug/L	
Toluene	<1.000	50.00	50.37	101	77-112	ug/L	
1,2,3-Trichlorobenzene	<1.000	50.00	44.82	90	73-129	ug/L	
1,2,4-Trichlorobenzene	<1.000	50.00	45.08	90	73-130	ug/L	
1,1,1-Trichloroethane	<1.000	50.00	48.07	96	79-118	ug/L	
Trichloroethene	<1.000	50.00	48.57	97	77-112	ug/L	
1,1,2-Trichloroethane	<1.000	50.00	53.13	106	75-115	ug/L	
Trichlorofluoromethane	<1.000	50.00	48.82	98	74-125	ug/L	
1,1,2-Trichlorotrifluoroethane	<1.000	50.00	44.92	90	77-123	ug/L	
1,2,4-Trimethylbenzene	<1.000	50.00	52.74	105	76-127	ug/L	
1,3,5-Trimethylbenzene	<1.000	50.00	52.42	105	76-126	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 204103

MB Sample Id: 95770-1-BLK

Matrix: Water

LCS Sample Id: 95770-1-BKS

Prep Method: SW5030B

Date Prep: 06/07/23

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Vinyl chloride	<1.000	50.00	59.98	120	53-151	ug/L	
m&p-Xylene	<2.000	100	102.6	103	79-121	ug/L	
o-Xylene	<1.000	50.00	50.92	102	78-122	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
4-Bromofluorobenzene	112		108		88-120	%
Dibromofluoromethane	98		99		92-107	%
Toluene-D8	98		100		95-106	%

Project Name Quantum Frederick  
PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 204103

Parent Sample Id: 23060619-001

Matrix: Surface Water

MS Sample Id: 23060619-001 S

Prep Method: SW5030B

Date Prep: 06/07/23

MSD Sample Id: 23060619-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Acetone	<5.000	50.00	28.13	56	26.62	53	32-96	6	25	ug/L	
Benzene	<1.000	50.00	50.31	101	46.30	93	73-114	8	25	ug/L	
Bromochloromethane	<1.000	50.00	42.76	86	40.46	81	70-114	6	25	ug/L	
Bromodichloromethane	<1.000	50.00	49.65	99	46.10	92	71-118	7	25	ug/L	
Bromoform	<1.000	50.00	42.70	85	41.63	83	59-127	3	25	ug/L	
Bromomethane	<1.000	50.00	42.92	86	39.58	79	26-131	8	25	ug/L	
2-Butanone (MEK)	<5.000	50.00	39.19	78	37.32	75	45-109	5	25	ug/L	
Carbon Disulfide	<1.000	50.00	53.90	108	49.05	98	71-130	9	25	ug/L	
Carbon tetrachloride	<1.000	50.00	45.16	90	41.43	83	74-119	9	25	ug/L	
Chlorobenzene	<1.000	50.00	45.94	92	43.42	87	73-115	6	25	ug/L	
Chloroethane	<1.000	50.00	53.03	106	48.49	97	60-124	9	25	ug/L	
Chloroform	<1.000	50.00	47.71	95	44.08	88	70-113	8	25	ug/L	
Chloromethane	<1.000	50.00	54.12	108	48.03	96	32-170	12	25	ug/L	
Cyclohexane	<1.000	50.00	63.28	127	56.16	112	64-144	12	25	ug/L	
1,2-Dibromo-3-chloropropane	<1.000	50.00	44.32	89	43.79	88	48-140	1	25	ug/L	
Dibromochloromethane	<1.000	50.00	44.17	88	42.10	84	73-120	5	25	ug/L	
1,2-Dibromoethane	<1.000	50.00	44.78	90	43.47	87	71-119	3	25	ug/L	
1,2-Dichlorobenzene	<1.000	50.00	45.12	90	42.73	85	68-122	5	25	ug/L	
1,3-Dichlorobenzene	<1.000	50.00	45.40	91	42.63	85	69-122	6	25	ug/L	
Dichlorodifluoromethane	<1.000	50.00	55.46	111	49.49	99	61-118	11	25	ug/L	
1,4-Dichlorobenzene	<1.000	50.00	45.58	91	42.79	86	68-120	6	25	ug/L	
1,1-Dichloroethane	<1.000	50.00	51.54	103	47.57	95	68-122	8	25	ug/L	
1,2-Dichloroethane	<1.000	50.00	47.36	95	44.20	88	61-120	7	25	ug/L	
cis-1,2-Dichloroethene	<1.000	50.00	45.37	91	42.16	84	71-116	7	25	ug/L	
1,1-Dichloroethene	<1.000	50.00	42.65	85	38.65	77	69-120	10	25	ug/L	
1,2-Dichloropropane	<1.000	50.00	51.81	104	48.02	96	69-119	8	25	ug/L	
cis-1,3-Dichloropropene	<1.000	50.00	47.73	95	44.68	89	72-123	7	25	ug/L	
trans-1,3-Dichloropropene	<1.000	50.00	42.29	85	40.09	80	67-123	5	25	ug/L	
trans-1,2-Dichloroethene	<1.000	50.00	45.86	92	42.10	84	70-118	9	25	ug/L	
Ethylbenzene	<1.000	50.00	52.76	106	49.35	99	74-121	7	25	ug/L	
2-Hexanone (MBK)	<5.000	50.00	54.74	109	51.15	102	44-131	7	25	ug/L	
Isopropylbenzene	<1.000	50.00	49.13	98	45.71	91	68-131	7	25	ug/L	
Methyl Acetate	<1.000	50.00	42.59	85	40.36	81	55-117	5	25	ug/L	
Methylcyclohexane	<1.000	50.00	52.42	105	45.93	92	71-126	13	25	ug/L	
Methylene chloride	<1.000	50.00	47.35	95	44.31	89	72-114	7	25	ug/L	
4-Methyl-2-Pentanone (MIBK)	<5.000	50.00	60.22	120	56.76	114	49-133	6	25	ug/L	
Methyl-t-Butyl Ether	<1.000	50.00	41.50	83	39.96	80	67-112	4	25	ug/L	
Naphthalene	<1.000	50.00	44.16	88	43.03	86	53-128	3	25	ug/L	
Styrene	<1.000	50.00	48.48	97	45.52	91	75-126	6	25	ug/L	
1,1,2,2-Tetrachloroethane	<1.000	50.00	48.18	96	47.34	95	61-125	2	25	ug/L	
Tetrachloroethene	<1.000	50.00	43.30	87	39.00	78	71-121	10	25	ug/L	
Toluene	<1.000	50.00	60.63	121	55.77	112	71-115	8	25	ug/L	X
1,2,3-Trichlorobenzene	<1.000	50.00	41.03	82	38.61	77	60-124	6	25	ug/L	
1,2,4-Trichlorobenzene	<1.000	50.00	41.97	84	39.33	79	57-126	6	25	ug/L	
1,1,1-Trichloroethane	<1.000	50.00	44.56	89	41.16	82	72-121	8	25	ug/L	
Trichloroethene	<1.000	50.00	46.83	94	42.54	85	72-115	10	25	ug/L	
1,1,2-Trichloroethane	<1.000	50.00	46.70	93	44.29	89	70-114	5	25	ug/L	
Trichlorofluoromethane	<1.000	50.00	46.30	93	41.13	82	66-130	12	25	ug/L	
1,1,2-Trichlorotrifluoroethane	<1.000	50.00	43.66	87	38.35	77	71-121	13	25	ug/L	
1,2,4-Trimethylbenzene	<1.000	50.00	54.23	108	50.73	101	66-133	7	25	ug/L	
1,3,5-Trimethylbenzene	<1.000	50.00	49.56	99	46.20	92	66-133	7	25	ug/L	

Project Name Quantum Frederick  
PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 204103

Parent Sample Id: 23060619-001

Matrix: Surface Water

MS Sample Id: 23060619-001 S

Prep Method: SW5030B

Date Prep: 06/07/23

MSD Sample Id: 23060619-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Vinyl chloride	<1.000	50.00	62.58	125	45.11	90	40-160	32	25	ug/L	F
m&p-Xylene	<2.000	100	107.4	107	99.58	100	73-125	8	25	ug/L	
o-Xylene	<1.000	50.00	51.22	102	48.20	96	71-126	6	25	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
4-Bromofluorobenzene	105		105		88-120	%
Dibromofluoromethane	98		99		92-107	%
Toluene-D8	100		100		95-106	%

F = RPD exceeded the laboratory control limits  
 X = Recovery of MS, MSD or both outside of QC Criteria  
 H= Recovery of BS,BSD or both exceeded the laboratory control limits  
 L = Recovery of BS,BSD or both below the laboratory control limits

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SM 4500-CL G -2011**

Seq Number: 204086

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/06/23 18:30

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Total Chlorine	1.000	1.079	108	90-110	mg/L	

**Analytical Method: SM 4500-CL G -2011**

Seq Number: 204086

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/06/23 18:30

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Total Chlorine	1.637	1.612	98	90-110	mg/L	

**Analytical Method: SM 4500-CL G -2011**

Seq Number: 181400

Matrix: Water

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 01/12/21 15:18

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Total Chlorine	1.000	1.100	110	90-110	mg/L	

**Analytical Method: SM 4500-CL G -2011**

Seq Number: 204086

Matrix: Water

Parent Sample Id: MRL-01

MRL Sample Id: MRL-01

Analyzed Date: 06/06/23 18:30

Parameter	Spike Amount	MRL Result	MRL %Rec	Limits	Units	Flag
Total Chlorine	0.2000	0.2220	111	50-150	mg/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204100

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/06/23 13:32

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	102	102	90-110	ug/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204100

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/07/23 13:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	105.3	105	90-110	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204108

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/07/23 13:42

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	103.8	104	90-110	ug/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204108

Matrix: Water

CCV Sample Id: CCV-03

Analyzed Date: 06/07/23 13:56

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	106.6	107	90-110	ug/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204096

Matrix: Water

Parent Sample Id: ICV

ICV Sample Id: ICV

Analyzed Date: 06/06/23 13:15

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Cyanide, Total	100	100.5	101	90-110	ug/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204100

Matrix: Water

Parent Sample Id: MRL-01

MRL Sample Id: MRL-01

Analyzed Date: 06/06/23 13:25

Parameter	Spike Amount	MRL Result	MRL %Rec	Limits	Units	Flag
Cyanide, Total	10.00	11.92	119	50-150	ug/L	

**Analytical Method: SM 4500-CN C,E -2016**

Seq Number: 204108

Matrix: Water

Parent Sample Id: MRL-01

MRL Sample Id: MRL-01

Analyzed Date: 06/07/23 13:28

Parameter	Spike Amount	MRL Result	MRL %Rec	Limits	Units	Flag
Cyanide, Total	10.00	12.70	127	50-150	ug/L	

**Analytical Method: SW-846 9014**

Seq Number: 204122

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/07/23 14:42

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	100.2	100	90-110	ug/L	



Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 9014**

Seq Number: 204122

Matrix: Water

CCV Sample Id: CCV

Analyzed Date: 06/07/23 14:59

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	101.7	102	90-110	ug/L	

**Analytical Method: SW-846 9014**

Seq Number: 204099

Matrix: Solid

Parent Sample Id: ICV

ICV Sample Id: ICV

Analyzed Date: 06/06/23 13:15

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Cyanide, Total	100	100.5	101	85-115	ug/kg	

**Analytical Method: EPA 200.8**

Seq Number: 204119

Matrix: Water

CCV Sample Id: CCV 1

Analyzed Date: 06/07/23 11:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.75	98	85-115	ug/L	
Arsenic	100	98.47	98	85-115	ug/L	
Beryllium	100	103.5	104	85-115	ug/L	
Cadmium	100	95.33	95	85-115	ug/L	
Chromium	100	96.34	96	85-115	ug/L	
Copper	100	96.98	97	85-115	ug/L	
Mercury	1.000	1.032	103	85-115	ug/L	
Nickel	100	95.88	96	85-115	ug/L	
Selenium	100	101.9	102	85-115	ug/L	
Silver	10.00	10.08	101	85-115	ug/L	
Thallium	100	101.1	101	85-115	ug/L	
Zinc	200	191.4	96	85-115	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: EPA 200.8**

Seq Number: 204119

Matrix: Water

CCV Sample Id: CCV 2

Analyzed Date: 06/07/23 12:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.83	98	85-115	ug/L	
Arsenic	100	98.30	98	85-115	ug/L	
Beryllium	100	108.3	108	85-115	ug/L	
Cadmium	100	95.75	96	85-115	ug/L	
Chromium	100	96.81	97	85-115	ug/L	
Copper	100	97.47	97	85-115	ug/L	
Mercury	1.000	1.030	103	85-115	ug/L	
Nickel	100	95.81	96	85-115	ug/L	
Selenium	100	101.9	102	85-115	ug/L	
Silver	10.00	9.995	100	85-115	ug/L	
Thallium	100	101	101	85-115	ug/L	
Zinc	200	191.4	96	85-115	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204119

Matrix: Water

CCV Sample Id: CCV 3

Analyzed Date: 06/07/23 13:35

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.94	98	85-115	ug/L	
Arsenic	100	100.4	100	85-115	ug/L	
Beryllium	100	105	105	85-115	ug/L	
Cadmium	100	95.99	96	85-115	ug/L	
Chromium	100	99.08	99	85-115	ug/L	
Copper	100	99.25	99	85-115	ug/L	
Mercury	1.000	1.037	104	85-115	ug/L	
Nickel	100	97.80	98	85-115	ug/L	
Selenium	100	107.3	107	85-115	ug/L	
Silver	10.00	10.09	101	85-115	ug/L	
Thallium	100	101.9	102	85-115	ug/L	
Zinc	200	195	98	85-115	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204142

Matrix: Water

CCV Sample Id: CCV 2

Analyzed Date: 06/07/23 20:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	100.9	101	85-115	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: EPA 200.8**

Seq Number: 204142

Matrix: Water

CCV Sample Id: CCV 3

Analyzed Date: 06/07/23 21:15

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101	101	85-115	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204142

Matrix: Water

CCV Sample Id: CCV 4

Analyzed Date: 06/07/23 22:14

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101.1	101	85-115	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204119

Matrix: Water

Parent Sample Id: ICV 1

ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 10:11

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	25.00	24.80	99	90-110	ug/L	
Arsenic	50.00	51.34	103	90-110	ug/L	
Beryllium	50.00	50.87	102	90-110	ug/L	
Cadmium	50.00	49.26	99	90-110	ug/L	
Chromium	50.00	50.59	101	90-110	ug/L	
Copper	50.00	50.65	101	90-110	ug/L	
Mercury	1.000	1.033	103	90-110	ug/L	
Nickel	50.00	49.78	100	90-110	ug/L	
Selenium	50.00	52.81	106	90-110	ug/L	
Silver	5.000	5.113	102	90-110	ug/L	
Thallium	50.00	48.76	98	90-110	ug/L	
Zinc	100	100.4	100	90-110	ug/L	

**Analytical Method: EPA 200.8**

Seq Number: 204142

Matrix: Water

Parent Sample Id: ICV 1

ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 17:55

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Lead	50.00	51.12	102	90-110	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204116

Matrix: Water

CCV Sample Id: CCV 1

Analyzed Date: 06/07/23 11:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.75	98	85-115	ug/L	
Arsenic	100	98.47	98	85-115	ug/L	
Beryllium	100	103.5	104	85-115	ug/L	
Cadmium	100	95.33	95	85-115	ug/L	
Chromium	100	96.34	96	85-115	ug/L	
Copper	100	96.98	97	85-115	ug/L	
Mercury	1.000	1.032	103	85-115	ug/L	
Nickel	100	95.88	96	85-115	ug/L	
Selenium	100	101.9	102	85-115	ug/L	
Silver	10.00	10.08	101	85-115	ug/L	
Thallium	100	101.1	101	85-115	ug/L	
Zinc	200	191.4	96	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204116

Matrix: Water

CCV Sample Id: CCV 2

Analyzed Date: 06/07/23 12:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.83	98	85-115	ug/L	
Arsenic	100	98.30	98	85-115	ug/L	
Beryllium	100	108.3	108	85-115	ug/L	
Cadmium	100	95.75	96	85-115	ug/L	
Chromium	100	96.81	97	85-115	ug/L	
Copper	100	97.47	97	85-115	ug/L	
Mercury	1.000	1.030	103	85-115	ug/L	
Nickel	100	95.81	96	85-115	ug/L	
Selenium	100	101.9	102	85-115	ug/L	
Silver	10.00	9.995	100	85-115	ug/L	
Thallium	100	101	101	85-115	ug/L	
Zinc	200	191.4	96	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

CCV Sample Id: CCV 1

Analyzed Date: 06/07/23 19:22

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101.3	101	85-115	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

CCV Sample Id: CCV 2

Analyzed Date: 06/07/23 20:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	100.9	101	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

CCV Sample Id: CCV 3

Analyzed Date: 06/07/23 21:15

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101	101	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

CCV Sample Id: CCV 4

Analyzed Date: 06/07/23 22:14

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101.1	101	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

CCV Sample Id: CCV 5

Analyzed Date: 06/07/23 23:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	114.1	114	85-115	ug/L	

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204116

Matrix: Water

Parent Sample Id: ICV 1

ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 10:11

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	25.00	24.80	99	90-110	ug/L	
Arsenic	50.00	51.34	103	90-110	ug/L	
Beryllium	50.00	50.87	102	90-110	ug/L	
Cadmium	50.00	49.26	99	90-110	ug/L	
Chromium	50.00	50.59	101	90-110	ug/L	
Copper	50.00	50.65	101	90-110	ug/L	
Mercury	1.000	1.033	103	90-110	ug/L	
Nickel	50.00	49.78	100	90-110	ug/L	
Selenium	50.00	52.81	106	90-110	ug/L	
Silver	5.000	5.113	102	90-110	ug/L	
Thallium	50.00	48.76	98	90-110	ug/L	
Zinc	100	100.4	100	90-110	ug/L	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: EPA 200.8 Dissolved**

Seq Number: 204143

Matrix: Water

Parent Sample Id: ICV 1

ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 17:55

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Lead	50.00	51.12	102	90-110	ug/L	

**Analytical Method: EPA 300.0**

Seq Number: 204123

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/07/23 09:08

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Fluoride	2.500	2.562	102	90-110	mg/L	

**Analytical Method: EPA 300.0**

Seq Number: 204124

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/07/23 09:08

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Fluoride	2.500	2.562	102	90-110	mg/L	

**Analytical Method: EPA 300.0**

Seq Number: 204123

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/07/23 14:52

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Fluoride	2.500	2.554	102	90-110	mg/L	

**Analytical Method: EPA 300.0**

Seq Number: 204124

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/07/23 14:52

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Fluoride	2.500	2.554	102	90-110	mg/L	

**Analytical Method: EPA 300.0**

Seq Number: 204034

Matrix: Water

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 06/05/23 15:34

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Fluoride	2.500	2.537	101	90-110	mg/L	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: EPA 300.0**

Seq Number: 204037

Matrix: Water

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 06/05/23 15:34

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Fluoride	2.500	2.537	101	90-110	mg/L	

**Analytical Method: SW-846 6020 B**

Seq Number: 204115

Matrix: Solid

CCV Sample Id: CCV 2

Analyzed Date: 06/07/23 12:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.83	98	90-110	ug/kg	
Arsenic	100	98.30	98	90-110	ug/kg	
Beryllium	100	108.3	108	90-110	ug/kg	
Cadmium	100	95.75	96	90-110	ug/kg	
Chromium	100	96.81	97	90-110	ug/kg	
Copper	100	97.47	97	90-110	ug/kg	
Mercury	1.000	1.030	103	90-110	ug/kg	
Nickel	100	95.81	96	90-110	ug/kg	
Selenium	100	101.9	102	90-110	ug/kg	
Silver	10.00	9.995	100	90-110	ug/kg	
Thallium	100	101	101	90-110	ug/kg	
Zinc	200	191.4	96	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204115

Matrix: Solid

CCV Sample Id: CCV 3

Analyzed Date: 06/07/23 13:35

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.94	98	90-110	ug/kg	
Arsenic	100	100.4	100	90-110	ug/kg	
Beryllium	100	105	105	90-110	ug/kg	
Cadmium	100	95.99	96	90-110	ug/kg	
Chromium	100	99.08	99	90-110	ug/kg	
Copper	100	99.25	99	90-110	ug/kg	
Mercury	1.000	1.037	104	90-110	ug/kg	
Nickel	100	97.80	98	90-110	ug/kg	
Selenium	100	107.3	107	90-110	ug/kg	
Silver	10.00	10.09	101	90-110	ug/kg	
Thallium	100	101.9	102	90-110	ug/kg	
Zinc	200	195	98	90-110	ug/kg	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 6020 B**

Seq Number: 204115

Matrix: Solid

CCV Sample Id: CCV 4

Analyzed Date: 06/07/23 14:29

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	50.00	48.79	98	90-110	ug/kg	
Arsenic	100	99.79	100	90-110	ug/kg	
Beryllium	100	106.9	107	90-110	ug/kg	
Cadmium	100	95.86	96	90-110	ug/kg	
Chromium	100	98.68	99	90-110	ug/kg	
Copper	100	98.92	99	90-110	ug/kg	
Mercury	1.000	1.027	103	90-110	ug/kg	
Nickel	100	97.84	98	90-110	ug/kg	
Selenium	100	106.6	107	90-110	ug/kg	
Silver	10.00	10.09	101	90-110	ug/kg	
Thallium	100	104.5	105	90-110	ug/kg	
Zinc	200	194.1	97	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204146

Matrix: Solid

CCV Sample Id: CCV 1

Analyzed Date: 06/07/23 19:22

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101.3	101	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204146

Matrix: Solid

CCV Sample Id: CCV 2

Analyzed Date: 06/07/23 20:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	100.9	101	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204146

Matrix: Solid

CCV Sample Id: CCV 3

Analyzed Date: 06/07/23 21:15

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101	101	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204146

Matrix: Solid

CCV Sample Id: CCV 4

Analyzed Date: 06/07/23 22:14

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Lead	100	101.1	101	90-110	ug/kg	



Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 6020 B**

Seq Number: 204115

Matrix: Solid

Parent Sample Id: ICV 1

ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 10:11

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	25.00	24.80	99	90-110	ug/kg	
Arsenic	50.00	51.34	103	90-110	ug/kg	
Beryllium	50.00	50.87	102	90-110	ug/kg	
Cadmium	50.00	49.26	99	90-110	ug/kg	
Chromium	50.00	50.59	101	90-110	ug/kg	
Copper	50.00	50.65	101	90-110	ug/kg	
Mercury	1.000	1.033	103	90-110	ug/kg	
Nickel	50.00	49.78	100	90-110	ug/kg	
Selenium	50.00	52.81	106	90-110	ug/kg	
Silver	5.000	5.113	102	90-110	ug/kg	
Thallium	50.00	48.76	98	90-110	ug/kg	
Zinc	100	100.4	100	90-110	ug/kg	

**Analytical Method: SW-846 6020 B**

Seq Number: 204146

Matrix: Solid

Parent Sample Id: ICV 1

ICV Sample Id: ICV 1

Analyzed Date: 06/07/23 17:55

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Lead	50.00	51.12	102	90-110	ug/kg	

**Analytical Method: SW-846 8082 A**

Seq Number: 204073

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/06/23 07:42

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	91.82	92	80-120	ug/L	
PCB-1016	100	96.55	97	80-120	ug/L	
PCB-1016	100	98.56	99	80-120	ug/L	
PCB-1016	100	97.43	97	80-120	ug/L	
PCB-1016	100	97.44	97	80-120	ug/L	
PCB-1260	100	97.79	98	80-120	ug/L	
PCB-1260	100	98.35	98	80-120	ug/L	
PCB-1260	100	95.42	95	80-120	ug/L	
PCB-1260	100	98.48	98	80-120	ug/L	
PCB-1260	100	96.96	97	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	118	80-120	%	
Tetrachloro-m-xylene	88	80-120	%	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 8082 A**

Seq Number: 204073

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/06/23 12:53

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	91.65	92	80-120	ug/L	
PCB-1016	100	95.44	95	80-120	ug/L	
PCB-1016	100	96.58	97	80-120	ug/L	
PCB-1016	100	95.80	96	80-120	ug/L	
PCB-1016	100	95.94	96	80-120	ug/L	
PCB-1260	100	96.37	96	80-120	ug/L	
PCB-1260	100	96.25	96	80-120	ug/L	
PCB-1260	100	93.33	93	80-120	ug/L	
PCB-1260	100	95.78	96	80-120	ug/L	
PCB-1260	100	94.32	94	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	115	80-120	%	
Tetrachloro-m-xylene	88	80-120	%	

**Analytical Method: SW-846 8082 A**

Seq Number: 204073

Matrix: Water

CCV Sample Id: CCV-03

Analyzed Date: 06/06/23 17:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	88.17	88	80-120	ug/L	
PCB-1016	100	94.50	95	80-120	ug/L	
PCB-1016	100	97.15	97	80-120	ug/L	
PCB-1016	100	95.18	95	80-120	ug/L	
PCB-1016	100	95.42	95	80-120	ug/L	
PCB-1260	100	95.40	95	80-120	ug/L	
PCB-1260	100	96.37	96	80-120	ug/L	
PCB-1260	100	92.37	92	80-120	ug/L	
PCB-1260	100	95.92	96	80-120	ug/L	
PCB-1260	100	94.06	94	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	113	80-120	%	
Tetrachloro-m-xylene	85	80-120	%	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 8082 A**

Seq Number: 204073

Matrix: Water

CCV Sample Id: CCV-04

Analyzed Date: 06/07/23 07:31

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	88.18	88	80-120	ug/L	
PCB-1016	100	93.38	93	80-120	ug/L	
PCB-1016	100	95.69	96	80-120	ug/L	
PCB-1016	100	94.04	94	80-120	ug/L	
PCB-1016	100	94.77	95	80-120	ug/L	
PCB-1260	100	94.07	94	80-120	ug/L	
PCB-1260	100	94.55	95	80-120	ug/L	
PCB-1260	100	91.75	92	80-120	ug/L	
PCB-1260	100	94.57	95	80-120	ug/L	
PCB-1260	100	93.17	93	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	112	80-120	%	
Tetrachloro-m-xylene	86	80-120	%	

**Analytical Method: SW-846 8082 A**

Seq Number: 204078

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/07/23 07:31

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	88.18	88	80-120	ug/L	
PCB-1016	100	93.38	93	80-120	ug/L	
PCB-1016	100	95.69	96	80-120	ug/L	
PCB-1016	100	94.04	94	80-120	ug/L	
PCB-1016	100	94.77	95	80-120	ug/L	
PCB-1260	100	94.07	94	80-120	ug/L	
PCB-1260	100	94.55	95	80-120	ug/L	
PCB-1260	100	91.75	92	80-120	ug/L	
PCB-1260	100	94.57	95	80-120	ug/L	
PCB-1260	100	93.17	93	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	112	80-120	%	
Tetrachloro-m-xylene	86	80-120	%	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 8082 A**

Seq Number: 204078

Matrix: Water

CCV Sample Id: CCV-02

Analyzed Date: 06/07/23 10:23

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	85.52	86	80-120	ug/L	
PCB-1016	100	90.77	91	80-120	ug/L	
PCB-1016	100	91.91	92	80-120	ug/L	
PCB-1016	100	90.81	91	80-120	ug/L	
PCB-1016	100	91.11	91	80-120	ug/L	
PCB-1260	100	91.49	91	80-120	ug/L	
PCB-1260	100	91.53	92	80-120	ug/L	
PCB-1260	100	88.88	89	80-120	ug/L	
PCB-1260	100	91.00	91	80-120	ug/L	
PCB-1260	100	89.71	90	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	109	80-120	%	
Tetrachloro-m-xylene	82	80-120	%	

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 10/20/20 12:18

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1016	100	107.2	107	80-120	ug/L	
PCB-1016	100	108.8	109	80-120	ug/L	
PCB-1016	100	103.1	103	80-120	ug/L	
PCB-1016	100	106.6	107	80-120	ug/L	
PCB-1016	100	106.7	107	80-120	ug/L	
PCB-1260	100	112	112	80-120	ug/L	
PCB-1260	100	106.8	107	80-120	ug/L	
PCB-1260	100	106	106	80-120	ug/L	
PCB-1260	100	104	104	80-120	ug/L	
PCB-1260	100	103.9	104	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
Decachlorobiphenyl	82	80-120	%	
Tetrachloro-m-xylene	80	80-120	%	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-02

ICV Sample Id: ICV-02

Analyzed Date: 10/20/20 16:36

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1221	100	104.5	105	80-120	ug/L	
PCB-1221	100	108.4	108	80-120	ug/L	
PCB-1221	100	101.2	101	80-120	ug/L	
PCB-1221	100	102.1	102	80-120	ug/L	
PCB-1221	100	102.3	102	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-03

ICV Sample Id: ICV-03

Analyzed Date: 10/20/20 19:53

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1232	100	116.5	117	80-120	ug/L	
PCB-1232	100	116.3	116	80-120	ug/L	
PCB-1232	100	112.7	113	80-120	ug/L	
PCB-1232	100	114.6	115	80-120	ug/L	
PCB-1232	100	114	114	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-04

ICV Sample Id: ICV-04

Analyzed Date: 10/20/20 23:12

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1242	100	116.2	116	80-120	ug/L	
PCB-1242	100	110.8	111	80-120	ug/L	
PCB-1242	100	113.8	114	80-120	ug/L	
PCB-1242	100	114.5	115	80-120	ug/L	
PCB-1242	100	113	113	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-05

ICV Sample Id: ICV-05

Analyzed Date: 10/21/20 02:28

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1248	100	104.6	105	80-120	ug/L	
PCB-1248	100	106.6	107	80-120	ug/L	
PCB-1248	100	106.7	107	80-120	ug/L	
PCB-1248	100	105.8	106	80-120	ug/L	
PCB-1248	100	106.1	106	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

**Analytical Method: SW-846 8082 A**

Seq Number: 178961

Matrix: Water

Parent Sample Id: ICV-06

ICV Sample Id: ICV-06

Analyzed Date: 10/21/20 05:44

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1254	100	106.1	106	80-120	ug/L	
PCB-1254	100	105.6	106	80-120	ug/L	
PCB-1254	100	107.8	108	80-120	ug/L	
PCB-1254	100	108.1	108	80-120	ug/L	
PCB-1254	100	104.5	105	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Project Name Quantum Frederick  
PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 204103

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/07/23 09:05

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acetone	50.00	57.86	116	80-120	ug/L	
Benzene	50.00	52.62	105	80-120	ug/L	
Bromochloromethane	50.00	47.82	96	80-120	ug/L	
Bromodichloromethane	50.00	55.25	111	80-120	ug/L	
Bromoform	50.00	50.80	102	80-120	ug/L	
Bromomethane	50.00	45.63	91	80-120	ug/L	
2-Butanone (MEK)	50.00	61.31	123	80-120	ug/L	X
Carbon Disulfide	50.00	57.69	115	80-120	ug/L	
Carbon tetrachloride	50.00	48.72	97	80-120	ug/L	
Chlorobenzene	50.00	50.51	101	80-120	ug/L	
Chloroethane	50.00	58.89	118	80-120	ug/L	
Chloroform	50.00	51.79	104	80-120	ug/L	
Chloromethane	50.00	57.39	115	80-120	ug/L	
Cyclohexane	50.00	57.31	115	80-120	ug/L	
1,2-Dibromo-3-chloropropane	50.00	54.41	109	80-120	ug/L	
Dibromochloromethane	50.00	50.49	101	80-120	ug/L	
1,2-Dibromoethane	50.00	51.51	103	80-120	ug/L	
1,2-Dichlorobenzene	50.00	49.59	99	80-120	ug/L	
1,3-Dichlorobenzene	50.00	49.75	100	80-120	ug/L	
Dichlorodifluoromethane	50.00	59.22	118	80-120	ug/L	
1,4-Dichlorobenzene	50.00	49.74	99	80-120	ug/L	
1,1-Dichloroethane	50.00	56.01	112	80-120	ug/L	
1,2-Dichloroethane	50.00	52.41	105	80-120	ug/L	
cis-1,2-Dichloroethene	50.00	49.11	98	80-120	ug/L	
1,1-Dichloroethene	50.00	45.22	90	80-120	ug/L	
1,2-Dichloropropane	50.00	56.93	114	80-120	ug/L	
cis-1,3-Dichloropropene	50.00	53.72	107	80-120	ug/L	
trans-1,3-Dichloropropene	50.00	48.05	96	80-120	ug/L	
trans-1,2-Dichloroethene	50.00	48.60	97	80-120	ug/L	
Ethylbenzene	50.00	53.62	107	80-120	ug/L	
2-Hexanone (MBK)	50.00	70.16	140	80-120	ug/L	X
Isopropylbenzene	50.00	53.58	107	80-120	ug/L	
Methyl Acetate	50.00	48.44	97	80-120	ug/L	
Methylcyclohexane	50.00	49.38	99	80-120	ug/L	
Methylene chloride	50.00	52.64	105	80-120	ug/L	
4-Methyl-2-Pentanone (MIBK)	50.00	67.04	134	80-120	ug/L	X
Methyl-t-Butyl Ether	50.00	48.46	97	80-120	ug/L	
Naphthalene	50.00	50.19	100	80-120	ug/L	
Styrene	50.00	53.00	106	80-120	ug/L	
1,1,2,2-Tetrachloroethane	50.00	58.58	117	80-120	ug/L	
Tetrachloroethene	50.00	45.39	91	80-120	ug/L	
Toluene	50.00	50.37	101	80-120	ug/L	
1,2,3-Trichlorobenzene	50.00	44.82	90	80-120	ug/L	
1,2,4-Trichlorobenzene	50.00	45.08	90	80-120	ug/L	
1,1,1-Trichloroethane	50.00	48.07	96	80-120	ug/L	
Trichloroethene	50.00	48.57	97	80-120	ug/L	
1,1,2-Trichloroethane	50.00	53.13	106	80-120	ug/L	
Trichlorofluoromethane	50.00	48.82	98	80-120	ug/L	
1,1,2-Trichlorotrifluoroethane	50.00	44.92	90	80-120	ug/L	
1,2,4-Trimethylbenzene	50.00	52.74	105	80-120	ug/L	
1,3,5-Trimethylbenzene	50.00	52.42	105	80-120	ug/L	

Project Name Quantum Frederick  
PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 204103

Matrix: Water

CCV Sample Id: CCV-01

Analyzed Date: 06/07/23 09:05

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Vinyl chloride	50.00	59.98	120	80-120	ug/L	
m&p-Xylene	100	102.6	103	80-120	ug/L	
o-Xylene	50.00	50.92	102	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
4-Bromofluorobenzene	108	80-120	%	
Dibromofluoromethane	99	80-120	%	
Toluene-D8	100	80-120	%	



Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 204112

Matrix: Solid

CCV Sample Id: CCV, VOC-1

Analyzed Date: 06/07/23 09:05

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acetone	0.06000	0.06262	104	80-120	mg/kg	
Benzene	0.06000	0.06274	105	80-120	mg/kg	
Bromochloromethane	0.06000	0.05448	91	80-120	mg/kg	
Bromodichloromethane	0.06000	0.05844	97	80-120	mg/kg	
Bromoform	0.06000	0.05425	90	80-120	mg/kg	
Bromomethane	0.06000	0.04270	71	80-120	mg/kg	X
2-Butanone (MEK)	0.06000	0.06613	110	80-120	mg/kg	
Carbon Disulfide	0.06000	0.06184	103	80-120	mg/kg	
Carbon tetrachloride	0.06000	0.06438	107	80-120	mg/kg	
Chlorobenzene	0.06000	0.05972	100	80-120	mg/kg	
Chloroethane	0.06000	0.06076	101	80-120	mg/kg	
Chloroform	0.06000	0.05841	97	80-120	mg/kg	
Chloromethane	0.06000	0.05272	88	80-120	mg/kg	
Cyclohexane	0.06000	0.06503	108	80-120	mg/kg	
1,2-Dibromo-3-chloropropane	0.06000	0.05801	97	80-120	mg/kg	
Dibromochloromethane	0.06000	0.05476	91	80-120	mg/kg	
1,2-Dibromoethane	0.06000	0.05671	95	80-120	mg/kg	
1,2-Dichlorobenzene	0.06000	0.06265	104	80-120	mg/kg	
1,3-Dichlorobenzene	0.06000	0.06522	109	80-120	mg/kg	
1,4-Dichlorobenzene	0.06000	0.06194	103	80-120	mg/kg	
Dichlorodifluoromethane	0.06000	0.06631	111	80-120	mg/kg	
1,1-Dichloroethane	0.06000	0.06219	104	80-120	mg/kg	
1,2-Dichloroethane	0.06000	0.05757	96	80-120	mg/kg	
1,1-Dichloroethene	0.06000	0.06219	104	80-120	mg/kg	
1,2-Dichloropropane	0.06000	0.05847	97	80-120	mg/kg	
cis-1,2-Dichloroethene	0.06000	0.05925	99	80-120	mg/kg	
cis-1,3-Dichloropropene	0.06000	0.06232	104	80-120	mg/kg	
trans-1,2-Dichloroethene	0.06000	0.06205	103	80-120	mg/kg	
trans-1,3-Dichloropropene	0.06000	0.06230	104	80-120	mg/kg	
Ethylbenzene	0.06000	0.06476	108	80-120	mg/kg	
2-Hexanone (MBK)	0.06000	0.06644	111	80-120	mg/kg	
Isopropylbenzene	0.06000	0.06935	116	80-120	mg/kg	
Methyl Acetate	0.06000	0.05210	87	80-120	mg/kg	
Methylcyclohexane	0.06000	0.06824	114	80-120	mg/kg	
Methylene chloride	0.06000	0.05406	90	80-120	mg/kg	
4-Methyl-2-Pentanone (MIBK)	0.06000	0.05352	89	80-120	mg/kg	
Methyl-t-Butyl Ether	0.06000	0.06524	109	80-120	mg/kg	
Naphthalene	0.06000	0.05717	95	80-120	mg/kg	
Styrene	0.06000	0.05964	99	80-120	mg/kg	
1,1,2,2-Tetrachloroethane	0.06000	0.06106	102	80-120	mg/kg	
Tetrachloroethene	0.06000	0.06079	101	80-120	mg/kg	
Toluene	0.06000	0.06211	104	80-120	mg/kg	
1,2,3-Trichlorobenzene	0.06000	0.06135	102	80-120	mg/kg	
1,2,4-Trichlorobenzene	0.06000	0.06333	106	80-120	mg/kg	
1,1,1-Trichloroethane	0.06000	0.06712	112	80-120	mg/kg	
1,1,2-Trichloroethane	0.06000	0.05527	92	80-120	mg/kg	
Trichloroethene	0.06000	0.06206	103	80-120	mg/kg	
Trichlorofluoromethane	0.06000	0.06410	107	80-120	mg/kg	
1,1,2-Trichlorotrifluoroethane	0.06000	0.06239	104	80-120	mg/kg	
1,2,4-Trimethylbenzene	0.06000	0.07229	120	80-120	mg/kg	
1,3,5-Trimethylbenzene	0.06000	0.07158	119	80-120	mg/kg	

Project Name Quantum Frederick  
PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 204112

Matrix: Solid

CCV Sample Id: CCV, VOC-1

Analyzed Date: 06/07/23 09:05

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Vinyl chloride	0.06000	0.06648	111	80-120	mg/kg	
m&p-Xylene	0.1200	0.1243	104	80-120	mg/kg	
o-Xylene	0.06000	0.06144	102	80-120	mg/kg	

Surrogate	CCV Result	Limits	Units	Flag
4-Bromofluorobenzene	104	80-120	%	
Dibromofluoromethane	95	80-120	%	
Toluene-D8	99	80-120	%	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 203365

Matrix: Water

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 05/10/23 12:41

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acetone	50.00	44.92	90	70-130	ug/L	
Benzene	50.00	47.90	96	70-130	ug/L	
Bromochloromethane	50.00	46.91	94	70-130	ug/L	
Bromodichloromethane	50.00	49.95	100	70-130	ug/L	
Bromoform	50.00	45.02	90	70-130	ug/L	
Bromomethane	50.00	46.46	93	70-130	ug/L	
2-Butanone (MEK)	50.00	45.39	91	70-130	ug/L	
Carbon Disulfide	50.00	49.58	99	70-130	ug/L	
Carbon tetrachloride	50.00	48.79	98	70-130	ug/L	
Chlorobenzene	50.00	47.96	96	70-130	ug/L	
Chloroethane	50.00	47.23	94	70-130	ug/L	
Chloroform	50.00	47.86	96	70-130	ug/L	
Chloromethane	50.00	47.85	96	70-130	ug/L	
Cyclohexane	50.00	48.54	97	70-130	ug/L	
1,2-Dibromo-3-chloropropane	50.00	44.59	89	70-130	ug/L	
Dibromochloromethane	50.00	46.12	92	70-130	ug/L	
1,2-Dibromoethane	50.00	47.99	96	70-130	ug/L	
1,2-Dichlorobenzene	50.00	47.36	95	70-130	ug/L	
1,3-Dichlorobenzene	50.00	47.53	95	70-130	ug/L	
Dichlorodifluoromethane	50.00	42.92	86	70-130	ug/L	
1,4-Dichlorobenzene	50.00	47.56	95	70-130	ug/L	
1,1-Dichloroethane	50.00	48.31	97	70-130	ug/L	
1,2-Dichloroethane	50.00	47.38	95	70-130	ug/L	
cis-1,2-Dichloroethene	50.00	47.15	94	70-130	ug/L	
1,1-Dichloroethene	50.00	47.17	94	70-130	ug/L	
1,2-Dichloropropane	50.00	48.24	96	70-130	ug/L	
cis-1,3-Dichloropropene	50.00	50.40	101	70-130	ug/L	
trans-1,3-Dichloropropene	50.00	46.31	93	70-130	ug/L	
trans-1,2-Dichloroethene	50.00	46.78	94	70-130	ug/L	
Ethylbenzene	50.00	49.23	98	70-130	ug/L	
2-Hexanone (MBK)	50.00	47.16	94	70-130	ug/L	
Isopropylbenzene	50.00	49.22	98	70-130	ug/L	
Methyl Acetate	50.00	44.65	89	70-130	ug/L	
Methylcyclohexane	50.00	49.09	98	70-130	ug/L	
Methylene chloride	50.00	46.97	94	70-130	ug/L	
4-Methyl-2-Pentanone (MIBK)	50.00	46.44	93	70-130	ug/L	
Methyl-t-Butyl Ether	50.00	46.61	93	70-130	ug/L	
Naphthalene	50.00	46.34	93	70-130	ug/L	
Styrene	50.00	50.11	100	70-130	ug/L	
1,1,2,2-Tetrachloroethane	50.00	46.51	93	70-130	ug/L	
Tetrachloroethene	50.00	47.08	94	70-130	ug/L	
Toluene	50.00	47.80	96	70-130	ug/L	
1,2,3-Trichlorobenzene	50.00	45.40	91	70-130	ug/L	
1,2,4-Trichlorobenzene	50.00	46.02	92	70-130	ug/L	
1,1,1-Trichloroethane	50.00	48.14	96	70-130	ug/L	
Trichloroethene	50.00	47.39	95	70-130	ug/L	
1,1,2-Trichloroethane	50.00	47.10	94	70-130	ug/L	
Trichlorofluoromethane	50.00	47.72	95	70-130	ug/L	
1,1,2-Trichlorotrifluoroethane	50.00	47.53	95	70-130	ug/L	
1,2,4-Trimethylbenzene	50.00	49.21	98	70-130	ug/L	
1,3,5-Trimethylbenzene	50.00	49.04	98	70-130	ug/L	

Project Name Quantum Frederick  
PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 203365

Parent Sample Id: ICV-01

Matrix: Water

ICV Sample Id: ICV-01

Analyzed Date: 05/10/23 12:41

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Vinyl chloride	50.00	39.90	80	70-130	ug/L	
m&p-Xylene	100	98.57	99	70-130	ug/L	
o-Xylene	50.00	48.32	97	70-130	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
4-Bromofluorobenzene	101	70-130	%	
Dibromofluoromethane	99	70-130	%	
Toluene-D8	100	70-130	%	

Project Name Quantum Frederick

PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 203852

Matrix: Solid

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 05/30/23 15:40

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acetone	0.06000	0.06517	109	70-130	mg/kg	
Benzene	0.06000	0.05282	88	70-130	mg/kg	
Bromochloromethane	0.06000	0.05594	93	70-130	mg/kg	
Bromodichloromethane	0.06000	0.05595	93	70-130	mg/kg	
Bromoform	0.06000	0.06117	102	70-130	mg/kg	
Bromomethane	0.06000	0.06458	108	70-130	mg/kg	
2-Butanone (MEK)	0.06000	0.06587	110	70-130	mg/kg	
Carbon Disulfide	0.06000	0.05436	91	70-130	mg/kg	
Carbon tetrachloride	0.06000	0.05395	90	70-130	mg/kg	
Chlorobenzene	0.06000	0.05691	95	70-130	mg/kg	
Chloroethane	0.06000	0.05668	94	70-130	mg/kg	
Chloroform	0.06000	0.05330	89	70-130	mg/kg	
Chloromethane	0.06000	0.05405	90	70-130	mg/kg	
Cyclohexane	0.06000	0.05301	88	70-130	mg/kg	
1,2-Dibromo-3-chloropropane	0.06000	0.06109	102	70-130	mg/kg	
Dibromochloromethane	0.06000	0.06066	101	70-130	mg/kg	
1,2-Dibromoethane	0.06000	0.06310	105	70-130	mg/kg	
1,2-Dichlorobenzene	0.06000	0.05619	94	70-130	mg/kg	
1,3-Dichlorobenzene	0.06000	0.05729	95	70-130	mg/kg	
1,4-Dichlorobenzene	0.06000	0.05827	97	70-130	mg/kg	
Dichlorodifluoromethane	0.06000	0.05405	90	70-130	mg/kg	
1,1-Dichloroethane	0.06000	0.05314	89	70-130	mg/kg	
1,2-Dichloroethane	0.06000	0.05615	94	70-130	mg/kg	
1,1-Dichloroethene	0.06000	0.05345	89	70-130	mg/kg	
1,2-Dichloropropane	0.06000	0.05312	89	70-130	mg/kg	
cis-1,2-Dichloroethene	0.06000	0.05290	88	70-130	mg/kg	
cis-1,3-Dichloropropene	0.06000	0.05850	98	70-130	mg/kg	
trans-1,2-Dichloroethene	0.06000	0.05447	91	70-130	mg/kg	
trans-1,3-Dichloropropene	0.06000	0.05983	100	70-130	mg/kg	
Ethylbenzene	0.06000	0.05757	96	70-130	mg/kg	
2-Hexanone (MBK)	0.06000	0.06537	109	70-130	mg/kg	
Isopropylbenzene	0.06000	0.05884	98	70-130	mg/kg	
Methyl Acetate	0.06000	0.05831	97	70-130	mg/kg	
Methylcyclohexane	0.06000	0.05678	95	70-130	mg/kg	
Methylene chloride	0.06000	0.05679	95	70-130	mg/kg	
4-Methyl-2-Pentanone (MIBK)	0.06000	0.06215	104	70-130	mg/kg	
Methyl-t-Butyl Ether	0.06000	0.05756	96	70-130	mg/kg	
Naphthalene	0.06000	0.05233	87	70-130	mg/kg	
Styrene	0.06000	0.06042	101	70-130	mg/kg	
1,1,1,2-Tetrachloroethane	0.06000	0.06205	103	70-130	mg/kg	
Tetrachloroethene	0.06000	0.05372	90	70-130	mg/kg	
Toluene	0.06000	0.05475	91	70-130	mg/kg	
1,2,3-Trichlorobenzene	0.06000	0.05386	90	70-130	mg/kg	
1,2,4-Trichlorobenzene	0.06000	0.05359	89	70-130	mg/kg	
1,1,1-Trichloroethane	0.06000	0.05515	92	70-130	mg/kg	
1,1,2-Trichloroethane	0.06000	0.05741	96	70-130	mg/kg	
Trichloroethene	0.06000	0.05396	90	70-130	mg/kg	
Trichlorofluoromethane	0.06000	0.05477	91	70-130	mg/kg	
1,1,2-Trichlorotrifluoroethane	0.06000	0.05367	89	70-130	mg/kg	
1,2,4-Trimethylbenzene	0.06000	0.05905	98	70-130	mg/kg	
1,3,5-Trimethylbenzene	0.06000	0.05975	100	70-130	mg/kg	

Project Name Quantum Frederick  
PSS Project No.: 23060619

**Analytical Method: SW-846 8260 D**

Seq Number: 203852

Matrix: Solid

Parent Sample Id: ICV-01

ICV Sample Id: ICV-01

Analyzed Date: 05/30/23 15:40

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Vinyl chloride	0.06000	0.05806	97	70-130	mg/kg	
m&p-Xylene	0.1200	0.1135	95	70-130	mg/kg	
o-Xylene	0.06000	0.05492	92	70-130	mg/kg	

Surrogate	ICV Result	Limits	Units	Flag
4-Bromofluorobenzene	101	70-130	%	
Dibromofluoromethane	99	70-130	%	
Toluene-D8	97	70-130	%	

X = Recovery outside of QC Criteria



## Sample Receipt Checklist

Project Name: Quantum Frederick  
 PSS Project No.: 23060619

**Client Name**      GTA - Baltimore  
**Disposal Date**    07/11/2023

**Received By**      Tyler Enwright  
**Date Received**    06/06/2023 05:05:00 PM  
**Delivered By**      Client  
**Tracking No**        Not Applicable  
**Logged In By**      Tyler Enwright

**Shipping Container(s)**

No. of Coolers      1

Custody Seal(s) Intact?      N/A  
 Seal(s) Signed / Dated?      N/A

Ice                                  Present  
 Temp (deg C)                  15.1  
 Temp Blank Present      No

**Documentation**

COC agrees with sample labels?      Yes  
 Chain of Custody                          Yes

Sampler Name              Colleen McMullen  
 MD DW Cert. No.          N/A

**Sample Container**

Appropriate for Specified Analysis?      Yes  
 Intact?    Yes  
 Labeled and Labels Legible?              Yes

Custody Seal(s) Intact?      Not Applicable  
 Seal(s) Signed / Dated      Not Applicable

**Holding Time**

All Samples Received Within Holding Time(s)?      No

Total No. of Samples Received      4  
 Total No. of Containers Received    20

**Preservation**

Total Metals                                  (pH<2)                  Yes  
 Dissolved Metals, filtered within 15 minutes of collection      (pH<2)                  No  
 Orthophosphorus, filtered within 15 minutes of collection      N/A  
 Cyanides    (pH>12)                Yes  
 Sulfide    (pH>9)                  N/A  
 TOC, DOC (field filtered), COD, Phenols                              (pH<2)                  N/A  
 TOX, TKN, NH3, Total Phos    (pH<2)                  N/A  
 VOC, BTEX (VOA Vials Rcvd Preserved)                                  (pH<2)                  Yes  
 Do VOA vials have zero headspace?    Yes  
 624 VOC (Rcvd at least one unpreserved VOA vial)                                  N/A  
 524 VOC (Rcvd with trip blanks)    (pH<2)                  N/A



## Sample Receipt Checklist

Project Name: Quantum Frederick  
 PSS Project No.: 23060619

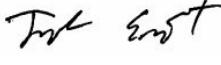
<b>Client Name</b>	GTA - Baltimore	<b>Received By</b>	Tyler Enwright
<b>Disposal Date</b>	07/11/2023	<b>Date Received</b>	06/06/2023 05:05:00 PM
		<b>Delivered By</b>	Client
		<b>Tracking No</b>	Not Applicable
		<b>Logged In By</b>	Tyler Enwright

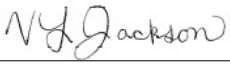
**Comments: (Any "No" response must be detailed in the comments section below.)**

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Sample aliquots for dissolved metals were not field filtered and were received unpreserved; as such, associated sample results are not suitable for compliance under the Clean Water Act and/or Safe Drinking Water Act.

The analyses of chlorine for potable/non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Samples Inspected/Checklist Completed By:  Date: 06/06/2023  
 Tyler Enwright

PM Review and Approval:  Date: 06/06/2023  
 Lynn Jackson