FORMER HYGRADE PLATING SITE

QUEENS COUNTY

LONG ISLAND CITY, NEW YORK

2023 PERIODIC REVIEW REPORT

NYSDEC BCP Site No. C241148

Prepared for:

Stalingrad Ventures, LLC

100 Field Street

West Babylon, NY 11704

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April 2023, Revised July 2023

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TABLE OF CONTENTS

FIGURES

TABLES AND DATA PLOTS

APPENDICES

A. CERTIFICATION FORM

B. FIELD NOTES

C. IAQ QUESTIONAIRE

D. DUSR

E. LABORATORY REPORT

F. REMEDIAL SYSTEM MONITORING FORM

G. GROUNDWATER MONITORING WELL AND INJECTION POINT LOCATION MAP

2023 Periodic Review Report
Former Hygrade Electroplating Facility
22-07 41st Avenue
Long Island City, New York

BCP Site No. C241148

1.0 EXECUTIVE SUMMARY

The following Periodic Review Report (PRR) for the reporting period of April 22, 2022 to April 22, 2023 has been prepared by Eric A. Weinstock, PG, PC (EAW, PG, PC) on behalf of Stalingrad Ventures, LLC. This report was prepared in accordance with the NYSDEC's PRR General Guidance document and a NYSDEC Brownfield Cleanup Program (BCP) Agreement Index Number C241148-03-15.

A. Nature and Extent of Contamination

Historically, the contaminated media at the former Hygrade Electroplating Facility (the Site) included soil, soil vapor and groundwater.

- The primary contaminants of concerns (COCs) in soil were the metals Cadmium, Chromium, and to a lesser degree, Nickel which were detected in the soil below the building.

- The primary COCs in the soil vapor and groundwater were the volatile organic compounds (VOCs) tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2 dichloroethene (cis 1,2-DCE), and vinyl chloride. The metals Cadmium and Chromium were also detected in the groundwater. The emerging contaminants Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS), which are included under a larger group of compounds referred to as Per and Polyfluoroalkyl Substances (PFAS) compounds, were also detected in the groundwater.

- The VOC vapors present at the Site were detected in samples collected from below the basement floor.

- The impacted groundwater was detected in groundwater samples collected under the basement of the building and, to a lesser degree, in the groundwater below the sidewalk directly west and downgradient of the basement.

Remedial activities at the Site have included soil excavation and off-site disposal, injections of bioremediation products and the operation of a sub slab depressurization system (SSDS).

B. Effectiveness of Remedial Program

The remedial program has been effective.

- The majority of the soil impacted by these metals was excavated and removed from the property as part of the renovation activities. The entire property is capped with pavement or a concrete slab.

- The active SSD system is maintaining negative pressure below the slab. Indoor air sample results do not exceed the NYSDOH indoor air guidelines for PCE or TCE.

- The samples collected and analyzed over the past 9 sampling rounds from the Site's downgradient wells indicate that concentrations of containments of concern are either steadily decreasing or remaining stable.

C. Compliance

The site is in compliance.

D. Recommendations

Annual inspections and indoor air sampling during the heating season should continue in accordance with the SMP.

The Site Management Plan (SMP) (AMEC 2020) indicates that groundwater monitoring should occur semi-annually for two years followed by annually for one additional year. After that frequency of sampling has been completed, a request to terminate groundwater sampling can be submitted to the NYSDEC and NYSDOH for approval. The March 2023 sampling round completed the sampling frequency outlined in the SMP. As such, we request approval to terminate groundwater sampling at this Site.

2.0 SITE OVERVIEW

A. Site Location, Surrounding Area and Nature & Extent of Contamination Prior to Site Remediation

The Site is located in Long Island City, Queens, NY and currently encompasses an approximately 2,500 square feet (ft^2) property developed with a four-story industrial/commercial building and basement level. The NYC Tax Map designates the Site as Queens County; Block: 409; Lot: 6. The neighborhood surrounding the subject property consists of a highly urbanized area of Long Island City with adjacent properties generally consisting of commercial use and hotels (Figure 1). An indoor air sample was taken inside the building in the basement.

Operations at the former Hygrade facility included chromium, copper, nickel and zinc plating. Analysis of the soil samples collected in the basement revealed that there were no exceedances of the NYSDEC Part 375 Unrestricted Use Soil Cleanup Objective (SCO) for any of the soil samples collected.

Soil vapor samples collected from below the building slab during the Remedial Investigation included detections of PCE, TCE, cis-1,2-DCE and vinyl chloride in the 1 to 200 ug/m^3 range.

Elevated levels of chlorinated VOCs were detected in the shallow monitoring wells located in the southern portion of the basement. Water samples from basement monitoring well BMW-3, located in the basement (see Figure G-1), contained PCE in the 3,000 ug/L range during the Remedial Investigation. The results of deeper groundwater samples collected within the basement footprint and off-site groundwater monitoring wells screened below 22nd Street were significantly lower suggesting that the bulk of the VOCs are adhered to the silts in the shallow soils situated below the basement.

Elevated levels of the metals cadmium, chromium and nickel were detected in the shallow monitoring wells located in the northern portion of the basement. During the Remedial Investigation, cadmium was detected in water sampled from monitoring wells BMW-1 and BMW-2 in the range of 7 to 27 ug/L, chromium was detected in the range of 679 to 775 ug/L and Nickel was detected in the range of 117 to 174 ug/L. The results of deeper groundwater samples

collected within the basement footprint and off-site groundwater monitoring wells screened below 22nd Street where significantly lower suggesting that the bulk of the metals are also adhered to the silts in the shallow soils situated below the basement.

The analytical data also revealed that PFAS was present in the groundwater below the site during the 2018 monitoring event at concentrations above the EPA drinking water health advisory. Well BMW-3 contained PFOS at 5.97 ug/L and PFOA at 0.138 ug/L.

B. Chronology of Remedial Program

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site.

Facility Decommissioning

Upon taking ownership, IRT was retained by Stalingrad Ventures for a decommissioning effort of the facility. The work was completed under a NYCDEP Commissioner's Order that had been issued to the Site's previous owner, Edward Byers and Double E Plating Corp. in 2012 and under the supervision of NYCDEP representatives and periodic inspection by NYSDEC representatives. The work that was completed, [Final Report for the Limited Remediation of the Former Double E Plating Facility, (IRT 2013)] is as follows:

- The contents of the plating tanks, approximately 30, were pumped into 55-gallon closed head drums. In addition, 111 drums from previous operations were left at the Site when Stalingrad Ventures LLC took title. Each drum was numbered, and a composite sample collected to characterize the contents of the drums. The drums were also inspected for structural integrity. Drums that were in DOT shippable condition were labeled and staged for ultimate disposal. The contents of drums that were not in DOT compliant and shippable containers were transferred into DOT–approved containers prior to staging and ultimate disposal.

- Floor solids were containerized into 55-gallon drums or cubic yard boxes. Once the solids were removed, the floors were pressure washed. The generated wastewater from this process was containerized in DOT-approved 55-gallon drums.

- The effluent storage tanks in the basement were pumped from the basement directly into DOT-approved totes located in a box truck.

- Water found in the elevator pit was sampled and tested. Laboratory analysis indicated the water in the elevator pit contained hazardous waste. This water was removed with a vacuum truck then transferred into DOT-approved totes.

- The concrete floors in the basement and first floors were removed by a separate company. The foundation walls and first floor walls were mechanically cleaned to remove visible contamination. The concrete was shipped and disposed of at Stablex Canada, Inc. located in Quebec, Canada.

- There were two former #2 fuel oil tanks, 275 gallons each, in the basement encased in cement blocks. The cement blocks were removed to expose the tanks. It was discovered that the two tanks were ¾ full of water with oily sludge in the bottom. The water and sludge was pumped into 7 open-head steel drums. The tanks were cut with a reciprocating saw. The thick sludge and speedi-dry used to clean the tank was placed into the 7 drums. The remaining steel was sent to Gershow Recycling for recycling. The 7 drums were shipped to Republic Environmental Systems, Inc. (PA) located in Hatfield, PA.

- All used poly drums were triple rinsed, cut and removed by Metro Environmental Contracting Corp and shipped to One World Recycling located in Lindenhurst, NY.

The work described above (including copies of the disposal manifests) was documented in Innovative Recycling Technologies, Inc., Final Report for the Limited Remediation of the Former Double E Plating Facility, and is included in the Final Engineering Report (AMEC 2020).

RCRA Closure Activities

The procedures for closing the waste management units at this Site are described in the RCRA Closure Plan (CA Rich 2013) prepared for this Site. However, after the Closure Plan was prepared, this Site was transitioned into the NYSDEC's Brownfield Cleanup Program. Therefore, the closure activities and the results of laboratory analysis generated during the closure activities are included in the Remedial Investigation Report (AMEC 2017).

During 2016 and 2017, a Remedial Investigation was completed. Part of the scope of the investigation included RCRA-type rinsate samples collected from the first, second, third and fourth floors of the building. On September 26, 2016 rinsate tests of the first, second, third, and fourth floors of the building were performed in accordance with the NYSDEC rinsate testing procedures. The results of the rinsate tests indicated that the existing concrete floors were properly decontaminated as part of the Closure of the facility.

Sample location maps and the results of the rinsate tests are included in Final Engineering Report.

Post-RCRA Remedial Activities

- A cover system consisting of eight inches of newly poured concrete slab was placed in the basement preventing exposure to contaminated soils.

- The next portion of the remedy implemented at the Site consisted of the groundwater below the basement floor being treated with a pneumatic fracturing event followed by in-situ injections of bio-remediation products as described in the IRM CCR (Ref. 8) and Appendix F. The northern half of the basement was treated with MetaFix® to target the removal of heavy metals, while the southern half of the basement was treated with EHC® to remediate VOCs present. Batches consisting of 500 pounds of remediation product mixed with tap water to the manufacturer's specification were prepared. Using technology develop by Cascade Drilling Technical Services, the product was injected into six boreholes at depth intervals of 6 to 10 feet below the surface of the basement floor.

- The third engineering control for the Site was the installation of a vapor barrier and piping for a SSD system before the new slab was poured in the basement to mitigate the intrusion of VOC vapors that could seep through the floor. A trench was excavated along the center of the basement to a depth of approximately 1 foot below grade. Next, a section of 4-inch diameter perforated PVC pipe surrounded with filter fabric was installed in the trench. The pipe was surrounded up to grade with ¾-inch diameter screened recycled concrete aggregate. A 20-mil plastic vapor barrier was installed over the soil in the basement in accordance with the manufacturer's recommendations. All penetrations were sealed to the vapor barrier following the manufacturer's installation recommendations. A sheet metal riser was then extended from the basement to the roof. A Fantech model HP2190 fan was connected to the riser on the roof along with a weather tight on/off switch.

- The fourth portion of the remedy included the injection of PlumeStop®. Beginning on March 25, 2020, the product was applied to basement wells BMW-1, BMW-2, BMW-3, BMW-4, IP-1 and IP-2 with a double-diaphragm pump and an air compressor. In total, more than 1,440 gallons was distributed among the six injections points as described in the Final Engineering Report.

3.0 REMEDIAL PERFORMANCE, EFFECTIVENESS AND PROTECTIVENESS

The remedial actions performed at the site have been effective and protective of human health.

PERFORMANCE

The soil excavation activities have been completed. A sub-slab depressurization system (SSDS) has been installed and remains in operation. Groundwater and indoor air monitoring were completed on an annual basis.

EFFECTIVENESS

The remedy has been effective. The site is completely covered by a pavement or concrete slab cap. An SSDS has been installed and is in operation.

PROTECTIVENESS

The remedy is protective

- The entire property is capped with pavement or a concrete slab.
- The active SSD system is maintaining negative pressure below the slab. Indoor air sample results do not exceed the NYSDOH indoor air guidelines.
- The samples collected and analyzed over the past 10 sampling rounds from the Site's downgradient wells indicate that concentrations of containments of concern are either steadily decreasing or remaining stable.

4.0 INSTITUTIONAL CONTROL/ENGINEERING CONTROL (IC/ECs) PLAN

A. IC/EC Requirements and Compliance

The following institutional controls for this Site have been implemented by the property owner:

1) The property may only be used for commercial and industrial use;

2) All ECs must be operated and maintained as specified in the SMP;

3) All ECs must be inspected at a frequency and in a manner defined in the SMP;

4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Queens County Department of Health to render

it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

6) Data and information pertinent to site management must be reported at the frequency and in a manner as defined in the SMP;

7) All future activities that will disturb remaining contaminated material must be conducted in accordance with the SMP;

8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in the SMP;

10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;

11) The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries and any potential impacts that are identified must be monitored or mitigated; and

12) Vegetable gardens and farming on the Site are prohibited. The property owner has implemented these twelve institutional controls.

The following engineering controls for this Site have been implemented by the property owner and are in good condition:

1) SSDS: A sub-slab vent was installed below the basement floor and then a riser was extended to the roof. The vent was then covered with aggregate followed by a 20-mil vapor barrier. A fan was connected to the riser to complete the SSDS.

2) Site Cover System: After the placement of the piping, aggregate, and vapor barriers were completed, a new concrete floor 8-inches thick was poured to serve as a cap between the underlying soil and future occupants of the building.

B. IC/EC Certification

We certify that the ICs and ECs for this project are: in place and effective; are performing as designed; nothing has occurred that would impair the ability of the controls to protect public health and the environment; no violations have occurred and there were no failures to comply with the Site Management Plan; site access is available to maintain the engineering controls; and, there is no groundwater usage at the site.

A PRR Certification Form is included in Appendix A.

5.0 MONITORING PLAN COMPLIANCE REPORT

Groundwater Sampling Procedures

The groundwater monitoring wells were sampled using low-flow sampling procedures. A Geotech™ brand peristaltic pump was used to evacuate the water from the wells. Dedicated high density polyethylene (HDPE) tubing was used for the collection of each sample. The wells were purged at a rate of 100 and 500 mL per minute. Temperature, specific conductance, pH, dissolved oxygen, turbidity, and redox were recorded as the well was pumped. These readings were logged on field forms and are included in Appendix A. The purged water was contained in 5-gallon plastic pails and staged in the basement pending disposal. Water level indicators were decontaminated with Alconox and laboratory-issued contaminant and PFAS-free certified water after use at each monitoring well location. All other downhole equipment/material were dedicated for each monitoring well location.

Indoor Air Monitoring Procedures

Also in accordance with the SMP, an indoor air sample was collected during the winter heating season, in the basement of the former Hygrade Plating Site. A sample location map is included on Figure 3. A sample was collected using a Summa Canister calibrated to collect air for an 8-hour period. The sample was delivered to an ELAP-approved Laboratory and was analyzed for halogenated volatile organic compounds using EPA Method TO-15.

Summary of Results

Indoor Air – During the 2023 sampling event, low levels of several chlorinated solvents (less than 1 ug/m^3) were detected in the indoor air of the basement. PCE, TCE and methylene chloride were detected below their NYDSDOH indoor air guidelines. PCE was detected at 0.515 ug/m^3, TCE was detected at 0.419 ug/m^3, cis-1,2 DCE was detected at 0.115 ug/m^3, methylene chloride at 1.74 ug/m^3, and carbon tetrachloride was detected at 0.522 ug/m^3. Methylene chloride and carbon tetrachloride are compounds not typically used at metal plating shops. The data collected from the March 2023 sampling round is included on Table 1.

Groundwater – In three of four wells, VOC concentrations were either stable or trending downward and had no exceedance of the groundwater standard. MW-6D which has historically had the highest concentration of VOCs has shown fluctuation in VOC levels since 2018. The highest VOC detections were in well MW-6D. The following Site related COCs were detected in the most recent sampling round: PCE at 45 ug/L; TCE at 17 ug/L and cis 1,2 DCE at 27 ug/L. Vinyl chloride was not detected. MTBE was detected in this well at 230 ug/L but is believed to be the result of petroleum related releases from upgradient gasoline filling stations.

Overall, the site-related metals display a steadily decrease compared to post-remediation groundwater monitoring events completed after the December 2017 and March 2020 injection programs. None of the COC metals, cadmium, chromium and nickel, exceeded the groundwater standards. The highest dissolved Cadmium detection was in well MW-6S at 0.24 ug/L and was undetected in the other Site wells. The highest dissolved Chromium detection was in in well MW-6S at 0.37 ug/L. The highest dissolved Nickel detection was in well MW-6s at 50.3 ug/L. The data collected from the March 2023 sampling round is included in Tables 2 and 3.

Historically, PFAS levels were highest underneath the basement and decreases in the direction of the downgradient wells. Since the application of PlumeStop in the basement of the former Hygrade Plating Site, the concentration of PFOA and PFOS has declined in all four wells but are still in exceedance of New York State drinking water standards of 0.010 ug/L. MW-6D had highest detections of PFOA at 0.0608 ug/L and PFOS at 0.387 ug/L. The data collected from the March 2023 sampling round is included on Table 4.

6.0 OPERATIONS AND MAINTENANCE PLAN

Operations and Maintenance (O&M) procedures that apply to the Fantech® fan includes a physical inspection of the fan to confirm that air is being discharged and that the unit is operating. No other maintenance is recommended in the owner's manual.

The SSD fan and piping were inspected during the March 2023 sampling event and everything was observed to be in good working order. A map summarizing our observations is included as Figure 3. A copy of the completed Remedial System Monitoring Form is included as Appendix F.

The interior floor slabs (the capping system) were observed to be in good condition on the date of our inspections.

7.0 OVERALL PRR CONCLUSIONS AND RECOMMENDATIONS

- On March 1, 2023, EAW, PG, PC conducted an annual physical inspection of SSD system. The fan was operating and the ducts, floor and pavement were in good condition. TCE was detected at 0.419 ug/m^3 and PCE was detected at 0.515 ug/m^3, which are both below the NYSDOH indoor air guidelines.

- We recommend that the SSD system remain in operation and that monitoring continue as outlined in the SMP. The SMP should be updated, if needed.

- In accordance with the SMP, we recommend that the groundwater monitoring program be terminated.

REFERENCES

1. Innovative Recycling Technologies, Inc., Final Report for the Limited Remediation of the Former Double E Plating Facility, May 2013

2. CA RICH (September 2013) RCRA Closure Plan, Former Hygrade Polishing and Plating Co., 22-07 41st Avenue, Long Island City, NY 11101 (August 2018 addendum)

3. AMEC, Remedial Investigation Report, Former Hygrade Polishing and Plating Co. Site, Long Island City, New York, August 2017.

4. AMEC, Site Management Plan, Former Hygrade Polishing and Plating Co. Site, Long Island City, New York, October 2020.

5. AMEC, Final Engineering Report, Former Hygrade Polishing and Plating Co. Site, Long Island City, New York, November 2020.

6. AMEC, Semi-Annual Monitoring Report, Former Hygrade Polishing and Plating Co. Site, Long Island City, New York, November 2020.

7. AMEC, Semi-Annual Monitoring Report, Former Hygrade Polishing and Plating Co. Site, Long Island City, New York, May 2021.

8. AMEC, Semi-Annual Monitoring Report, Former Hygrade Polishing and Plating Co. Site, Long Island City, New York, November 2021.

FIGURES

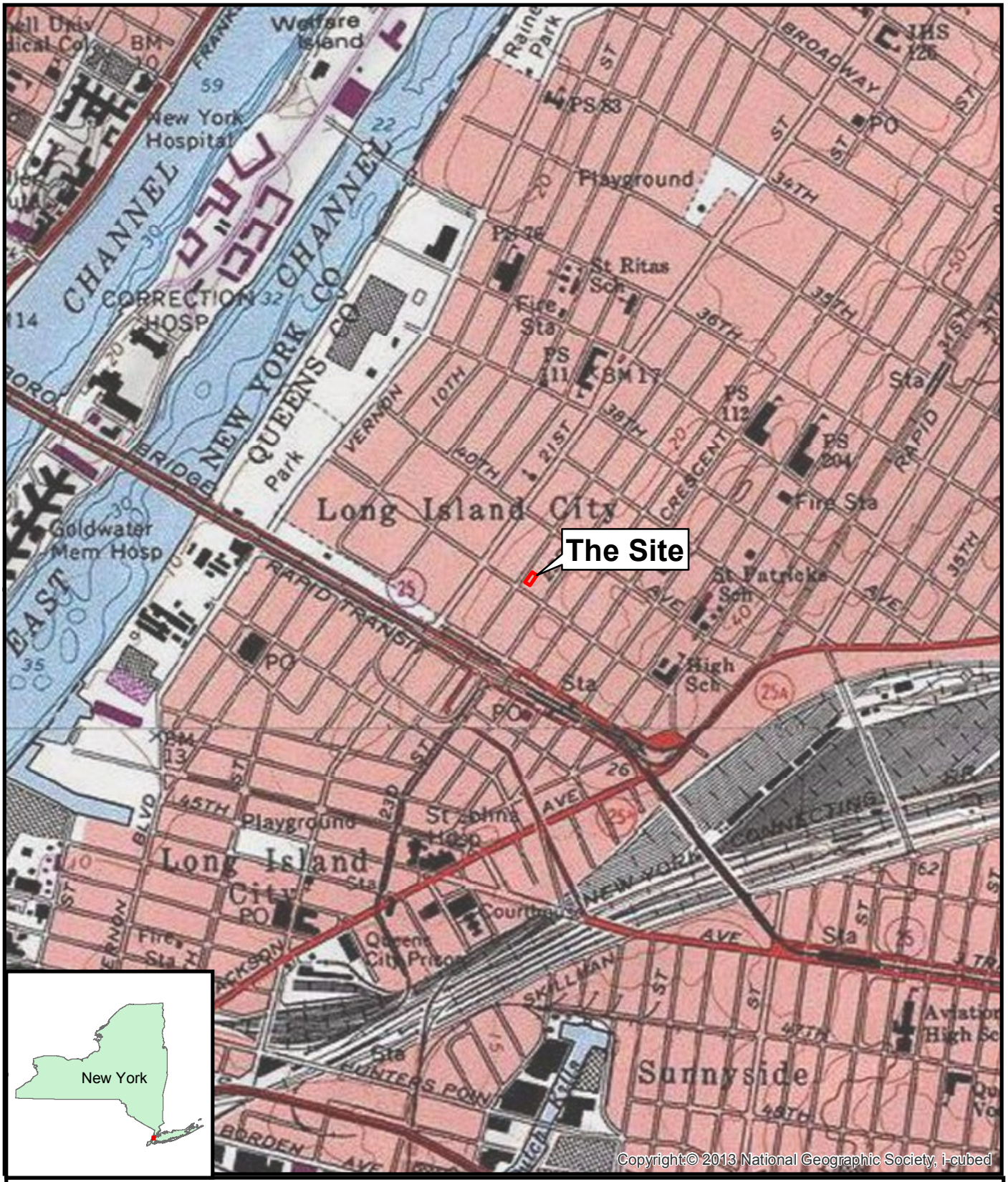


Figure 1
Site Location Map

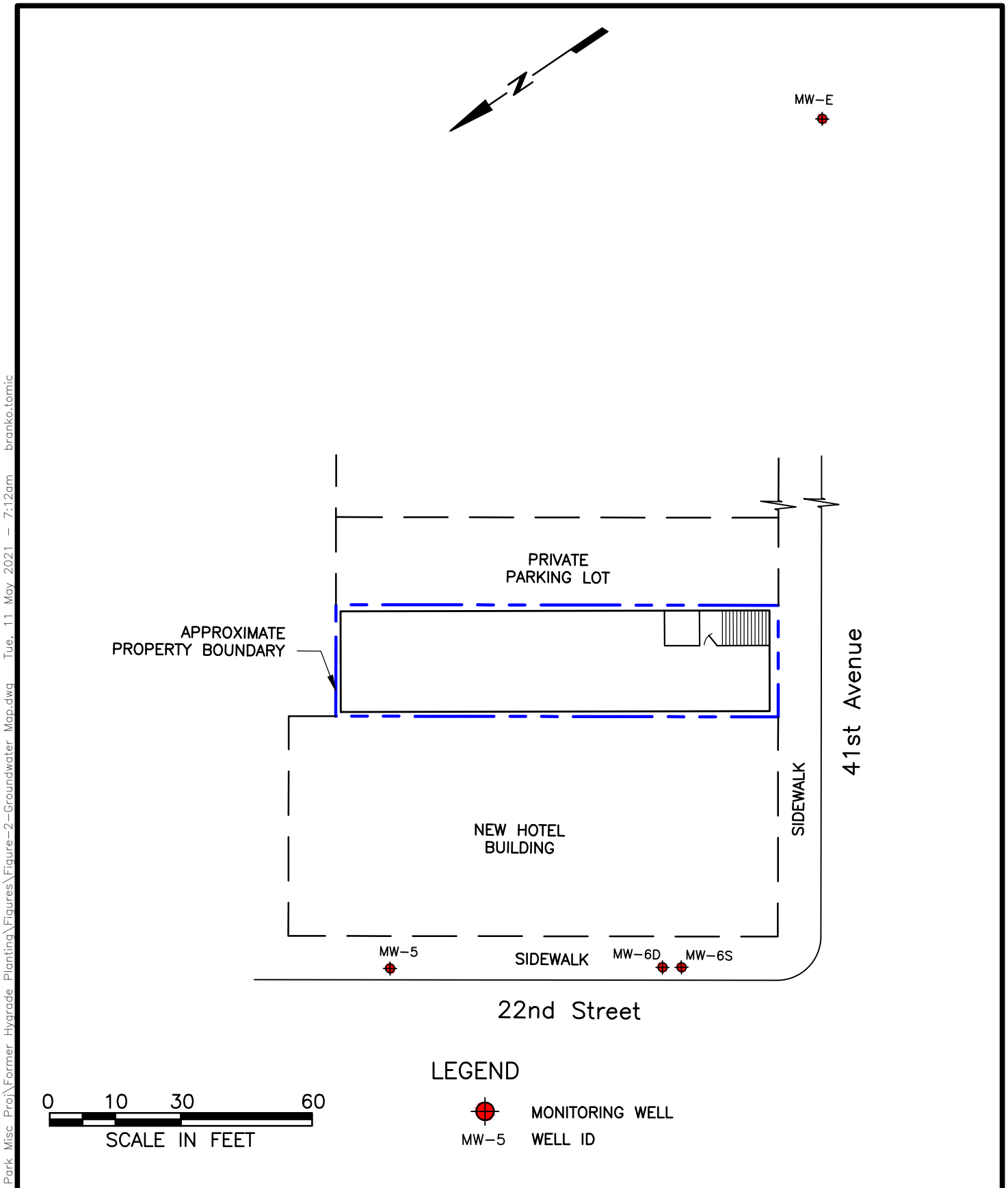
22-07 41st Avenue
Long Island City, New York

N

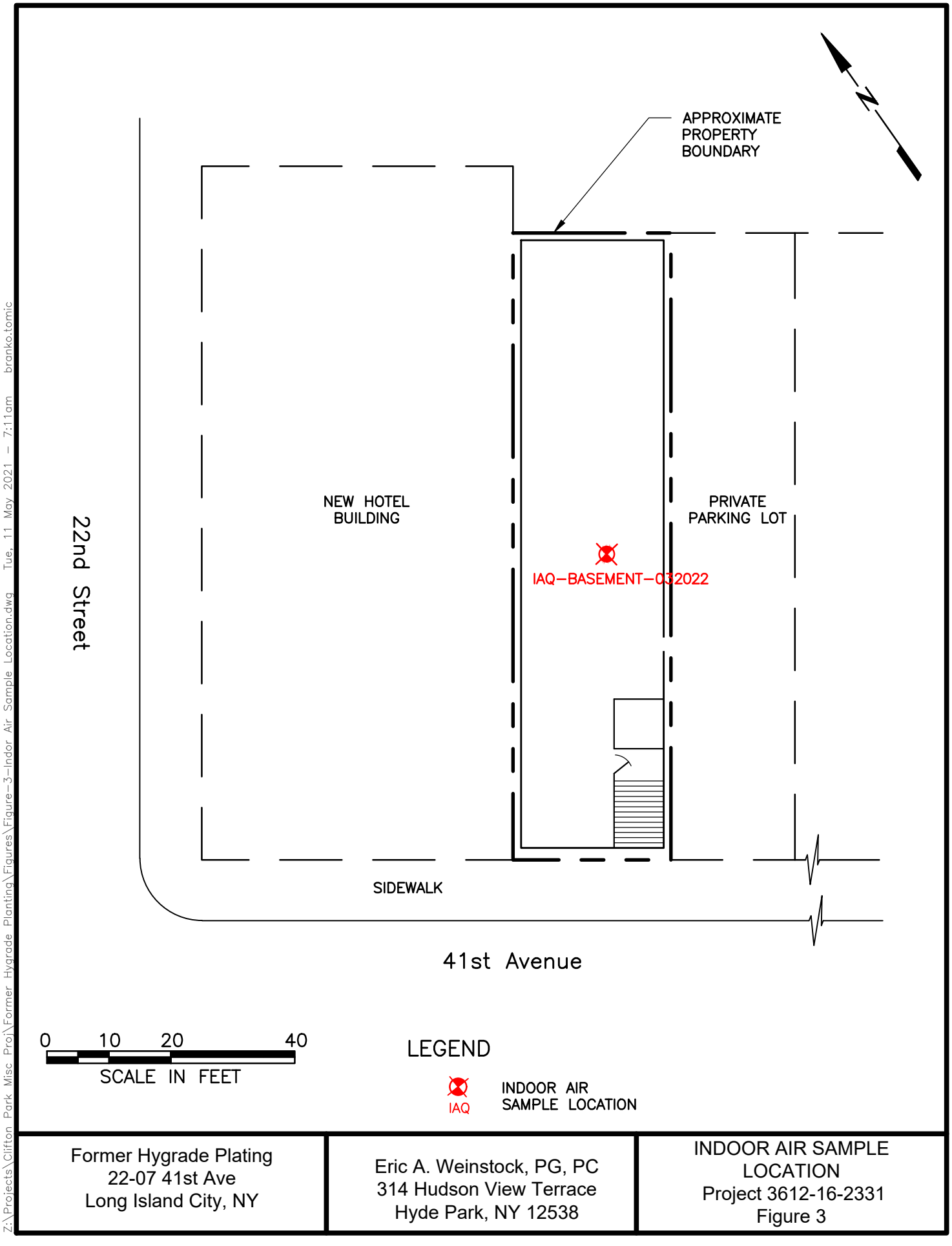
0 500 1,000
Feet

Eric A. Weinstock, PG, PC
314 Hudson View Terrace
Hyde Park, NY 12538

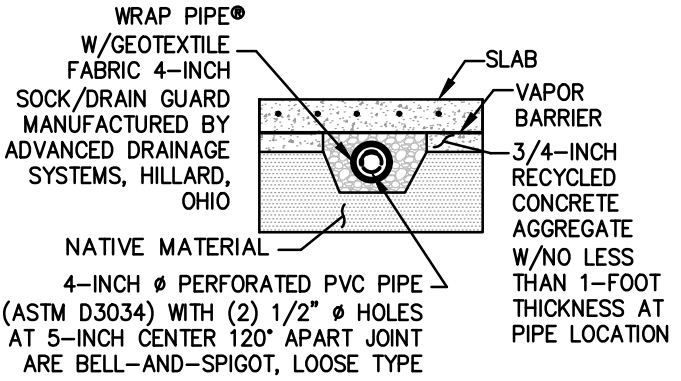
Prepared/Date: 12/05/16	Checked/Date: 12/05/16



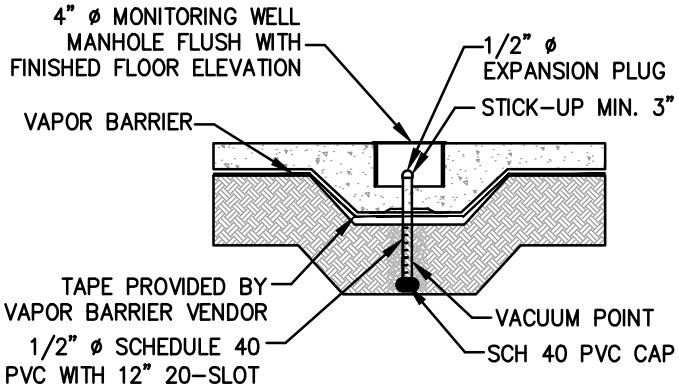
Former Hygrade Plating 22-07 41st Ave Long Island City, NY	Eric A. Weinstock, PG, PC 314 Hudson View Terrace Hyde Park, NY 12538	Groundwater Monitoring Well Location Map Project 3612-16-2331 Figure 2



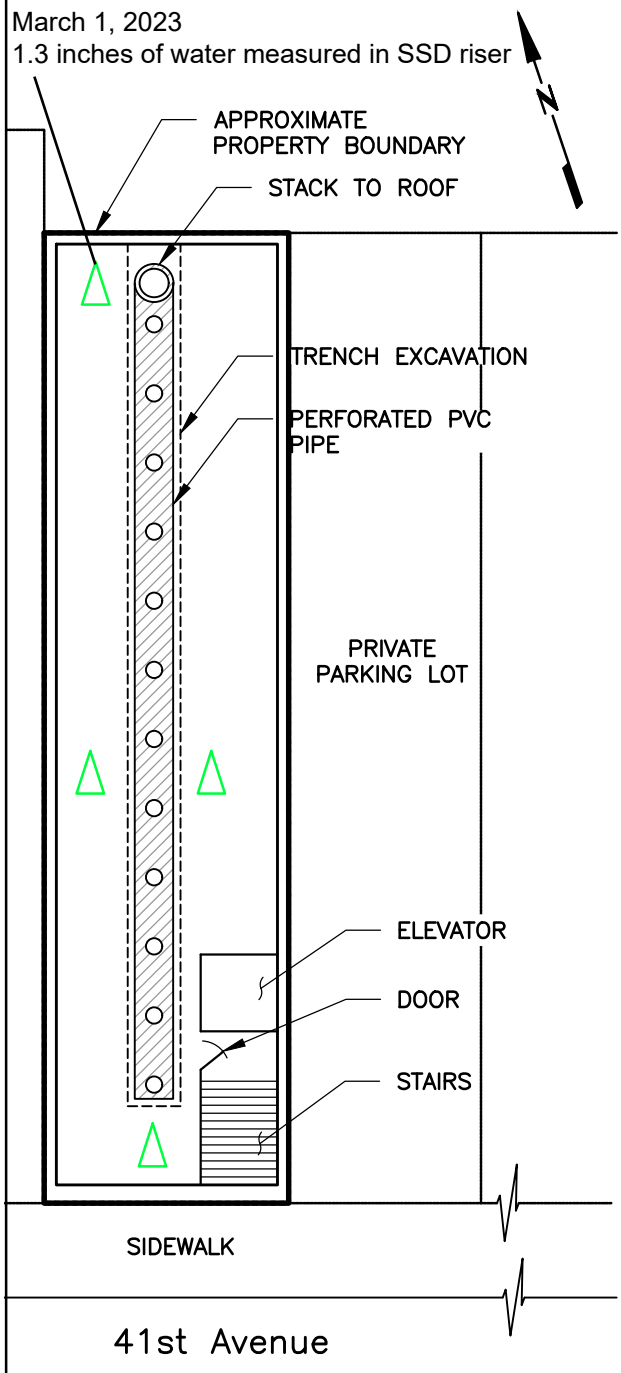
Former Hygrade Plating 22-07 41st Ave Long Island City, NY	Eric A. Weinstock, PG, PC 314 Hudson View Terrace Hyde Park, NY 12538	INDOOR AIR SAMPLE LOCATION Project 3612-16-2331 Figure 3



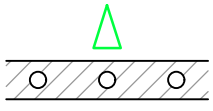
TYPICAL VENT PIPE CROSS-SECTION (NTS)



TYPICAL VACUUM MONITORING POINT (NTS)



LEGEND



VACUUM MONITORING POINT

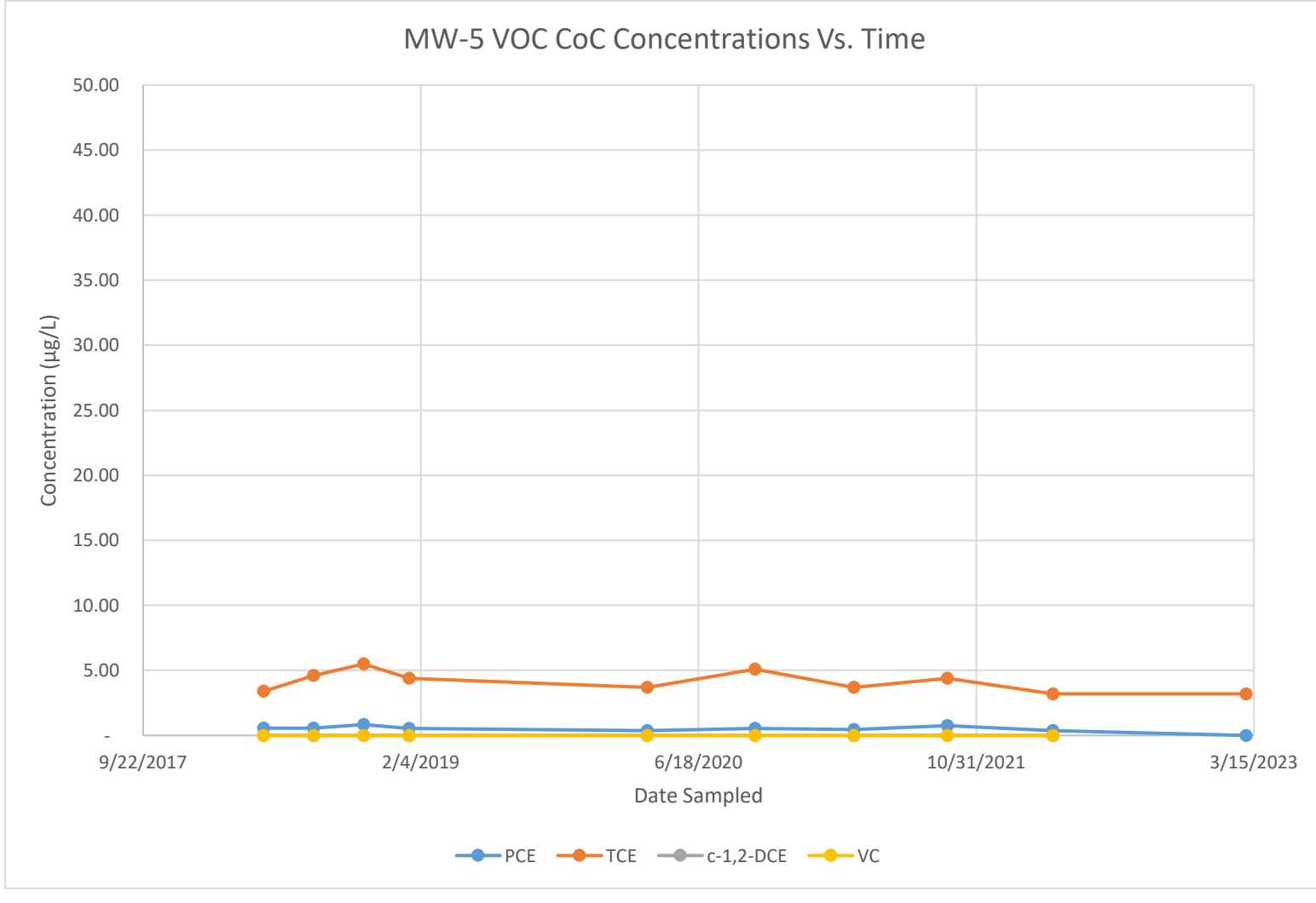
4"ø PERFORATED PVC PIPE

0 10 20 40

SCALE IN FEET

Former Hygrade Plating 22-07 41st Ave Long Island City, NY	Eric A. Weinstock, PG, PC 314 Hudson View Terrace Hyde Park, NY 12538	SUB-SLAB DEPRESSURIZATION PLAN Project 3612-16-2331 Figure 4

Figure 5:
VOCs Concentration over Time



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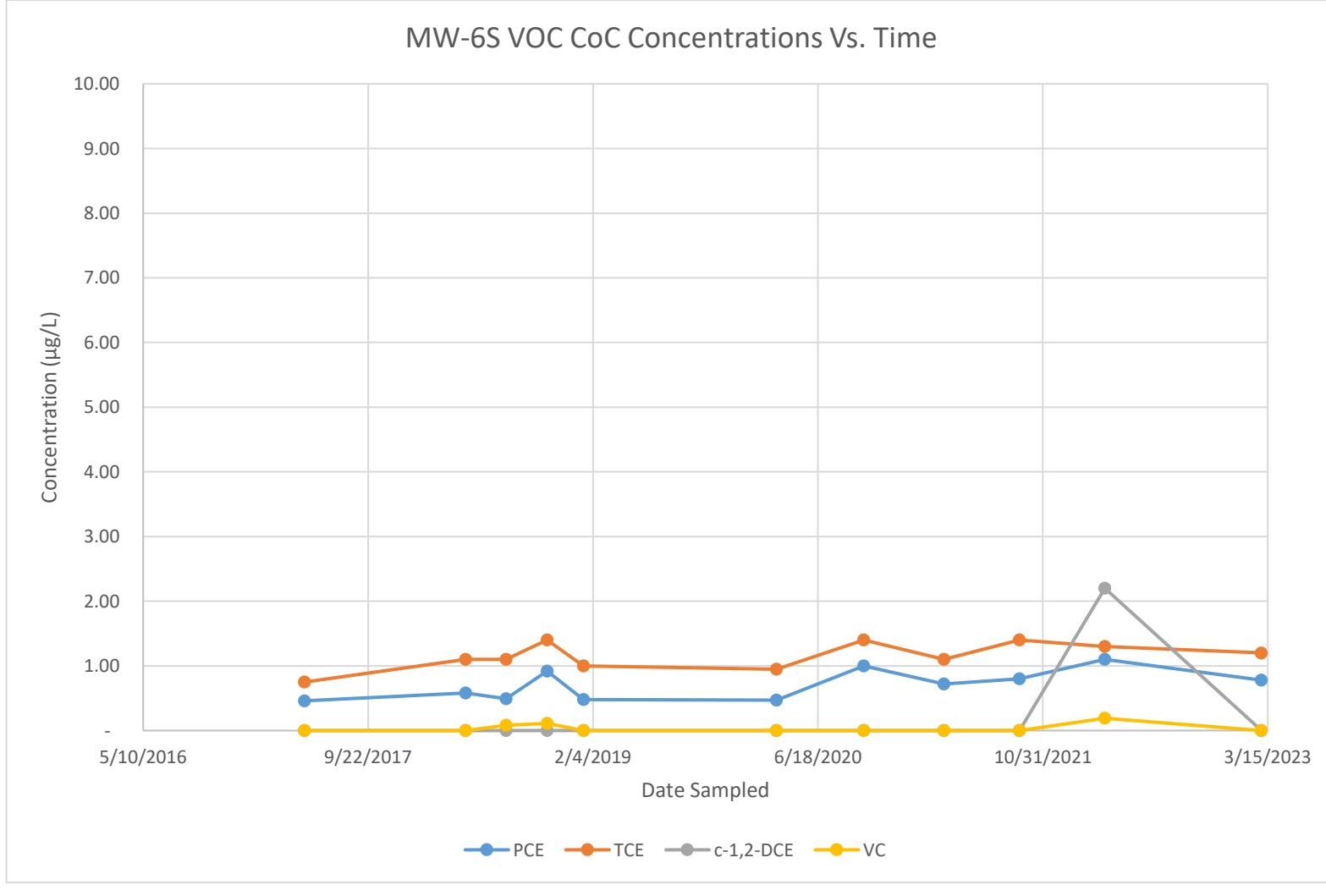

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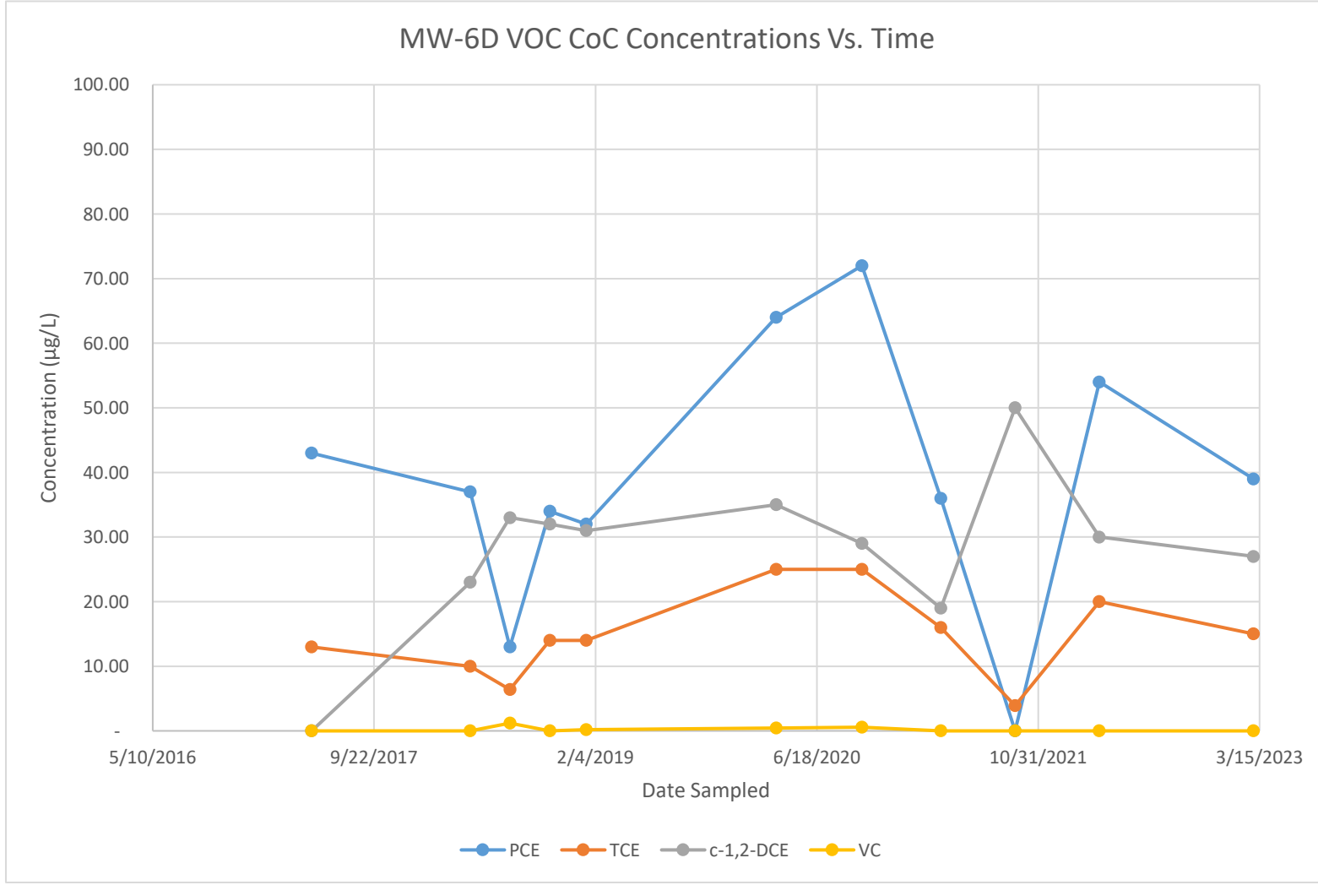

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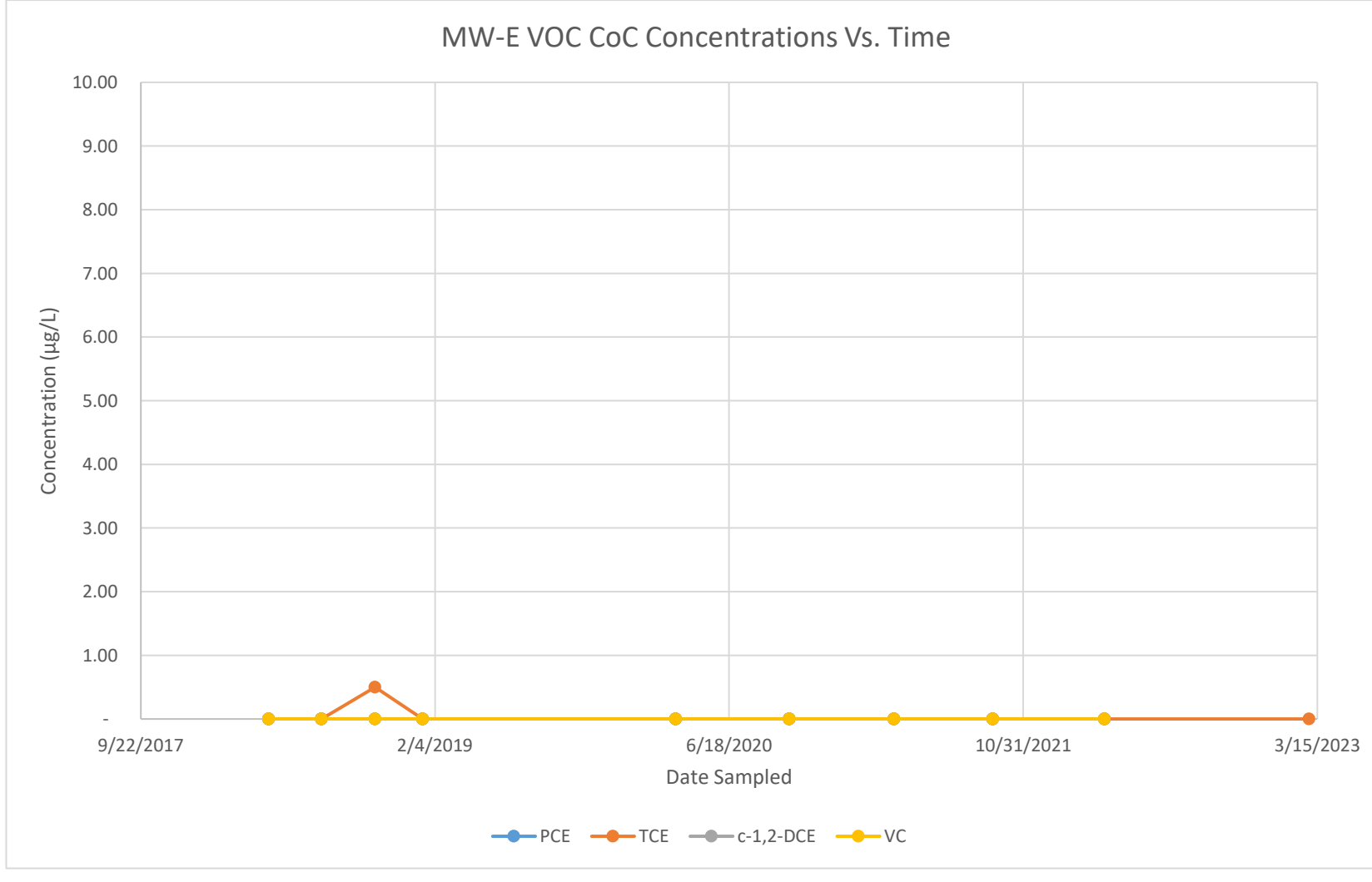
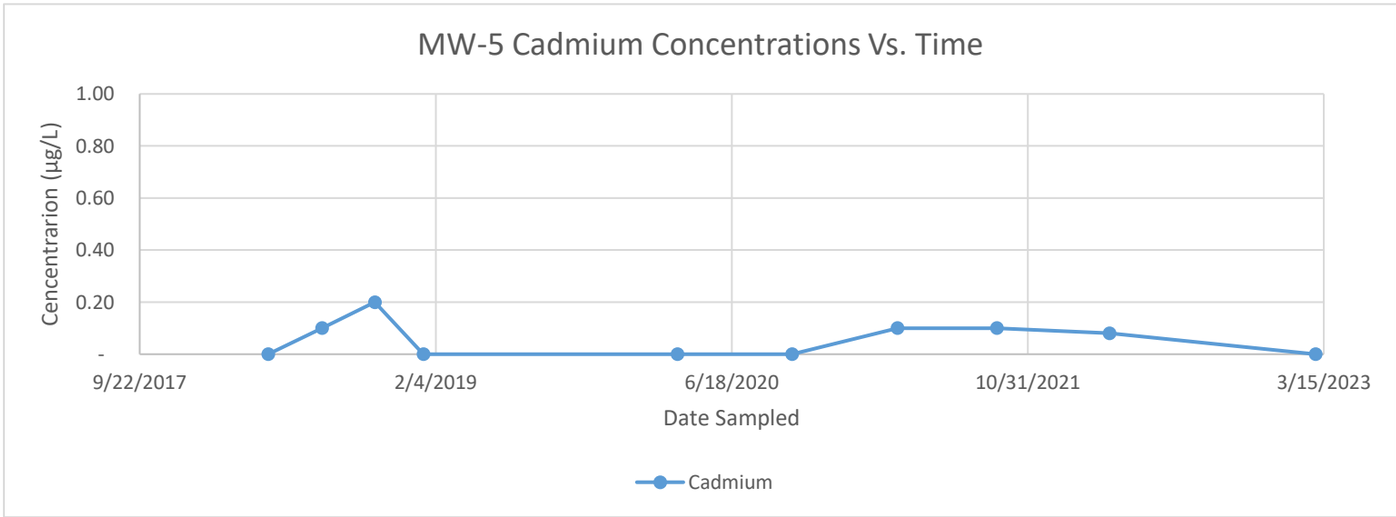
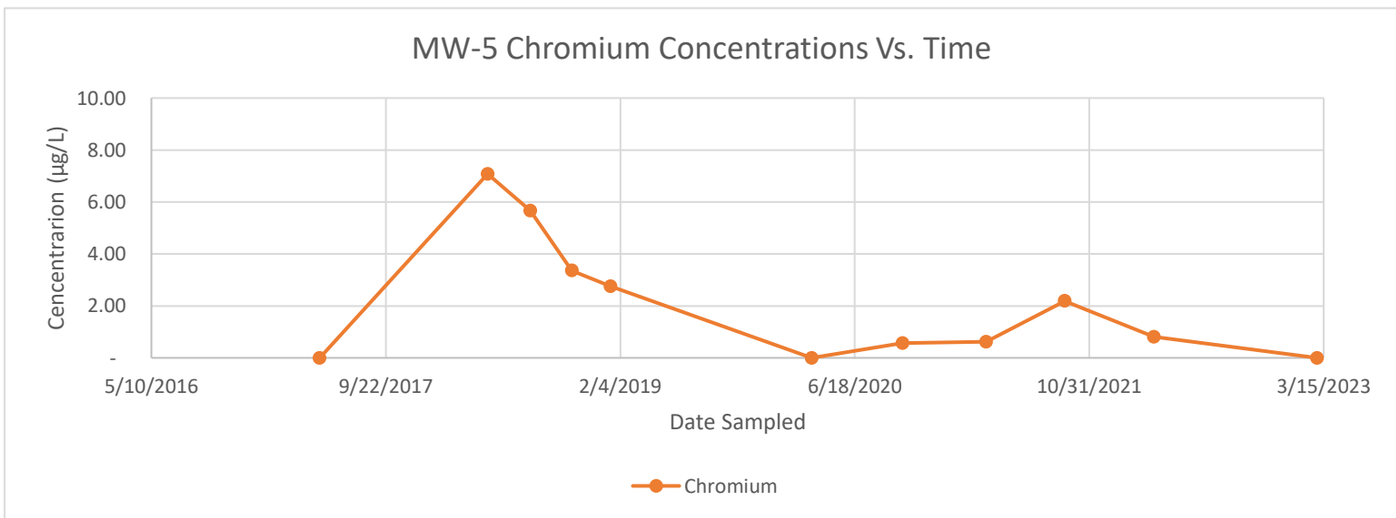


Figure 6:
Metals Concentration over Time





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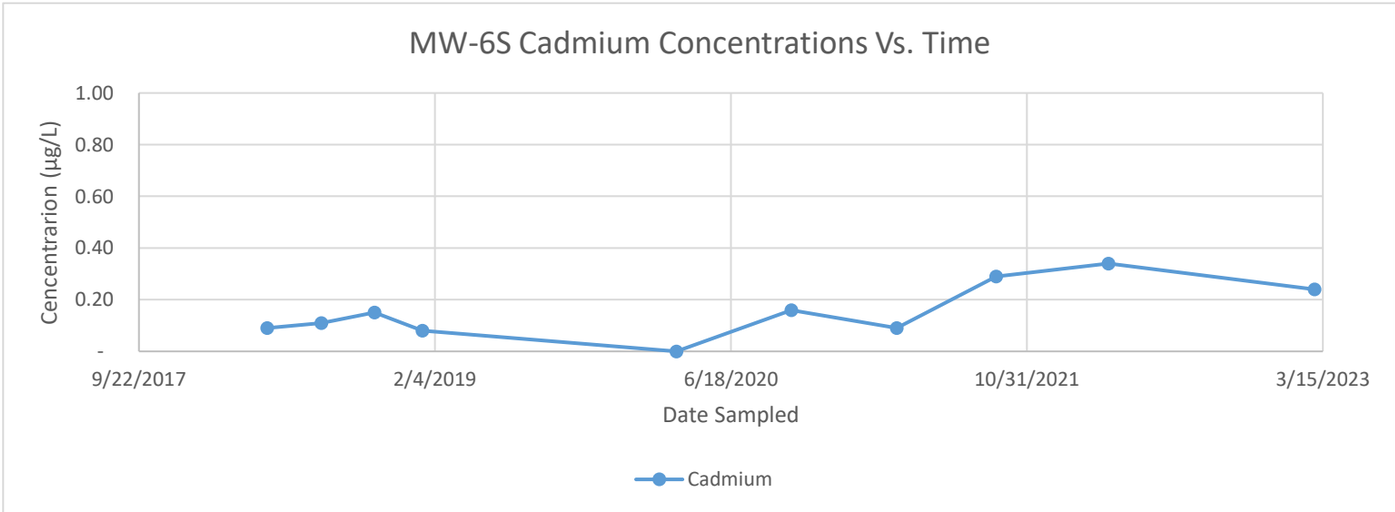

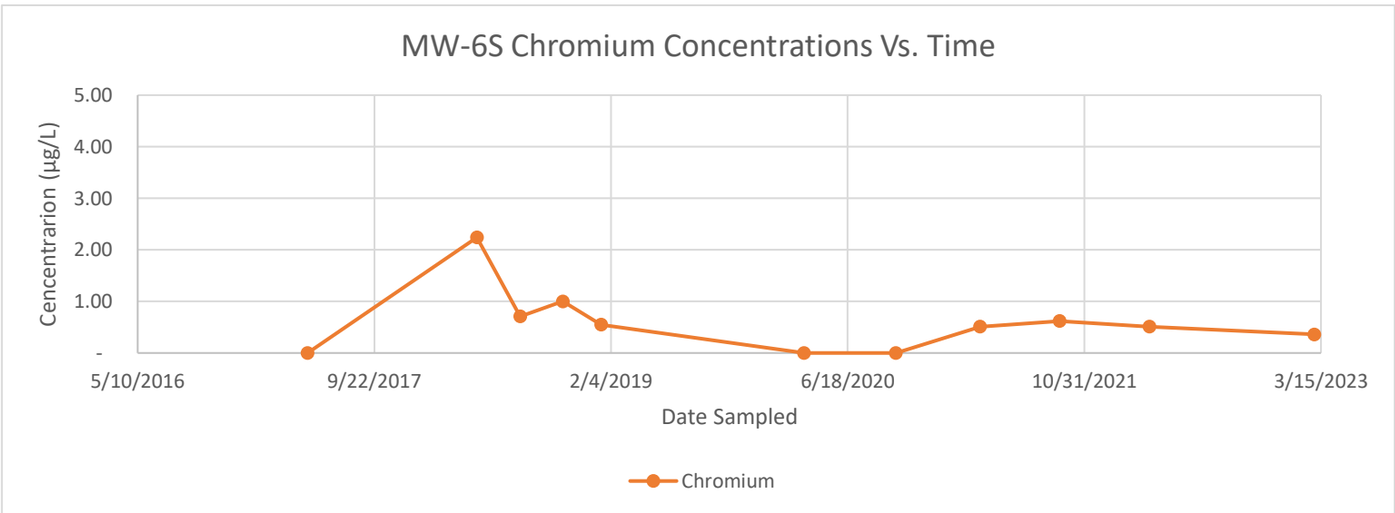

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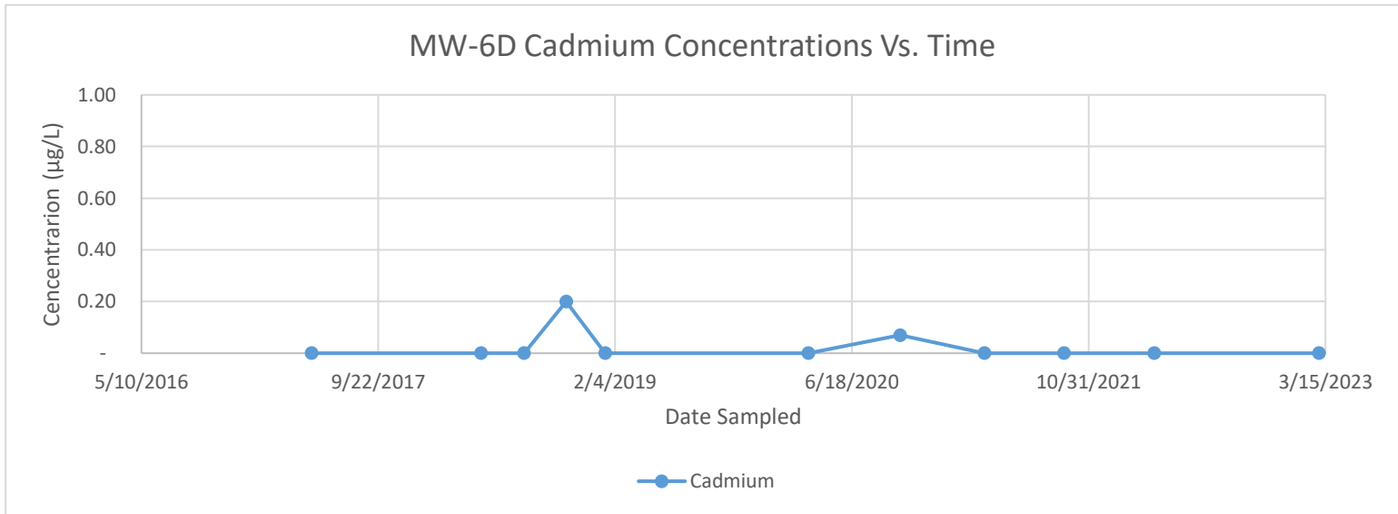

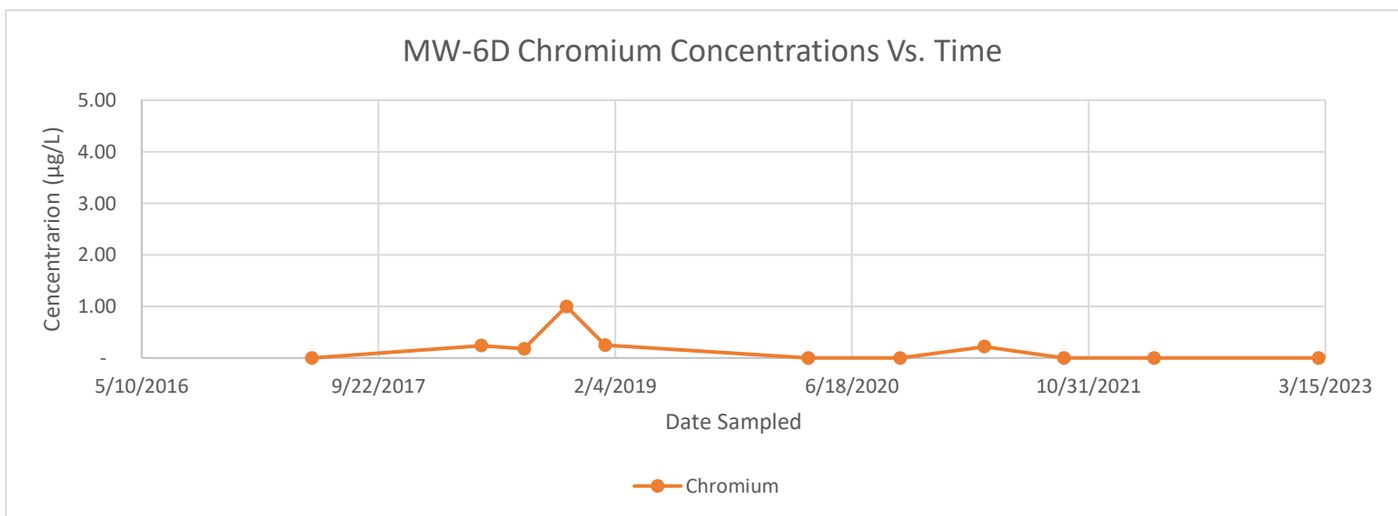

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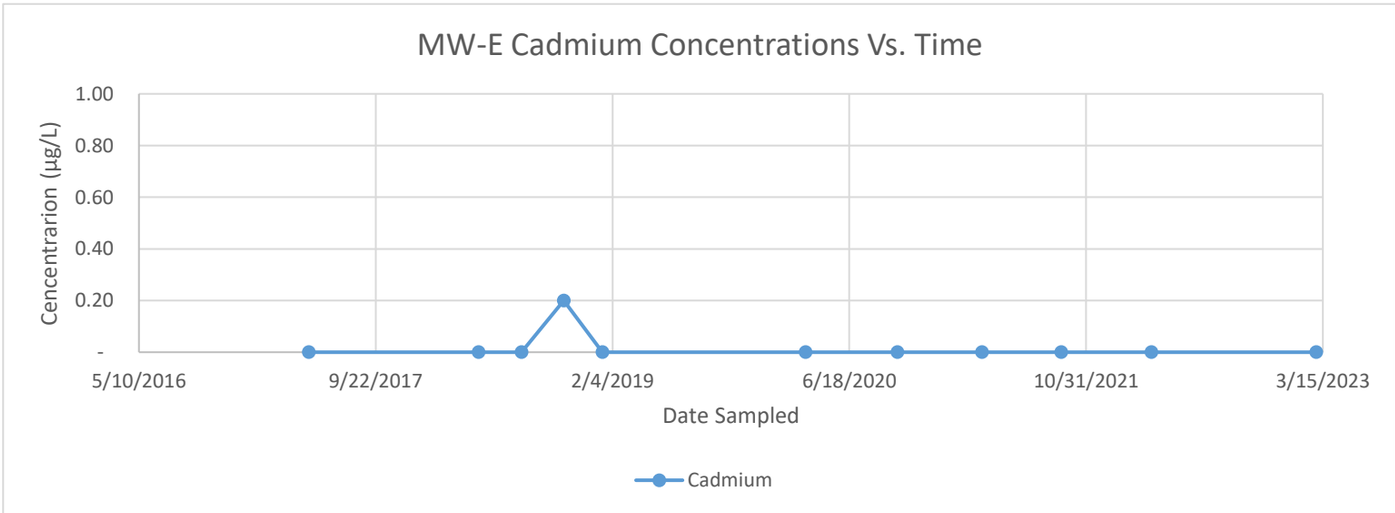
Metals Concentration over Time



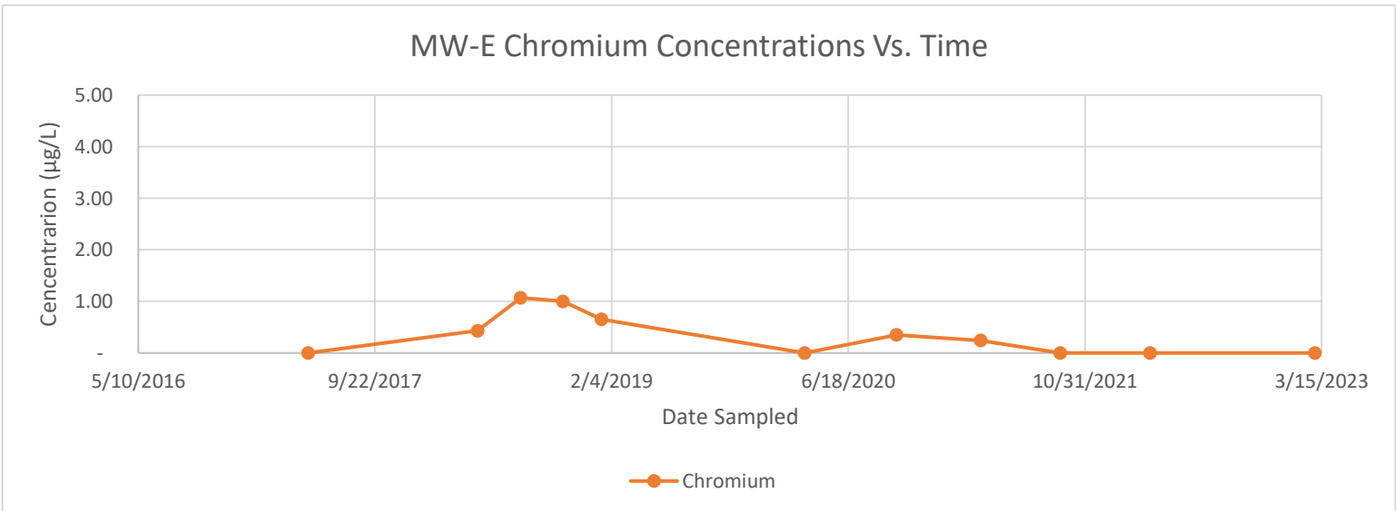


Figure 7:
PFAS Concentration Over Time

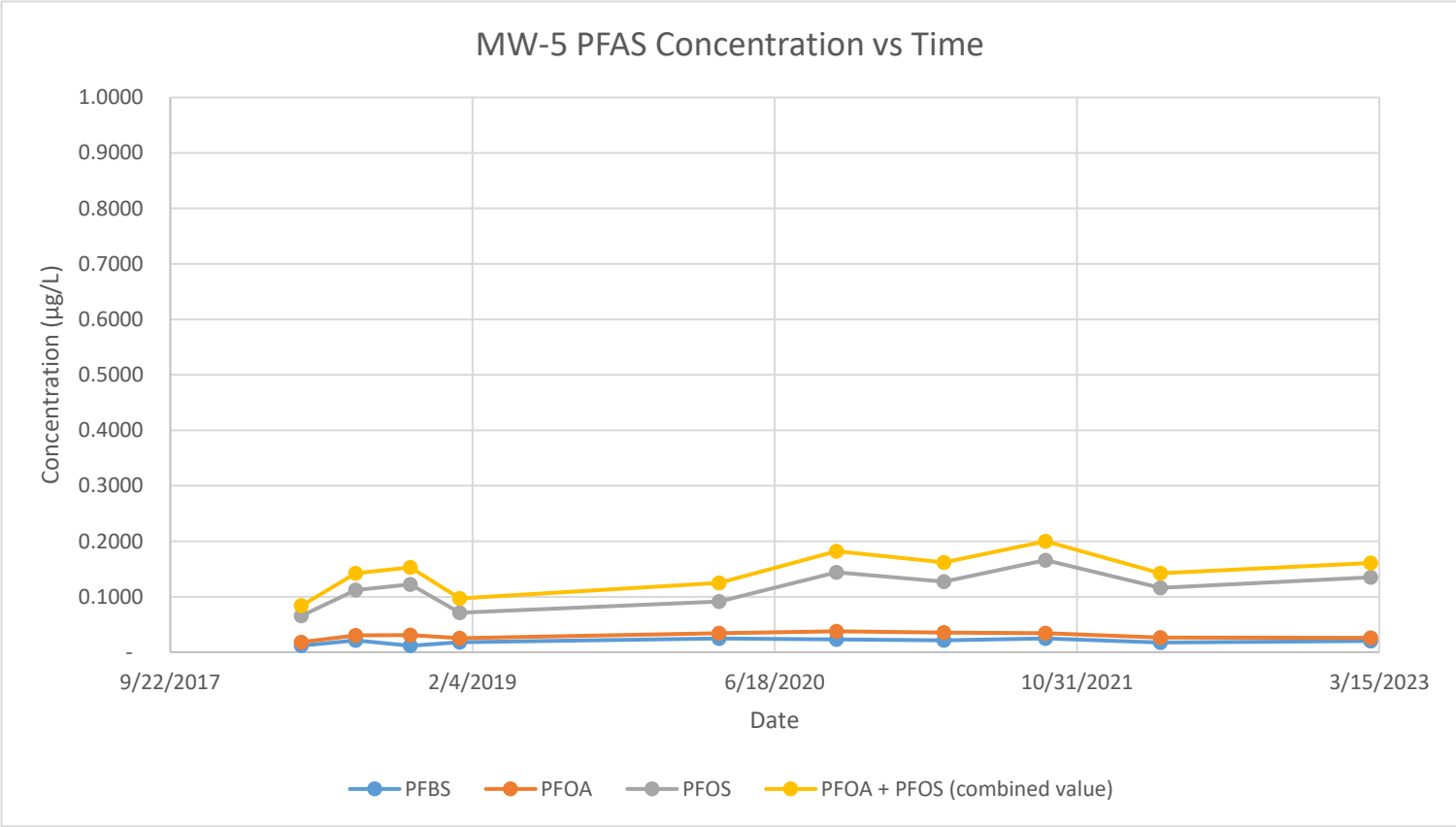


Figure 7:
PFAS Concentration Over Time

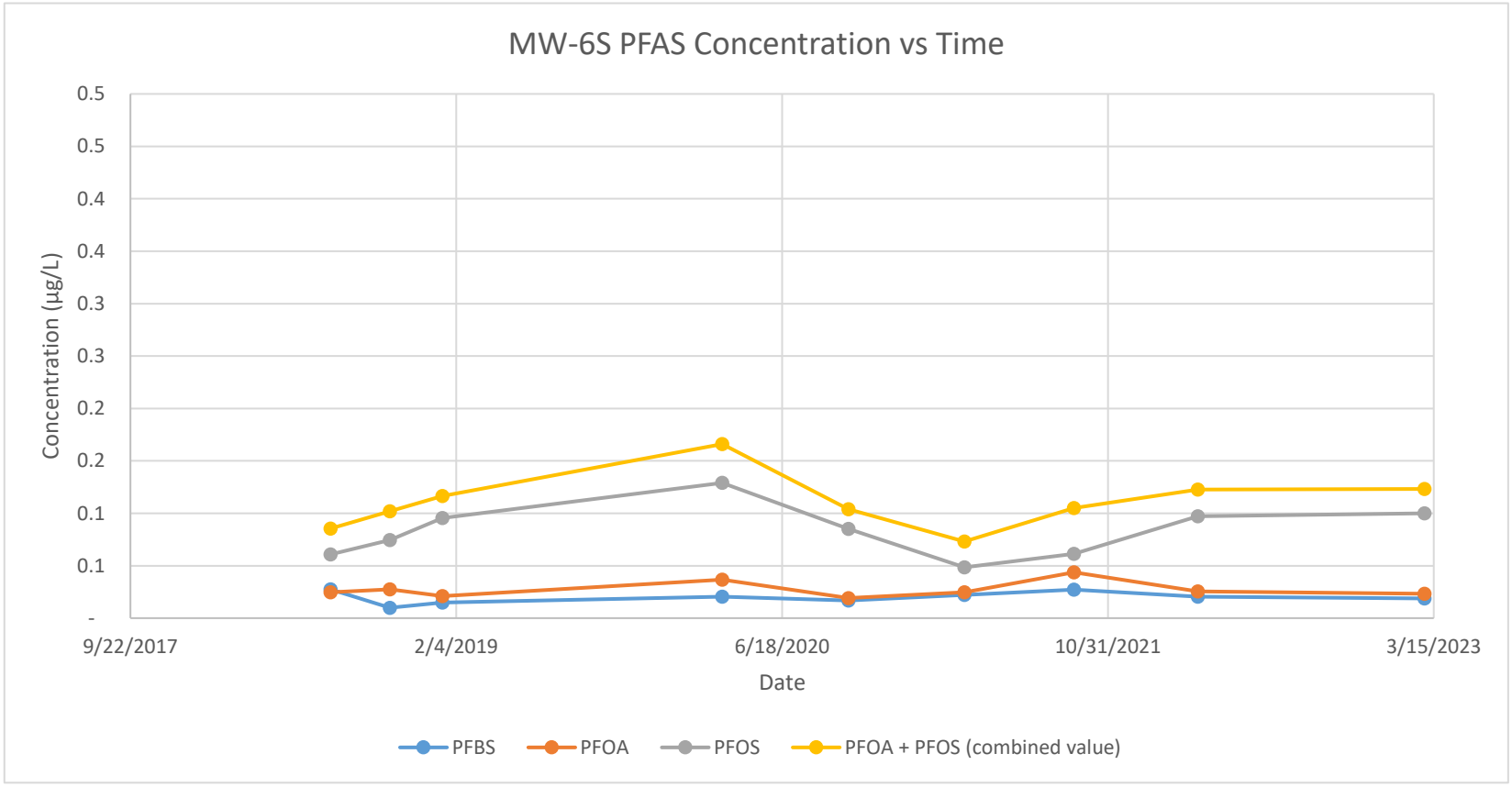


Figure 7:
PFAS Concentration Over Time

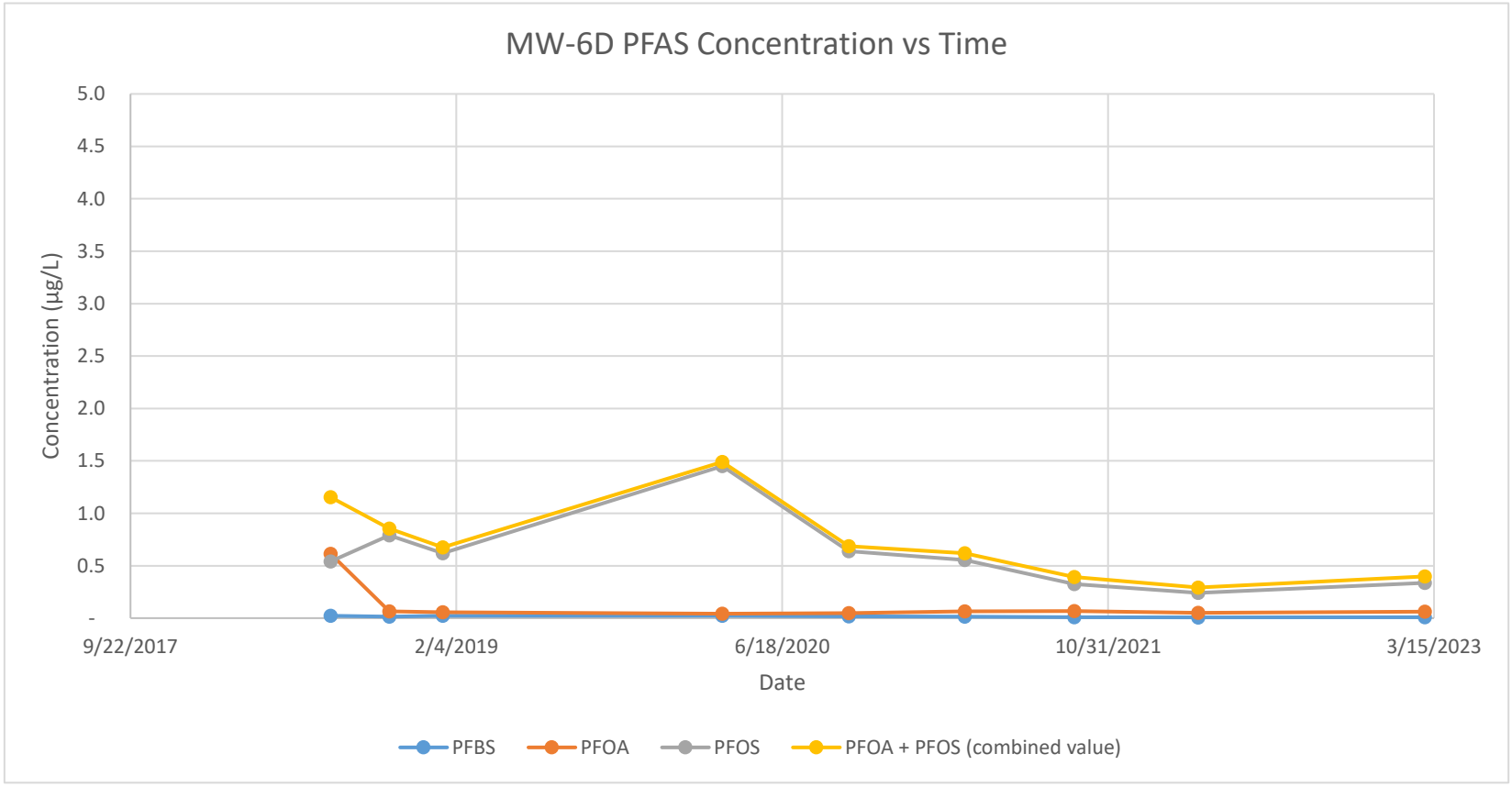
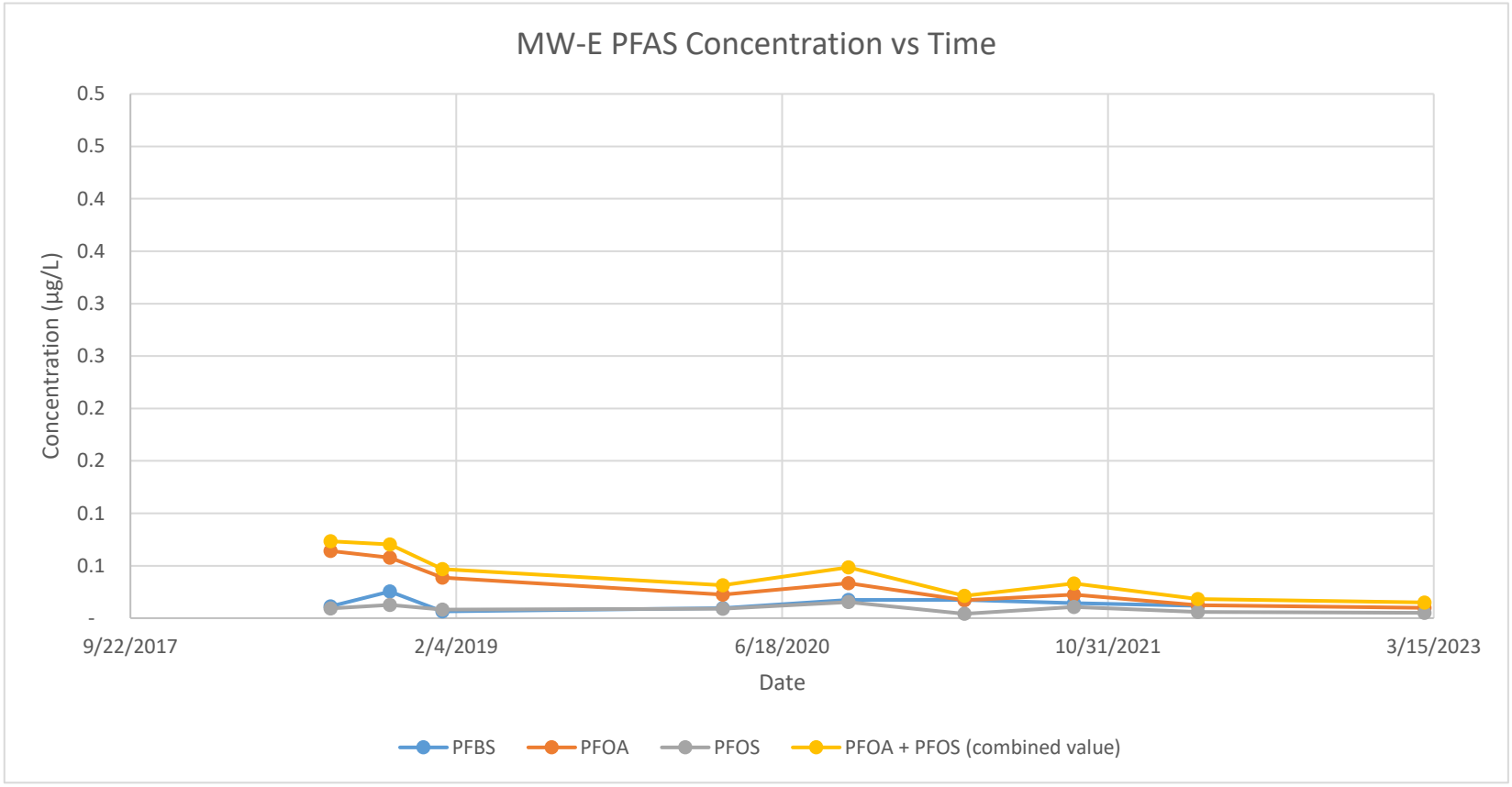


Figure 7:
PFAS Concentration Over Time



TABLES

TABLE 1: FORMER HYGRADE POLISHING AND PLATING
INDOOR AIR SAMPLING
22-07 41ST AVENUE, LONG ISLAND CITY, NY

		SAMPLE ID		IA-1/3-1-2023	
		SAMPLING DATE		3/1/2023	
		SAMPLE LOCATION		BASEMENT	
		SAMPLE TYPE		AIR	
		NYSDOH Guideline	Units	Results	Qual
Volatile Organics in Air					
	Dichlorodifluoromethane		ug/m3	3.05	
	Chloromethane		ug/m3	1.4	
	Freon-114		ug/m3	1.4	U
	1,3-Butadiene		ug/m3	0.442	U
	Bromomethane		ug/m3	0.777	U
	Chloroethane		ug/m3	0.528	U
	Ethanol		ug/m3	151	
	Vinyl bromide		ug/m3	0.874	U
	Acetone		ug/m3	210	
	Trichlorofluoromethane		ug/m3	1.33	
	Isopropanol		ug/m3	74	
	Tertiary butyl Alcohol		ug/m3	1.52	U
	Methylene chloride	60	ug/m3	1.74	U
	3-Chloropropene		ug/m3	0.626	U
	Carbon disulfide		ug/m3	3.86	
	Freon-113		ug/m3	1.53	U
	trans-1,2-Dichloroethene		ug/m3	0.793	U
	1,1-Dichloroethane		ug/m3	0.809	U
	Methyl tert butyl ether		ug/m3	0.721	U
	2-Butanone		ug/m3	1.68	
	Ethyl Acetate		ug/m3	2.64	
	Chloroform		ug/m3	0.977	U
	Tetrahydrofuran		ug/m3	1.47	U
	1,2-Dichloroethane		ug/m3	0.809	U
	n-Hexane		ug/m3	0.747	
	Benzene		ug/m3	1.15	
	Cyclohexane		ug/m3	0.688	U
	1,2-Dichloropropane		ug/m3	0.924	U
	Bromodichloromethane		ug/m3	1.34	U
	1,4-Dioxane		ug/m3	0.721	U
	2,2,4-Trimethylpentane		ug/m3	0.934	U
	Heptane		ug/m3	0.82	U
	cis-1,3-Dichloropropene		ug/m3	0.908	U
	4-Methyl-2-pentanone		ug/m3	2.05	U
	trans-1,3-Dichloropropene		ug/m3	0.908	U
	1,1,2-Trichloroethane		ug/m3	1.09	U
	Toluene		ug/m3	4.67	
	2-Hexanone		ug/m3	0.82	U
	Dibromochloromethane		ug/m3	1.7	U
	1,2-Dibromoethane		ug/m3	1.54	U
	Chlorobenzene		ug/m3	0.921	U
	Ethylbenzene		ug/m3	0.869	U
	p/m-Xylene		ug/m3	2.17	
	Bromoform		ug/m3	2.07	U
	Styrene		ug/m3	0.852	U
	1,1,2,2-Tetrachloroethane		ug/m3	1.37	U
	o-Xylene		ug/m3	0.895	
	4-Ethyltoluene		ug/m3	0.983	U
	1,3,5-Trimethylbenzene		ug/m3	0.983	U
	1,2,4-Trimethylbenzene		ug/m3	0.983	U
	Benzyl chloride		ug/m3	1.04	U
	1,3-Dichlorobenzene		ug/m3	1.2	U
	1,4-Dichlorobenzene		ug/m3	1.2	U
	1,2-Dichlorobenzene		ug/m3	1.2	U
	1,2,4-Trichlorobenzene		ug/m3	1.48	U
	Hexachlorobutadiene		ug/m3	2.13	U
Volatile Organics in Air by SIM					
	Vinyl chloride		ug/m3	0.051	U
	1,1-Dichloroethene		ug/m3	0.079	U
	cis-1,2-Dichloroethene		ug/m3	0.115	
	1,1,1-Trichloroethane		ug/m3	0.109	U
	Carbon tetrachloride		ug/m3	0.522	
	Trichloroethene	2	ug/m3	0.419	
	Tetrachloroethene	30	ug/m3	0.515	

* Comparison is not performed on parameters with non-numeric criteria.

NYSDOH Guideline: New York State Department of He

TABLE 2: GROUNDWATER VOC ANALYTICAL RESULTS
22-07 41ST AVENUE, LONG ISLAND CITY, NY

SAMPLE ID:			MW-E		MW-5		MW-6D		MW-X		MW-6S	
SAMPLING DATE:			3/1/2023		3/1/2023		3/1/2023		3/1/2023		3/1/2023	
SAMPLE LOCATION:			UPGRADIENT		DOWNGRADIENT		DOWNGRADIENT		DOWNGRADIENT		DOWNGRADIENT	
SAMPLE TYPE			WATER		WATER		WATER		WATER		WATER	
SAMPLE DEPTH (ft.)			10-20		8-18		22-32		22-32		8-18	
	NY-AWQS	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics by GC/MS												
Methylene chloride	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,1-Dichloroethane	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Chloroform	7	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Carbon tetrachloride	5	ug/l	0.5	U	0.5	U	5	U	5	U	0.5	U
1,2-Dichloropropane	1	ug/l	1	U	1	U	10	U	10	U	1	U
Dibromochloromethane	50	ug/l	0.5	U	0.5	U	5	U	5	U	0.5	U
1,1,2-Trichloroethane	1	ug/l	1.5	U	1.5	U	15	U	15	U	1.5	U
Tetrachloroethene	5	ug/l	0.5	U	0.37	J	39		45		0.78	
Chlorobenzene	5	ug/l	1.1	J	2.5	U	25	U	25	U	2.5	U
Trichlorofluoromethane	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,2-Dichloroethane	0.6	ug/l	0.5	U	0.5	U	5	U	5	U	0.5	U
1,1,1-Trichloroethane	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Bromodichloromethane	50	ug/l	0.5	U	0.5	U	5	U	5	U	0.5	U
trans-1,3-Dichloropropene	0.4	ug/l	0.5	U	0.5	U	5	U	5	U	0.5	U
cis-1,3-Dichloropropene	0.4	ug/l	0.5	U	0.5	U	5	U	5	U	0.5	U
1,3-Dichloropropene, Total		ug/l	0.5	U	0.5	U	5	U	5	U	0.5	U
1,1-Dichloropropene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Bromoform	50	ug/l	2	U	2	U	20	U	20	U	2	U
1,1,2,2-Tetrachloroethane	5	ug/l	0.5	U	0.5	U	5	U	5	U	0.5	U
Benzene	1	ug/l	0.5	U	0.5	U	5	U	5	U	0.5	U
Toluene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Ethylbenzene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Chloromethane		ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Bromomethane	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Vinyl chloride	2	ug/l	1	U	1	U	10	U	10	U	1	U
Chloroethane	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,1-Dichloroethene	5	ug/l	0.5	U	0.5	U	5	U	5	U	0.5	U
trans-1,2-Dichloroethene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Trichloroethene	5	ug/l	0.5	U	3.2		15		17		1.2	
1,2-Dichlorobenzene	3	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,3-Dichlorobenzene	3	ug/l	0.8	J	2.5	U	25	U	25	U	2.5	U
1,4-Dichlorobenzene	3	ug/l	1	J	2.5	U	25	U	25	U	2.5	U
Methyl tert butyl ether	10	ug/l	2.5	U	2.5	U	230		210		2.5	U
p/m-Xylene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
o-Xylene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Xylenes, Total		ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
cis-1,2-Dichloroethene	5	ug/l	2.5	U	2.5	U	27		26		2.5	U
1,2-Dichloroethene, Total		ug/l	2.5	U	2.5	U	27		26		2.5	U
Dibromomethane	5	ug/l	5	U	5	U	50	U	50	U	5	U
1,2,3-Trichloropropane	0.04	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Acrylonitrile	5	ug/l	5	U	5	U	50	U	50	U	5	U
Styrene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Dichlorodifluoromethane	5	ug/l	5	U	5	U	50	U	50	U	5	U
Acetone	50	ug/l	5	U	5	U	50	U	50	U	5	U
Carbon disulfide	60	ug/l	5	U	5	U	50	U	50	U	5	U
2-Butanone	50	ug/l	5	U	5	U	50	U	50	U	5	U
Vinyl acetate		ug/l	5	U	5	U	50	U	50	U	5	U
4-Methyl-2-pentanone		ug/l	5	U	5	U	50	U	50	U	5	U
2-Hexanone	50	ug/l	5	U	5	U	50	U	50	U	5	U
Bromochloromethane	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
2,2-Dichloropropane	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,2-Dibromoethane	0.0006	ug/l	2	U	2	U	20	U	20	U	2	U
1,3-Dichloropropane	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,1,1,2-Tetrachloroethane	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Bromobenzene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
n-Butylbenzene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
sec-Butylbenzene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
tert-Butylbenzene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
o-Chlorotoluene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
p-Chlorotoluene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,2-Dibromo-3-chloropropane	0.04	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Hexachlorobutadiene	0.5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Isopropylbenzene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
p-Isopropyltoluene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
Naphthalene	10	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
n-Propylbenzene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,2,3-Trichlorobenzene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,2,4-Trichlorobenzene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,3,5-Trimethylbenzene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,2,4-Trimethylbenzene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
1,4-Dioxane		ug/l	250	U	250	U	2500	U	2500	U	250	U
p-Diethylbenzene		ug/l	2	U	2	U	20	U	20	U	2	U
p-Ethyltoluene		ug/l	2	U	2	U	20	U	20	U	2	U
1,2,4,5-Tetramethylbenzene	5	ug/l	2	U	2	U	20	U	20	U	2	U
Ethyl ether		ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U
trans-1,4-Dichloro-2-butene	5	ug/l	2.5	U	2.5	U	25	U	25	U	2.5	U

U Compound not detected above the indicated method reporting limit
J Indicates estimated value; value is below the reporting limit but above the minimum detection limit
Sample MW-X is a duplicate of sample MW-6D
NY-AWQS: New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

TABLE 3: GROUNDWATER METALS ANALYTICAL RESULTS
22-07 41ST AVENUE, LONG ISLAND CITY, NY

	SAMPLE ID:			MW-E		MW-5		MW-6D		MW-X		MW-6S	
	SAMPLING DATE:			3/1/2023		3/1/2023		3/1/2023		3/1/2023		3/1/2023	
	SAMPLE LOCATION:			UPGRADIENT		DOWNGRADIENT		DOWNGRADIENT		DOWNGRADIENT		DOWNGRADIENT	
	SAMPLE TYPE			WATER		WATER		WATER		WATER		WATER	
	SAMPLE DEPTH (ft.)			10-20		8-18		22-32		22-32		8-18	
		NY-AWQS	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Dissolved Metals													
	Aluminum, Dissolved		ug/l	3.7	J	11		6.15	J	10	U	3.29	J
	Antimony, Dissolved	3	ug/l	4	U	0.51	J	4	U	4	U	0.7	J
	Arsenic, Dissolved	25	ug/l	2.89		0.5	U	1.67		1.58		0.5	U
	Barium, Dissolved	1000	ug/l	52.87		74.63		243.5		226.6		176.3	
	Beryllium, Dissolved	3	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
	Cadmium, Dissolved	5	ug/l	0.2	U	0.07	J	0.2	U	0.2	U	0.24	
	Calcium, Dissolved		ug/l	63800		103000		232000		174000		208000	
	Chromium, Dissolved	50	ug/l	1	U	0.76	J	1	U	1	U	0.37	J
	Cobalt, Dissolved		ug/l	0.33	J	0.68		0.91		0.62		0.85	
	Copper, Dissolved	200	ug/l	1.25	J	0.85	J	0.71	J	0.96	J	1.14	J
	Iron, Dissolved	300	ug/l	50	U	20.8	J	50	U	50	U	50	U
	Lead, Dissolved	25	ug/l	0.34	J	1.45		1	U	1	U	1	U
	Magnesium, Dissolved	35000	ug/l	13000		9560		95100		96000		19600	
	Manganese, Dissolved	300	ug/l	608.8		101.1		1107		38.28		156.8	
	Mercury, Dissolved	0.7	ug/l	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
	Nickel, Dissolved	100	ug/l	1.05	J	2.96		12.6		14.01		50.3	
	Potassium, Dissolved		ug/l	13200		28000		15500		14600		27100	
	Selenium, Dissolved	10	ug/l	5	U	9.39		5	U	5	U	3.69	J
	Silver, Dissolved	50	ug/l	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
	Sodium, Dissolved	20000	ug/l	95600		303000		204000		201000		332000	
	Thallium, Dissolved	0.5	ug/l	0.19	J	0.18	J	0.16	J	0.23	J	0.38	J
	Vanadium, Dissolved		ug/l	5	U	5	U	5	U	5	U	5	U
	Zinc, Dissolved	2000	ug/l	10	U	10	U	10	U	10	U	10	U

U Compound not detected above the indicated method reporting limit
J Indicates estimated value; value is below the reporting limit but above the minimum detection limit
Sample MW-X is a duplicate of sample MW-6D
NY-AWQS: New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

TABLE 3: GROUNDWATER METALS ANALYTICAL RESULTS
22-07 41ST AVENUE, LONG ISLAND CITY, NY

	SAMPLE ID:			MW-E		MW-5		MW-6D		MW-X		MW-6S	
	SAMPLING DATE:			3/1/2023		3/1/2023		3/1/2023		3/1/2023		3/1/2023	
	SAMPLE LOCATION:			UPGRADIENT		DOWNGRADIENT		DOWNGRADIENT		DOWNGRADIENT		DOWNGRADIENT	
	SAMPLE TYPE			WATER		WATER		WATER		WATER		WATER	
	SAMPLE DEPTH (ft.)			10-20		8-18		22-32		22-32		8-18	
		NY-AWQS	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals													
	Aluminum, Total		ug/l	1990		62		15.3		7.88	J	35.6	
	Antimony, Total	3	ug/l	4	U	4	U	4	U	4	U	1.92	J
	Arsenic, Total	25	ug/l	4.1		0.28	J	1.89		1.95		0.41	J
	Barium, Total	1000	ug/l	74.56		79.32		260.2		272.9		191.4	
	Beryllium, Total	3	ug/l	0.11	J	0.5	U	0.5	U	0.5	U	0.5	U
	Cadmium, Total	5	ug/l	0.2	U	0.07	J	0.2	U	0.2	U	0.31	
	Calcium, Total		ug/l	57300		96000		219000		224000		194000	
	Chromium, Total	50	ug/l	5.31		1.36		0.27	J	1	U	8.34	
	Cobalt, Total		ug/l	2.19		1		1.07		1.21		1	
	Copper, Total	200	ug/l	7.83		1.23		1.58		1.17		3.36	
	Iron, Total	300	ug/l	4170		98.1		398		368		298	
	Lead, Total	25	ug/l	2.39		0.61	J	1	U	1	U	1	U
	Magnesium, Total	35000	ug/l	14100		10100		111000		112000		23000	
	Manganese, Total	300	ug/l	728.9		105.2		1048		1157		148	
	Mercury, Total	0.7	ug/l	0.11	J	0.09	J	0.13	J	0.17	J	0.09	J
	Nickel, Total	100	ug/l	6.29		2.49		15.19		16.24		58.43	
	Potassium, Total		ug/l	11500		19400		15000		15100		26600	
	Selenium, Total	10	ug/l	1.75	J	8.62		5	U	5	U	3.71	J
	Silver, Total	50	ug/l	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
	Sodium, Total	20000	ug/l	90600		298000		208000		201000		352000	
	Thallium, Total	0.5	ug/l	1	U	1	U	1	U	1	U	0.29	J
	Vanadium, Total		ug/l	6.29		5	U	5	U	5	U	1.82	J
	Zinc, Total	2000	ug/l	18.55		10	U	10	U	10	U	10	U

U Compound not detected above the indicated method reporting limit
J Indicates estimated value; value is below the reporting limit but above the minimum detection limit
Sample MW-X is a duplicate of sample MW-6D
NY-AWQS: New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

TABLE 4: GROUNDWATER PFAS ANALYTICAL RESULTS
22-07 41ST AVENUE, LONG ISLAND CITY, NY

SAMPLE ID:			MW-E		MW-5		MW-6D		MW-X		MW-6S	
SAMPLING DATE:			3/1/2023		3/1/2023		3/1/2023		3/1/2023		3/1/2023	
SAMPLE LOCATION:			UPGRADIENT		DOWNGRADIENT		DOWNGRADIENT		DOWNGRADIENT		DOWNGRADIENT	
SAMPLE TYPE			WATER		WATER		WATER		WATER		WATER	
SAMPLE DEPTH (ft.)			10-20		8-18		22-32		22-32		8-18	
	NY-AWQS	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Perfluorinated Alkyl Acids by Isotope Dilution												
Perfluorobutanoic Acid (PFBA)	NS	ug/l	0.0217		0.0137		0.0101		0.00982		0.0143	
Perfluoropentanoic Acid (PFPeA)	NS	ug/l	0.0438		0.0141		0.0109		0.0104		0.015	
Perfluorobutanesulfonic Acid (PFBS)	NS	ug/l	0.00803		0.0205		0.00816		0.00883		0.0189	
Perfluorohexanoic Acid (PFHxA)	NS	ug/l	0.0487		0.0126		0.0217		0.0186		0.0204	
Perfluoroheptanoic Acid (PFHpA)	NS	ug/l	0.00766		0.00623		0.00799		0.00814		0.00721	
Perfluorohexanesulfonic Acid (PFHxS)	NS	ug/l	0.00154	J	0.00342		0.0245		0.026		0.00482	
Perfluorooctanoic Acid (PFOA)	0.01	ug/l	0.00984		0.0257		0.0608		0.0595		0.0233	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	NS	ug/l	0.00183	JB	0.00218		0.0972		0.0897		0.00156	JB
Perfluoroheptanesulfonic Acid (PFHpS)	NS	ug/l	0.00207	U	0.00188	U	0.0031		0.00296		0.00104	J
Perfluorononanoic Acid (PFNA)	NS	ug/l	0.00136	J	0.000731	J	0.0031		0.00319		0.00233	
Perfluorooctanesulfonic Acid (PFOS)	0.01	ug/l	0.00513		0.135		0.337		0.387		0.1	
Perfluorodecanoic Acid (PFDA)	NS	ug/l	0.000493	J	0.00188	U	0.00186	U	0.00187	U	0.000399	J
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	NS	ug/l	0.00207	U	0.00188	U	0.00186	U	0.00187	U	0.00178	U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	NS	ug/l	0.00207	U	0.00188	U	0.00186	U	0.00187	U	0.00178	U
Perfluoroundecanoic Acid (PFUnA)	NS	ug/l	0.00207	U	0.00188	U	0.00186	U	0.00187	U	0.00178	U
Perfluorodecanesulfonic Acid (PFDS)	NS	ug/l	0.00207	U	0.00188	U	0.00186	U	0.00187	U	0.00178	U
Perfluorooctanesulfonamide (FOSA)	NS	ug/l	0.00207	U	0.00188	U	0.00186	U	0.00187	U	0.00178	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NS	ug/l	0.00207	U	0.00188	U	0.00186	U	0.00187	U	0.00178	U
Perfluorododecanoic Acid (PFDoA)	NS	ug/l	0.00207	U	0.00188	U	0.00186	U	0.00187	U	0.00178	U
Perfluorotridecanoic Acid (PFTrDA)	NS	ug/l	0.00207	U	0.00188	U	0.00186	U	0.00187	U	0.00178	U
Perfluorotetradecanoic Acid (PFTA)	NS	ug/l	0.00207	U	0.00188	U	0.00186	U	0.00187	U	0.00178	U
PFOA/PFOS, Total	NS	ug/l	0.015		0.161		0.398		0.447		0.123	

NS No Standard
U Compound not detected above the indicated method reporting limit
J Indicates estimated value; value is below the reporting limit but above the minimum detection limit
Sample MW-X is a duplicate of sample MW-6D
NY-AWQS: New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

TABLE 5:
PREVIOUS INVESTIGATION RESULTS FOR CONTAMINANTS OF CONCERN - VOCs
22-07 41ST AVENUE, LONG ISLAND CITY, NY

Former Hygrade Plating GW Results in µg/L

VOCs in µg/L

MW-5												
Date:	5/4/2017	4/27/2018	7/26/2018	10/24/2018	1/14/2019	3/18/2020	9/28/2020	3/25/2021	9/9/2021	3/18/2022	3/1/2023	NY-AWQS
PCE	0.53	0.57	0.57	0.84	0.55	0.38 J	0.55	0.46 J	0.76	0.37 J	0.37J	5
TCE	2.70	3.40	4.6	5.5	4.4	3.7	5.1	3.7	4.4	3.2	3.2	5
c-1,2-DCE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
VC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2

MW-6S												
Date:	5/4/2017	4/27/2018	7/26/2018	10/25/2018	1/14/2019	3/18/2020	9/28/2020	3/25/2021	9/9/2021	3/18/2022	3/1/2023	NY-AWQS
PCE	0.46	0.58	0.49 J	0.92	0.48	0.47 J	1	0.72	0.8	1.1	0.78	5
TCE	0.75	1.1	1.1	1.4	1	0.95	1.4	1.10	1.4	1.3	1.2	5
c-1,2-DCE	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2 J	ND	5
VC	ND	ND	0.08 J	0.11 J	ND	ND	ND	ND	ND	0.19	ND	2

MW-6D												
Date:	5/4/2017	4/27/2018	7/26/2018	10/25/2018	1/14/2019	3/18/2020	9/28/2020	3/25/2021	9/9/2021	3/18/2022	3/1/2023	NY-AWQS
PCE	43	37	13	34	32	64 J+	72	36	ND	54	39	5
TCE	13	10	6.4	14	14	25	25	16	3.9	20	15	5
c-1,2-DCE	ND	23	33	32	31	35	29	19	50	30	27	5
VC	ND	ND	1.2 J	ND	0.19 J	0.45 J	0.55 J	ND	ND	ND	ND	2

MW-E												
Date:	5/4/2017	4/27/2018	7/26/2018	10/25/2018	1/14/2019	3/19/2020	9/28/2020	3/25/2021	9/9/2021	3/18/2022	3/1/2023	NY-AWQS
PCE	0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
TCE	ND	ND	ND	ND	0.5	ND	ND	ND	ND	ND	ND	5
c-1,2-DCE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
VC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2

ND - Not Detected
J - indicates estimated value; concentration is below the reporting limit but above the minimum detection limit

Note:

During sampling events on 4/27/2018; 7/26/2018; 10/25/2018; 1/14/2019; and 3/18/2020 the covers to wells MW-6S and MW-6D were switched. This was discovered during the 9/28/2020 sampling event. Therefore, the results previously reported for MW-6S on those dates are now reported as MW-6D. Similarly, the data reported for MW-6D for those dates is now reported as MW-6S.

TABLE 6:
PREVIOUS INVESTIGATION RESULTS FOR CONTAMINANTS OF CONCERN - METALS
22-07 41ST AVENUE, LONG ISLAND CITY, NY

Former Hygrade Plating GW Results in µg/L

Dissolved Metals in µg/L

MW-5												
Date:	5/4/2017	4/27/2018	7/27/2018	10/24/2018	1/14/2019	3/18/2020	9/28/2020	3/25/2021	9/9/2021	3/18/2022	3/1/2023	NY-AWQS
Cadmium	0.11	ND	0.1 J	0.2	ND	ND	ND	0.1 J	0.1 J	0.08 J	0.07J	5
Chromium	ND	7.08	5.67	3.36	2.76	ND	0.57 J	0.62 J	2.19	0.81 J	0.76J	50
Hex Chromium	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50

MW-6S												
Date:	5/4/2017	4/27/2018	7/27/2018	10/25/2018	1/14/2019	3/18/2020	9/28/2020	3/25/2021	9/9/2021	3/18/2022	3/1/2023	NY-AWQS
Cadmium	0.16	0.09	0.11 J	0.15	0.08 J	ND	0.16 J	0.09 J	0.29	0.34	0.24	5
Chromium	ND	2.24	0.71 J	1	0.55 J	ND	ND	0.51 J	0.62 J	0.51 J	0.36	50
Hex Chromium	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50

MW-6D												
Date:	5/4/2017	4/27/2018	7/27/2018	10/24/2018	1/14/2019	3/18/2020	9/28/2020	3/25/2021	9/9/2021	3/18/2022	3/1/2023	NY-AWQS
Cadmium	ND	ND	ND	0.2	ND	ND	0.07 J	ND	ND	ND	ND	5
Chromium	ND	0.24	0.18 J	1	0.25 J	ND	ND	0.22 J	ND	ND	ND	50
Hex Chromium	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50

MW-E												
Date:	5/4/2017	4/27/2018	7/27/2018	10/25/2018	1/14/2019	3/19/2020	9/28/2020	3/25/2021	9/9/2021	3/18/2022	3/1/2023	NY-AWQS
Cadmium	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND	ND	5
Chromium	ND	0.43	1.07	1	0.65 J	ND	0.35 J	0.24 J	ND	.26 J	ND	50
Hex Chromium	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50

ND - Not Detected
NA - Not Analyzed
J - indicates estimated value; concentration is below the reporting limit but above the minimum detection limit

Note:

During sampling events on 4/27/2018; 7/26/2018; 10/25/2018; 1/14/2019; and 3/18/2020 the covers to wells MW-6S and MW-6D were switched. This was discovered during the 9/28/2020 sampling event. Therefore, the results previously reported for MW-6S on those dates are now reported as MW-6D. Similarly, the data reported for MW-6D for those dates is now reported as MW-6S.

TABLE 7:
PREVIOUS INVESTIGATION RESULTS FOR CONTAMINANTS OF CONCERN - PFAS
22-07 41ST AVENUE, LONG ISLAND CITY, NY

Former Hygrade Plating GW Results in µg/L

PFAS in µg/L

MW-5												
Date:	4/27/2018	7/26/2018	10/24/2018	1/14/2019	3/18/2020	9/28/2020	3/25/2021	9/9/2021	3/18/2022	3/1/2023	NY State	EPA
PFBS	0.0119	0.0214	0.0116	0.0178	0.0245	0.0232	0.0216	0.0248	0.0176	0.0205	NS	400
PFOA	0.0182	0.0305	0.031	0.0254	0.0342	0.0377	0.0351	0.034	0.027	0.0257	0.01	0.07
PFOS	0.0656	0.112	0.122	0.0714	0.0911 J+	0.144	0.127	0.166	0.116	0.135	0.01	0.07
PFOA + PFOS (combined value)	0.0838	0.1425	0.153	0.0968	0.1250	0.182	0.162	0.2	0.1	0.2	NS	0.07

MW-6S												
Date:	4/27/2018	7/26/2018	10/25/2018	1/14/2019	3/18/2020	9/28/2020	3/5/2021	9/9/2021	3/18/2022	3/1/2023	NY State	EPA
PFBS	0.0138	0.0275	0.0099	0.0149	0.0205	0.0168	0.0222	0.0273	0.0205	0.0189	NS	400
PFOA	0.0174	0.025	0.0276	0.0209	0.0367	0.0192	0.0246	0.0437	0.0256	0.0233	0.01	0.07
PFOS	0.0644	0.0608	0.0744	0.0956	0.129 J+	0.0851	0.0485	0.0613	0.0971	0.10	0.01	0.07
PFOA + PFOS (combined value)	0.0818	0.0854	0.102	0.1165	0.166	0.104	0.0731	0.105	0.123	0.123	NS	0.07

MW-6D												
Date:	4/27/2018	7/26/2018	10/24/2018	1/14/2019	3/18/2020	9/28/2020	3/25/2021	9/9/2021	3/18/2022	3/1/2023	NY State	EPA
PFBS	0.0225	0.0227	0.01320	0.0220	0.0237	0.0177	0.0141	0.0085	0.00727	0.00816	NS	400
PFOA	0.0487	0.6140	0.0652	0.0573	0.0423	0.0490	0.0636	0.0667	0.0512	0.0608	0.01	0.07
PFOS	0.479	0.541**	0.789	0.618	1.45 J+	0.638 J+	0.556	0.326	0.241	0.337	0.01	0.07
PFOA + PFOS (combined value)	0.5277	1.155	0.854	0.6753	1.49	0.687	0.62	0.393	0.292	0.398	NS	0.07

MW-E												
Date:	4/27/2018	7/26/2018	10/25/2018	1/14/2019	3/19/2020	9/28/2020	3/25/2021	9/9/2021	3/18/2022	3/1/2023	NY State	EPA
PFBS	0.00714	0.0111	0.0254	0.00645	0.00951	0.0173	0.0174	0.0143 J	0.0117	0.00803	NS	400
PFOA	0.0292	0.0641	0.0578	0.0386	0.0224	0.0333	0.0172	0.0223 J	0.0123	0.00984	0.01	0.07
PFOS	0.00526	0.00921	0.0126	0.00809	0.00898 J+	0.0153	0.0041	0.0107 J	0.0059	0.00513	0.01	0.07
PFOA + PFOS (combined value)	0.03446	0.07331	0.070	0.04669	0.0314	0.0486	0.0213	0.033	0.018	0.01497	NS	0.07

** Due to analyte exceedance above laboratory instrument, the tabulated value is from second laboratory run after a 1 to 10 dilution factor
J - indicates estimated value; concentration is below the reporting limit but above the minimum detection limit
J+ - Concentration is estimated; biased high
NS - No standard

Note:

During sampling events on 4/27/2018; 7/26/2018; 10/25/2018; 1/14/2019; and 3/18/2020 the covers to wells MW-6S and MW-6D were switched. This was discovered during the 9/28/2020 sampling event. Therefore, the results previously reported for MW-6S on those dates are now reported as MW-6D. Similarly, the data reported for MW-6D for those dates is now reported as MW-6S.

TABLE 8:
ELEVATIONS OF MONITORING WELLS AND WATER TABLE
FORMER HYGRADE
LONG ISLAND CITY, NEW YORK

Well ID Number	Elevation of Top of Casing (ft. MSL)	Depth to Water (ft.) March 1, 2023	Water Table Elevation (ft. MSL)	Depth to Top of Screen Interval (ft. bgs)	Depth to Bottom of Screen Interval (ft. bgs)	Elevation of Top of Screen (ft. MSL)	Elevation of Bottom of Screen Interval (ft. MSL)
MW-5	14.50	8.78	5.72	7.71	17.71	6.79	-3.21
MW-6S	14.09	8.42	5.67	8.10	18.10	5.99	-4.01
MW-6D	14.18	8.58	5.60	21.76	31.76	-7.58	-17.58
MW-E	16.21	9.43	6.78	9.89	19.89	6.32	-3.68

APENDICES

APPENDIX A – CERTIFICATION FORM

APPENDIX B – FIELD NOTES

APPENDIX C – IAQ QUESTIONAIRE

APPENDIX D – DUSR

APPENDIX E – LABORATORY REPORT

APPENDIX F – REMEDIAL SYSTEM MONITORING FORM

APPENDIX G – GROUNDWATER MONITORING WELL AND INJECTION POINT LOCATION MAP

APPENDIX A – CERTIFICATION FORM

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **C241148**

Site Name Former Hygrade Polishing and Plating Co.

Site Address: 22-07 41st Avenue Zip Code: 11101
City/Town: Long Island City
County: Queens
Site Acreage: 0.057

Reporting Period: April 22, 2022 to April 22, 2023

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☒	☐
7. Are all ICs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

Box 2A

	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	X

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	X	☐

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

SITE NO. C241148 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
409-6	Stalingrad Ventures LLC	Ground Water Use Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan Soil Management Plan Landuse Restriction

Imposition of an institutional control in the form of environmental easement for the controlled property which will:
-require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- *allow the use and development of the controlled property for commercial use as* defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and
- require compliance with the Department approved Site Management Plan.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
409-6	*Vapor Mitigation* Cover System Monitoring Wells Groundwater Treatment System

A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks or soil where the upper one foot of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for commercial use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

Continued operation and maintenance of the on-site sub-slab depressurization system, which was *installed as an interim remedial measure (IRM), to mitigate the migration of vapors into the* building from groundwater. Any future on-site buildings will be required to have a sub-slab depressurization system, or a similar engineered system, to prevent the migration of vapors into the building from soil and/or groundwater.

Parcel	Engineering Control
Continued operation and monitoring of the liquid activated carbon groundwater treatment system.	

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification *are in accordance with the requirements of the site remedial program, and generally accepted* engineering practices; and the information presented is accurate and compete.

YES	NO
X	☐

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
X	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C241148

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Robert Birnbaum (print name) at Stalingrad Ventures, LLC 100 Field St., West Babylon, NY 11704 (print business address),

am certifying as Remedial Party (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

4/7/23
Date

EC CERTIFICATIONS

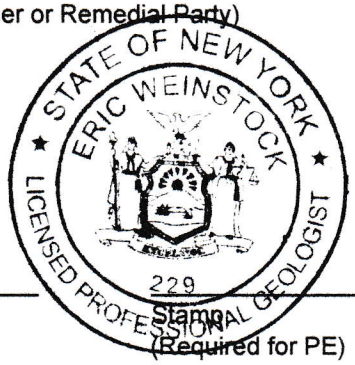
Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Eric Weinstock (print name) at Eric A. Weinstock, PG, PC 314 Hudson View Ter., Hyde Park, NY 12538 (print business address)

am certifying as a QEP for the Remedial Party (Owner or Remedial Party)



Eric Weinstock

Signature of QEP, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

4/18/23

Date

APPENDIX B – FIELD NOTES

TOUCHSTONE
ENVIRONMENTAL GEOLOGY P.C.

Low Flow Ground Water Sampling Log

Project Name: 22.07 4/st. Ave.
Project Number:
Monitoring Well: MW-5

Date: 3/3/2023
Weather: Sunny
Field Personnel: Firat Alaman

Reported Well depth ft Btoc: 18.05
Well Diameter (in): 2 in.
Well Condition:

Screened/Open Interval (ft btoc): 10
Depth to Water (ft btoc): 8.78

PID Readings (ppm): Background: NA
Beneath outer cap NA
Beneath inner cap: NA

Depth of Pump (ft btoc):
Purging Method: peristaltic Pump

Well Purging and Sampling:

Time 5 Minute Intervals	Purging	Sampling	pH (units)		Conductivity (ms/cm)		Turbidity (NTU)		DO (mg/l)		Temperature (°C)		Salinity (PPT)		REDOX (EH-mV)		Depth to Water (ft)		Pumping Rate mL/min	Comment
			Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
			0.1 unit		3%		10%		10%		3%		NA		10 mV		0.3 ft		200-500	
10:50			7.33		2.53		48.9		0.25		11.40		1.29		-23				225	
10:55			6.83		2.38		31.5		0.23		13.15		1.19		-1					
11:00			6.74		2.26		37.9		0.24		13.13		1.15		4					
11:05			6.58		2.44		29.6		0.25		13.24		1.25		12					
11:10			6.58		2.44		28.4		0.24		13.22		1.25		12					
11:15			6.57		2.47		27.1		0.18		13.23		1.26		12					

Volume Purged: ~~5.60~~ 5 gallons
Purged Dry:
Final Water Level (ft): 8.69
If Purged Dry, Reover Rate (ft/min)
Final Well Depth (ft):

Sample Visual Appearance: Clear Slightly Turbid Turbid

Comments:

TOUCHSTONE
ENVIRONMENTAL GEOLOGY P.C.

Low Flow Ground Water Sampling Log

Project Name: 22-07 41st. Ave.
Project Number:
Monitoring Well: MW-E

Date: 3/1/23
Weather: Sunny
Field Personnel: Firat Ataman

Reported Well depth ft Btoc: 15.25
Well Diameter (in): 1 inc.
Well Condition: Good

Screened/Open Interval (ft btoc): 9 feet
Depth to Water (ft btoc): 9.43

PID Readings (ppm): Background: NA
Beneath outer cap NA
Beneath inner cap: NA

Depth of Pump (ft btoc):
Purging Method: peristaltic pump

Well Purging and Sampling:

Time 5 Minute Intervals	Purging	Sampling	pH (units)		Conductivity (ms/cm)		Turbidity (NTU)		DO (mg/l)		Temperature (°C)		Salinity (PIT)		REDOX (EH-mV)		Depth to Water (ft)		Pumping Rate mL/min	Comment
			Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
			0.1 unit		3%		10%		10%		3%		NA		10 mV		0.3 ft		200-500	
9:45			9.86		0.600		404		0.0		13.20		0.30		-137				250	
9:50			8.76		0.644		362		0.0		13.26		1.83		-113				|	
10:15			8.26		0.674		401		3.3		12.12		0.91		-101				|	
			purged to dryness																	

Volume Purged 32 oz.
Purged Dry:
Final Water Level (ft) 9.43
If Purged Dry, Reover Rate (ft/min)
Final Well Depth (ft)

Sample Visual Appearance: (Clear) Slightly Turbid Turbid

Comments:

TOUCHSTONE
ENVIRONMENTAL GEOLOGY P.C.

Low Flow Ground Water Sampling Log

Project Name: 22-07 41st. Ave.
Project Number:
Monitoring Well: MW-6S

Date: 3/1/2023
Weather: Sunny
Field Personnel: First Afternoon,

Reported Well depth ft Btoc: 18.45
Well Diameter (in): 2 inches
Well Condition: Good

Screened/Open Interval (ft btoc): 10 feet
Depth to Water (ft btoc): 8.42

PID Readings (ppm): Background: NA
Beneath outer cap: NA
Beneath inner cap: NA

Depth of Pump (ft btoc):
Purging Method: peristaltic pump

Well Purging and Sampling:

Time 5 Minute Intervals	Purging	Sampling	pH (units)		Conductivity (ms/cm)		Turbidity (NTU)		DO (mg/l)		Temperature (°C)		Salinity (PIT)		REDOX (EH-mV)		Depth to Water (ft)		Pumping Rate mL/min	Comment
			Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
			0.1 unit		3%		10%		10%		3%		NA		10 mV		0.3 ft		200-500	
13:15			6.57		4.08		16.3		2.31		15.04		2.16		17		8.42		275	
13:20			6.54		4.07		14.2		0.00		15.15		2.14		12					
13:25			6.48		4.01		12.9		0.00		15.28		2.11		17					
13:30			6.44		3.98		12.4		0.00		15.25		2.09		21					
13:35			6.63		3.91		12.4		0.00		15.27		2.06		7					
13:40			6.66		3.86		12.1		0.00		15.02		2.03		8		8.41			

Volume Purged: 5.1 Gallons
Purged Dry:
Final Water Level (ft): 8.41
If Purged Dry, Reover Rate (ft/min)
Final Well Depth (ft): —

Sample Visual Appearance: (Clear) Slightly Turbid Turbid

Comments:

TOUCHSTONE
ENVIRONMENTAL GEOLOGY P.C.

Low Flow Ground Water Sampling Log

Project Name: 22-07 41st Ave.
Project Number:
Monitoring Well: MW-6D

Date: 3/1/22
Weather: Sunny
Field Personnel: Firat Ataman

Reported Well depth ft Btoc: 31.56
Well Diameter (in): 2 inc.
Well Condition: Good

Screened/Open Interval (ft btoc): 10 ft.
Depth to Water (ft btoc): 8.58

PID Readings (ppm): Background: NA
Beneath outer cap: NA
Beneath inner cap: NA

Depth of Pump (ft btoc):
Purging Method: ~~Peristaltic~~ pump

Well Purging and Sampling:

Time 5 Minute Intervals	Purging	Sampling	pH (units)		Conductivity (ms/cm)		Turbidity (NTU)		DO (mg/)		Temperature (°C)		Salinity (PIT)		REDOX (EH-mV)		Depth to Water (ft)		Pumping Rate mL/min	Comment
			Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change	Reading	Change		
			0.1 unit		3%		10%		10%		3%		NA		10 mV		0.3 ft		200-500	
12:00			6.55		3.52		15.3		1.07		14.81		1.85		2				225	
12:05			7.07		3.57		15.0		0.00		16.03		1.87		-14					
12:10			7.04		3.57		16.08		0.00		16.06		1.87		-17					
12:15			7.07		3.63		19.7		0.34		14.65		1.90		-11					
12:20			7.16		3.64		15.3		0.00		15.77		1.91		-17					
12:25			7.07		3.66		14.6		0.00		15.89		1.92		-12					

Volume Purged: 5.25
Purged Dry:
Final Water Level (ft): 16.61
If Purged Dry, Reover Rate (ft/min)
Final Well Depth (ft):

Sample Visual Appearance: (Clear) Slightly Turbid Turbid

Comments:

NEW YORK CHAIN OF CUSTODY

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

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

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

Page 1 of 1

Date Rec'd in Lab

ALPHA Job #

Client Information

Client: Eric Weinstock, PG
Address: 314 Hudson View Tr.
Hyde Park, NY 12538
Phone: 516-413-6643
Fax:
Email: cweinstock65@gmail.com

Project Information

Project Name: Hydrade Plating
Project Location: Long Island City, NY
Project #
(Use Project name as Project #) ☑
Project Manager: Eric Weinstock
ALPHAQuote #:

Turn-Around Time

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

Deliverables

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

Regulatory Requirement

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

Billing Information

☒ Same as Client Info
PO #

Disposal Site Information

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

These samples have been previously analyzed by Alpha ☒

Other project specific requirements/comments:

Lab to filter dissolved metals sample

Please specify Metals or TAL. TAL metals

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs 8260	Total Metals	Dissolved Metals	PFAS	Total Bottle	Sample Specific Comments
	MW-E	3/1/23	1450	Water		X	X	X	X		TAL Metals
	MW-5		1130								
	MW-6D		1255								
	MW-X		1250								
	MW-6S		1355								
	MW-6S MS		1345								
	MW-6S MSD		1350								
	Field Blank 3-1-23										
	Trip Blank	3/1/23									

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

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

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

Container Type	V	P	P	P				
Preservative	B	C	A	A				

Relinquished By:	Date/Time	Received By:	Date/Time
	3/3/23 3:10	(AL)	3/3/23 3:10

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

AIR ANALYSIS

PAGE 1 OF 1

ALPHA ANALYTICAL

CHAIN OF CUSTODY

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

Date Rec'd in Lab:

ALPHA Job #:

Client Information

Client: Eric Wemstock, PG
Address: 314 Hudson View Pl.
Hyde Park, NY 12538
Phone: 516-413-6643
Fax:
Email: ewemstock65@gmail.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Hygrade Plating
Project Location: Long Island City, NY
Project #:
Project Manager: Eric Wemstock
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:

Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH (Subset Non-petroleum HC) ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
	IA-1/3-1-2023		9:00		-30.55		AA	F.A.	6L	2471	02062	✓					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
	3/3/23 1335	(AAL)	3/3/23 1335

Form No: 101-02 Rev: (25-Sep-15)

APPENDIX C – IAQ QUESTIONAIRE

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing

Preparer's Name E. Alaman/Eric Weinstock Date/Time Prepared 3/1/23 9:00 AM

Preparer's Affiliation Consultant for Owner Phone No 516-413-6643

Purpose of Investigation Annual Monitoring

1. OCCUPANT:

Interviewed: Y (N)

Last Name N/A First Name _____

Address _____

County _____

Home Phone _____ Office Phone _____

Number of Occupants/persons at this location _____ Age of Occupants _____

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name N/A First Name _____

Address _____

County _____

Home Phone _____ Office Phone _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	(Commercial/Multi-use)
Industrial	Church	Other _____

If the *property is residential*, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other _____

If multiple units, how many? 4 plus basement

If the property is commercial, type?

Business Type(s) offices / warehousing

Does it include residences (i.e., multi-use)? Y / N If yes, how many? _____

Other characteristics:

Number of floors 4 + basement Building age 1920s

Is the building insulated? (Y) / N How air tight? Tight / (Average) / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

N/A

Airflow near source

N/A

Outdoor air infiltration

N/A

Infiltration into air ducts

N/A

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: 10 (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

None

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: N/A

Boiler/furnace located in: Basement Outdoors Main Floor Other No Heating in basement.

Air conditioning: Central Air Window units Open Windows None

Basement

Are there air distribution ducts present? (Y) N HVAC system
Basement has separate ~~HVAC unit~~.

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

Basement has a separate HVAC System.

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never

Level	General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)
Basement	Vacant
1st Floor	Vacant
2nd Floor	office / warehousing
3rd Floor	" / "
4th Floor	" / "

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / (N)

b. Does the garage have a separate heating unit? Y / N / (NA)

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / (N) / NA
Please specify _____

d. Has the building ever had a fire? Y (N) When? _____

e. Is a kerosene or unvented gas space heater present? Y (N) Where? _____

f. Is there a workshop or hobby/craft area? Y (N) Where & Type? _____

g. Is there smoking in the building? Y (N) How frequently? _____

h. Have cleaning products been used recently? Y (N) When & Type? _____

i. Have cosmetic products been used recently? Y (N) When & Type? _____

j. Has painting/staining been done in the last 6 months? Y / (N) Where & When? _____

k. Is there new carpet, drapes or other textiles? Y / (N) Where & When? _____

l. Have air fresheners been used recently? Y / (N) When & Type? _____

m. Is there a kitchen exhaust fan? Y / (N) If yes, where vented? _____

n. Is there a bathroom exhaust fan? Y / (N) If yes, where vented? _____

o. Is there a clothes dryer? Y / (N) If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / (N) When & Type? _____

Are there odors in the building? Y / (N)
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) (No)
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a ~~radon~~ SSD mitigation system for the building/structure? (Y) N Date of Installation: 2016
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply: (Public Water) Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: (Public Sewer) Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: N/A

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel N/A

c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

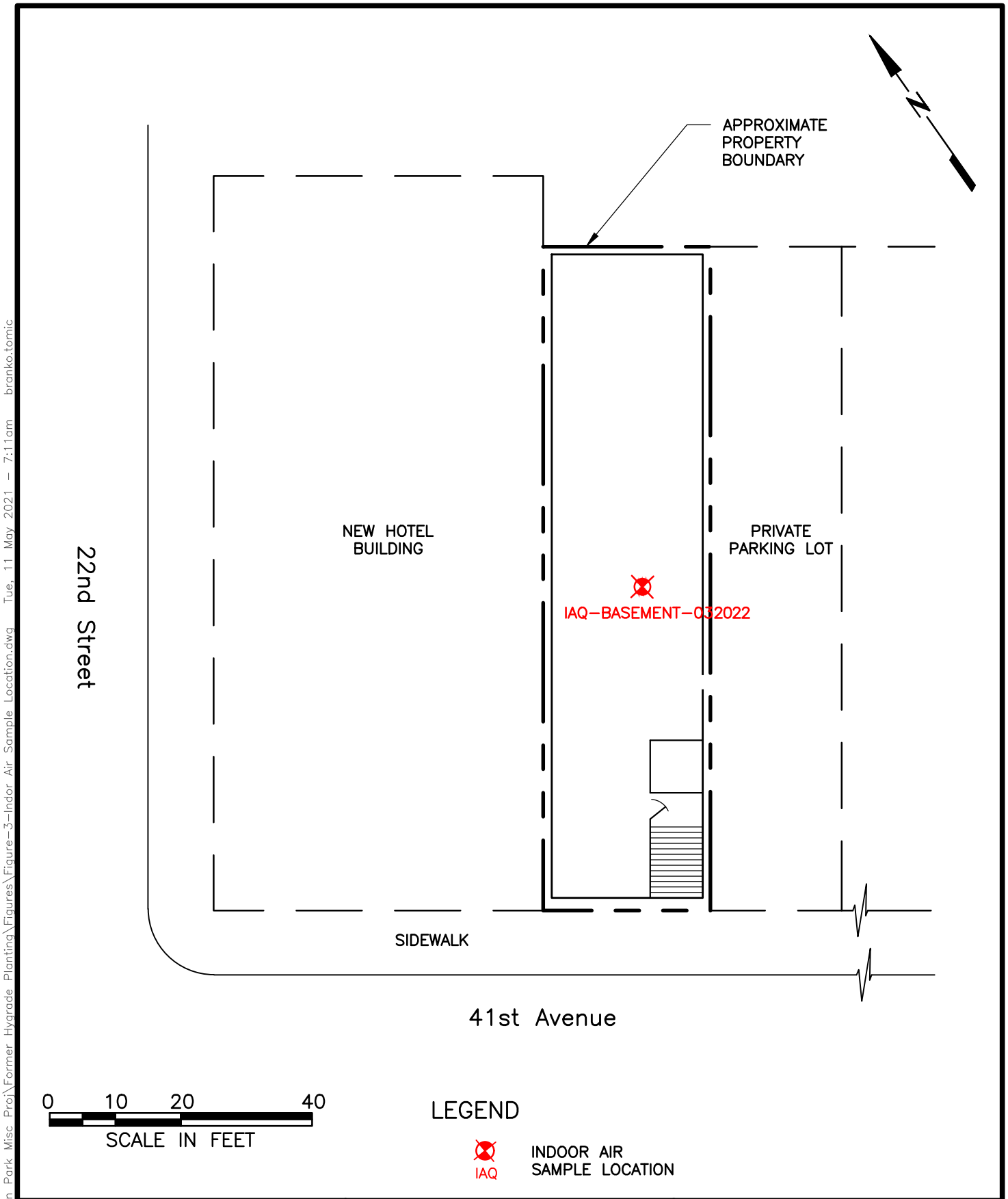
Basement:

measured 1.3 inch ~~Opposite~~ vacuum.
SSDS in ~~the~~ basement.
~~all~~ ~~doors~~ ducts in good condition
basement walls and floor in good condition.

First Floor:

4 - Oak Steuss 4th floor.
Buccellat (Jewelry) 3rd floor.
Scattered Kosher (Tune Hall) 2nd floor.
1st floor (Vacant)

Sketch of the area surrounding the building to be sampled



Former Hygrade Plating 22-07 41st Ave Long Island City, NY	Eric A. Weinstock, PG, PC 314 Hudson View Terrace Hyde Park, NY 12538	INDOOR AIR SAMPLE LOCATION

Z:\Projects\Clifton Park Misc Proj\Former Hygrade Planting\Figures\Figure-3-Indor Air Sample Location.dwg Tue, 11 May 2021 - 7:11am branko.tomic

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y / N
Basement	NO products stored		N/A	N/A		

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

APPENDIX D – DUSR

DATA USABILITY SUMMARY REPORT (DUSR)

ORGANIC AND INORGANIC ANALYSES
IN AQUEOUS SAMPLES

ALPHA ANALYTICAL LABORATORIES, INC.
MANSFIELD, MA

PROJECT NUMBER:

L2311275

April 2023

Prepared for
Eric Weinstock, P.G.
Hyde Park, New York

Prepared by
Premier Environmental Services
2815 Covered Bridge Road
Merrick, New York 11566
(516) 223-9761

Data Usability Summary Report

DATA VALIDATION FOR:	**Volatile Organic Analyses (EPA Methods: 8260D)**
SITE:	**HYGRADE PLATING Long Island City, New York**
CONTRACT LAB:	**York Analytical Laboratories, Inc. Stratford, CT**
PROJECT NO.:	**L2311275**
REVIEWER:	**Renee Cohen**
DATE REVIEW COMPLETED:	**March 2023**
MATRIX:	**Groundwater**

The data validation was performed according to the guidelines in the USEPA National Functional Guidelines for Organic Data Review. In addition, method and QC criteria specified in the NYSDEC ASP documents were cited. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems, some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.

Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID used to perform data validation. Definitions of the data qualifiers that may be used in this report are in Appendix A of this report. Qualified data result pages are located in Appendix B of this report.

A copy of the Chain of Custody (COC) document is in Appendix C of this report.

This sample set included five (5) monitoring well samples (inc. one (1) Field Duplicate sample), one (1) Field Blank sample and one (1) Trip Blank sample. Based on the laboratory report the samples to were collected March 1, 2023 and received at Alpha Analytical Laboratories located in Westborough, MA on March 3, 2023 in good condition. The samples in this data set were analyzed for the parameters listed on the COC document that accompanied the sample samples to the laboratory.

This report is the review of these Volatile Organic Compound (VOCs) analyses (EPA 8260D).

ORGANIC DATA ASSESSMENT

1. OVERVIEW:

Samples associated with this data set were analyzed for Volatile Organic Analytes (VOA) as marked on the COC documentation that accompanied the sample set to the laboratory. All analyses were performed in accordance with USEPA Test Methods for the Evaluation of Solid Waste (SW846) as well as the NYSDEC ASP methodologies. Data validation will utilize the validation guidelines in listed above, however, QA/QC requirements of the NYS DEC ASP will supersede CLP requirements in terms of calibration (where applicable) and holding time. York Analytical Laboratories generated a stand-alone report for each fraction in compliance with the NYS DEC ASP Category B deliverables. A summary of the applicable QC will be discussed at each section of the report.

Laboratory report L2311275 consists of five (5) groundwater samples (inc one (1) Field Duplicate sample), one (1) Field Blank sample and one (1) Trip Blank sample that were analyzed by the method listed on the Chain of Custody documents that accompanied the samples to the laboratory.

The Chain of Custody document listed the field sample ID's that are summarized in Table 1 of this report.

A copy of the COC documents associated with this data set is located in Appendix C of this report.

2. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The NYS DEC ASP criteria specifies holding times for solid and soil samples. These holding times are based on Validated Time of Sample Receipt (VTSR). The holding times cited in the NY ASP were reviewed. EPA SW846 methods cite holding times based on collection date. The technical holding time for properly preserved aqueous and non-aqueous Volatile Organic samples is fourteen (14) days.

Samples reported in laboratory report L2311275 were collected March 1, 2023 and received at the laboratory on March 3, 2023 per the laboratory report documents that accompanied the samples to the laboratory. Sample analyses and QC sample analyses associated with this data set were analyzed in two (2) sample batches (WG1754356 (3/11/23) and WG1754880 (3/13/23)). Sample analyses were completed on March 13, 2023. The field samples and associated QC samples reported in this data set were prepared and analyzed within the method holding time.

3. SURROGATES:

Samples to be analyzed for Volatile Organic Analytes (VOA) are fortified with four (4) method recommended surrogate compounds. These include 1,2-Dichloroethane-d4 (70-130%), Toluene-d8 (70-130%), 4-Bromofluorobenzene (70-130%) and Dibromofluoromethane (70-130%). The surrogate compounds were added prior to sample analysis to evaluate the overall laboratory performance and the efficiency of the analytical technique.

The laboratory reported in-house recovery limits in terms of percent recovery 70-130 (%) for each surrogate compound. The percent recovery (%) of the surrogate compounds met QC criteria in each of the reported field samples and QC samples reported in this data set.

ORGANIC DATA ASSESSMENT

4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD/ LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE (LCS/LCSD):

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

Site specific MS/MSD and/or Batch QC analysis was listed on the COC documents that accompanied the samples to the laboratory. Site specific MS/MSD (MW-6S) was prepared, analyzed and reported in this data set. RPD (0-20%) was applied to the site-specific MS/MSD

The percent recovery (%) of the reported target analytes met QC criteria with the exception of 1,2,4,5-Tetramethylbenzene (OK/Low). RPD (%) was reported above QC limits (27 %)

The percent recovery (%) of the reported target analytes met QC criteria with the exception of trans 1,4-Dichloro-2-butene (OK/Low). RPD (%) met QC limits.

The laboratory prepared and analyzed a one (1) Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) with each sample batch. Two (2) aqueous LCS/LCSD sample sets are reported with this data report. The laboratory fortified the LCS and LCSD with the full component spike solution. York Analytical Laboratories used a "CLP Like" QC summary form to report the data results. In-house percent recovery limits (%) were applied to each target analyte. LCS/LCSD RPD (%) criteria (0-20) was applied to each target analyte.

The percent recovery (%) of each target analyte and the RPD (%) in the LCS/LCSD was reviewed in the LCS/LCSD sample sets associated with this laboratory report. The percent recovery (in-house QC criteria-%) and RPD (0-20%) of the reported target analytes met QC criteria in both the LCS and LCSD sample analyses reported in this data set with the exception of the following:

Batch	Analyte	% Recovery	RPD (%)
WG1754356 3/11/2023	Vinyl Acetate	Low/Low	OK
WG1754880 3/13/2023	Chloroethane	High/High	OK

Vinyl Acetate has been estimated "J"/UJ" qualified in the associated field samples (Batch WG1754356). Chloroethane was reported above QC limits in the LCS and LCSD sample (Batch WG1754880). Chloroethane was not detected in the associated field samples, no action has been taken.

4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD (cont'd):

Samples reported from these sample batches have been qualified based on the results of these LCS/LCSD analyses reported in this data set.

Qualified data result pages are located in Appendix B of this report.

5. BLANK CONTAMINATION:

Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified with those QC samples associated with the particular blank.

A) Method Blank contamination

Two (2) method blank samples are associated with this data set. Each of the method blank samples associated with this data set (WG1754356, WG1754880) were free from contamination of target compounds.

Tentatively Identified Compounds (TICs) were not searched for and/or reported in these associated method blank samples.

B) Field or Equipment Rinse Blank (ERB) contamination

One (1) Field Blank sample (FB/3-1-23) is associated with this data set. Acetone was detected in the Field Blank sample (2.6 J ug/L). Acetone was not detected in the field samples associated with this data set. No action was taken based on the results in the Field Blank sample.

C) Trip Blank contamination

One (1) Trip Blank (TB) sample is associated with this data set. The Trip Blank sample (3/13/2023) is free from contamination of the reported target compounds.

ORGANIC DATA ASSESSMENT

6. GC/MS CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance. Region USEPA and Region II criteria is the sample for the analytes in both GC/MS Volatile and GC/MS Semivolatile Organic analyses is the same, therefore, all text discussion is for VOA and SVOA samples analyses where applicable.

A) RESPONSE FACTOR

The response factor measures the instrument's response to specific chemical compounds. Region II data review requires that the response factor of all analytes be greater than or equal to 0.05 in both initial and continuing calibration analyses. A value less than 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Region II data validation criteria states that if the minimum RRF criteria are not met in an initial calibration the positive results are qualified "J". Non-detect results in the initial calibration with an RRF <0.05 are qualified "R", unusable. If RRF criteria is not met in the continuing calibration curve analysis, affected positive analytes will be qualified "J" estimated. Those analytes not detected are not qualified. The SW-846 Methods cite specific analytes known as System Performance Check Compounds (SPCC). Minimum response criteria are set for these analytes. If the minimum criteria are not met, analyses must stop, and the source of problems must be found and corrected. Data associated with this set has been reviewed for the criteria in the cited in the EPA Method and the Region II criteria.

Calibration summaries and/or raw data was not included in the laboratory report. Sample data has not been qualified based on this QC component.

6. GC/MS CALIBRATION (cont'd):

B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the compounds in the continuing calibration standard to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Region II data validation criteria states that the percent RSD of the initial calibration curve must be less than or equal to 20% for all compounds with the exception of the continuing calibration check compounds (CCC's) where the %RSD must be less than 20%. The %D must be <20% in the continuing calibration standard. These criteria have been applied to all target analytes. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects may be flagged "UJ", based on professional judgment. If %RSD and %D grossly exceed QC criteria (>90%), non-detects data may be qualified "R", unusable. Data associated with this set has been reviewed for the criteria in the cited in the USEPA Data Validation Guidelines.

Calibration summaries and/or raw data was not included in the laboratory report. Sample data has not been qualified based on this QC component.

7. GC/MS MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is Bromofluorobenzene (BFB). If the mass calibration is in error, or missing, all associated data will be classified as unusable, "R".

The BFB tune criteria was not included in the laboratory report. Sample data has not been qualified based on this QC component.

ORGANIC DATA ASSESSMENT

8. GC/MS INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every run. The method recommends that the internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The method recommends that the retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. The EPA CLP validation guidelines state that if the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified estimated, "J", and all non-detects below 50% are qualified "UJ", non-detects above 100% should not be qualified or "R" if there is a severe loss of sensitivity. The internal standard area count evaluation criteria are applied to all field and QC samples.

Internal standard area counts, and retention time shifts were not included in the laboratory report. Sample data has not been qualified based on this QC component.

9. COMPOUND IDENTIFICATION:

Target compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectrum which has a ratio of the primary and secondary ion intensities with 20% of that in the standard compound.

Laboratory Report L2311275 included the analysis of five (5) (aqueous samples (inc. one Field Duplicate sample), one (1) Field Blank sample and one (1) Trip Blank sample. The samples were analyzed in accordance with EPA Method 8260D. The laboratories standard VOA/Method 8260D compound list was reported. Sample results between the laboratory Limit of Detection (LOD) and Limit of Quantitation (LOQ) are reported "J" qualified by the laboratory.

Alpha Analytical reported the target analytes from one (1) sample analysis. When target analytes were reported above the calibration range of the GCMS, the dilution analysis is reported in the laboratory report. This elevates the RL of the non-detect target analytes. Raw data was not included in the laboratory report.

Sample ID	DF
MW-E	1
MW-5	1
MW-6D	10
MW-X	10

ORGANIC DATA ASSESSMENT

10. FIELD DUPLICATE ANALYSES:

Field duplicate samples are collected and analyzed as an indication of overall precision. Field duplicate results are expected to have more variability than laboratory duplicate samples. Non aqueous sample results are expected to have more variation due to the non-homogeneity of soil samples. RPD has been reviewed in these aqueous field duplicate sample analyses. RPD of the aqueous field duplicate target analytes >20 have been estimated "J" qualified in the sample and field duplicate sample.

One (1) field sample: MW-6D (L2311275-03) was collected in duplicate (MW-X /L2311275-04) and reported in this data set.

Sample ID: MW-6D (1:10)/MW-X (1:10)

Target Analyte	Result (ug/L)	Result (ug/L)	RPD (%)
Tetrachloroethene	39	45	14.3
Trichloroethene	15	17	12.5
MTBE	230	210	9.1
cis 1,2-Dichloroethene	27	26	3.7
1,2-Dichloroethene, Total	27	26	3.7

A review of the field duplicate sample analyses was performed. The RPD (%) of detected target analytes in the field sample and field duplicate sample met QC criteria.

11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

Analytical/method QC criteria was met for these analyses except were explained in the laboratory case narrative and detailed in this validation report. The data reported by the laboratory report includes sample results and QA/QC sample results. Raw data was not provided in the laboratory report. The laboratory provided a "results only" data package that included QC sample results.

QC anomalies associated with this data set have been explained in the above sections of this DUSR report.

Sample results are reported to the reporting limit (RL). Sample results between the Method Detection Limit (MDL) and Reporting Limit (RL) are listed on the sample result forms.

NYS DEC Data Usability Summary Report

DATA VALIDATION FOR:	**PFAS – EPA Method 537m**
SITE:	**Hygrade Plating Long Island City, NY**
CONTRACT LAB:	**Alpha Analytical Laboratories, Inc.**
REPORT NO.:	**L2311275**
REVIEWER:	**Renee Cohen**
DATE REVIEW COMPLETED:	**April 2023**
MATRIX:	**Non-Aqueous, Aqueous (Field Blank sample)**

The data validation was performed according to the guidelines in the described in the New York State Department of Environmental Conservation, Division of Environmental Remediation, Guidance for the Development of Data Usability Summary Reports (DUSR). In addition, the data has been reviewed using the protocol specified in the NYS Analytical Services Protocol ('05).

All data are considered valid and acceptable except those analytes which have been rejected "R" (unusable). Due to various QC problems, some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.

Several factors should be noted for all persons using this data. Persons using this data should be aware that no result is guaranteed to be accurate even if it has passed all QC tests. The main purpose of this review is to appropriately qualify outliers and to determine whether the results presented meet the specific site/project criteria for data quality and data use.

This data report includes five (5) monitoring well (MW) samples, one (1) Field Blank sample and one (1) Trip Blank sample. The samples reported in this data set were collected 3/1/2023 and received at Alpha Analytical Laboratories located in Westborough, MA on March 3, 2023. The samples reported in this laboratory report were analyzed for Volatile Organic Compounds (VOC), Total Metals, Dissolved Metals and PFAS as specified on the Chain of Custody (COC) documentation that accompanied the samples to the laboratory.

A cross-reference between Field Sample ID and Laboratory Sample ID is located in Table 1 of this report. Copies of the definitions that may be used to qualify data results are located in Appendix A of this report. Copies of qualified data result pages are located in Appendix B of this report and a copy of Chain of Custody (COC) documentation associated with sampling event is located in Appendix C.

This review is for the subset of samples that were marked on the Chain of Custody for PFAS by EPA Method 537m. These analyses are included in a stand-alone section of this report.

ORGANIC DATA ASSESSMENT

1. OVERVIEW:

The samples were analyzed and reported for PFAS via EPA Method 537. Proper custody transfer of the samples was documented in the laboratory reports. Cooler temperatures were within QC limits. Sample preservation was checked prior to analysis. The samples in this data set were properly preserved.

2. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Preserved volatile organic analyses are required to be analyzed within 10 days of validated time of sample receipt (VTSR) in accordance with the NYSDEC ASP, Rev '95. The technical holding time for properly preserved aqueous samples is 14 days from collection.

The samples in this data set were collected March 1, 2023 and received at Alpha Analytical Laboratories, Inc. on March 3, 2023 per the COC documents that accompanied the samples to the laboratory.

The field samples were prepared/extracted on March 13, 2023 and analyzed on March 14, 2023.
The aqueous FIELD BLANK sample was prepared/extracted (3/13/23) and analyzed on March 14, 2023.

Holding time criteria was met in the field samples and QC samples reported in this laboratory report.

3. SURROGATES:

Each of the samples is spiked with surrogate compounds prior to sample preparation to evaluate the overall laboratory performance and the efficiency of the analytical technique. If the measured surrogate concentrations are outside the QC limits, qualifiers were applied to the effected samples.

Each of the samples in this data set was fortified with the extracted Internal Standard specified surrogate compounds. In-house surrogate recovery limits were utilized for each of the reported surrogate compounds.

Surrogate recovery was met in each of the field samples and QC samples reported in this data set.

4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

The COC documents associated with this data set listed sample MW-6S (L2311275-05) as the site-specific MS/MSD analysis. The percent recovery of reported target analytes met QC criteria in the MS/MSD sample with the exception of 6:2 FTS (167%/166%). 6:2 FTS has been estimated "J" when detected in sample MW-6S.

In addition to the site-specific MS/sample, one (1) Batch QC MS/MSD sample was reported in this data set. Sample data has not been qualified based on the Batch QC MS sample.

Qualified data result pages are located in Appendix B of this report.

ORGANIC DATA ASSESSMENT

5. BLANK SPIKE ANALYSIS:

The NY ASP protocol requires that a blank spike analysis be performed with each sample batch. The blank spike analysis is used to ensure that the analytical system is in control. The laboratory applied in-house recovery limits for each analyte.

The laboratory analyzed and reported two (2) laboratory control samples batches (BK12142, BK12494) in this data report. The percent (%) recovery of target analytes and RPD (%) met QC criteria in LCS and LCSD samples in sample batch BK12142. The percent recovery (%) of PFHpA was reported above QC limit in sample batch BK12494. PFHpA has been estimated "J"/"UJ" qualified in the samples reported from this sample batch. RPD (%) criteria was met for target compounds with the exception of N-EtFOSAA (43.2%). N-EtFOSAA has been estimated "U" qualified.

Qualified data result pages are located in Appendix B of this report.

6. BLANK CONTAMINATION:

Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. Samples are then qualified based on blank contamination when detected.

A) Method Blank contamination

Two (2) aqueous method blank samples are associated with these sample reported in this data set.

Method Blank BK12142 was prepared (11/22/21) and analyzed on November 23, 2021. This method blank sample was free from contamination of reported target analytes with the exception of FOSA (2.0 J ng/L). This method blank sample is associated with the Equipment Blank (S-EB). Sample S-EB was free from target compounds; therefore, no action was taken.

Method Blank BK12494 was prepared (11/30/21) and analyzed on December 2, 2021. This method blank sample is associated with the non-aqueous samples reported in this data set. This method blank sample was free from reported target analytes.

B) Field Blank/Equipment Blank contamination

A Field Blank sample is not associated with this data set. One (1) Equipment Blank sample (S-EB-21K1019-04) was collected and reported in this data set. The Equipment Blank sample was free from contamination of the reported target analytes.

C) Trip Blank contamination

A Trip Blank sample was not collected with the samples reported in this data set. No further action was taken.

ORGANIC DATA ASSESSMENT

7. GC/MS CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

A) RESPONSE FACTOR

The response factor measures the instrument's response to specific chemical compounds. Region II data review requires that the response factor of all analytes be greater than or equal to 0.05 in both initial and continuing calibration analyses. A value less than 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Region II data validation criteria states that if the minimum RRF criteria are not met in an initial calibration the positive results are qualified "J". Non-detect results in the initial calibration with an RRF <0.05 are qualified "R", unusable. If RRF criteria is not met in the continuing calibration curve analysis, affected positive analytes will be qualified "J" estimated. Those analytes not detected are not qualified. Minimum response criteria are set for these analytes. If the minimum criteria are not met, analyses must stop, and the source of problems must be found and corrected. Data associated with this set has been reviewed for the criteria in the cited in the EPA Method..

One (1) initial calibration curve analysis is associated with the samples reported in this data set. The laboratory performed the initial multilevel calibration on November 23, 2021 (YK10020) on Instrument QQQ-2. York Analytical Laboratories, Inc. reported the calibration summary in terms of response factor (RF), relative standard deviation (RSD) and COD. The laboratory report included the raw data associated with the initial calibration analyses in the laboratory report.

B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the compounds in the continuing calibration standard to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Region II data validation criteria states that the percent RSD of the initial calibration curve must be less than or equal to 20% (30% CCC compounds). The %D must be <20% in the continuing calibration standard. This criteria have been applied to all target analytes. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects may be flagged "UJ", based on professional judgment. If %RSD and %D grossly exceed QC criteria (>90%), non-detects data may be qualified "R", unusable. Data associated with this set has been reviewed for the criteria in the cited in the USEPA Data Validation Guidelines and the USEPA Region II criteria.

One (1) initial calibration curve analysis is associated with the samples reported in this data set. The laboratory performed the initial multilevel calibration on November 23, 2021 (QQQ-2-YK10020). The second-source standard was analyzed following the calibration curve analysis. The percent (%) difference of the reported target analytes met QC criteria (0-30%) with the exception of N-MeFOSAA (40.95%), N-EtFOSAA (30.26%).

One (1) second source standard was analyzed following the curve analysis. The second-source standard was reported in terms of Percent Difference (%). The percent difference (%) of 8:2 FTS was reported above QC limit (53.4%). 8:2 FTS has been estimated "J"/"UJ" qualified in the samples reported in this data set.

ORGANIC DATA ASSESSMENT

7. GC/MS CALIBRATION:

B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D) Cont'd) :

Continuing calibration verification (CCV) standard analyses were analyzed on November 23, 2021 and December 2, 2021. Below is a summary of the target analyte outliers:

Date	CCV - File ID	Target Analyte	Percent (%) Difference
11/23/21	QQQ2050195.d	None	
11/23/21	QQQ2050205.d	8:2 FTS	40.2
12/2/21	QQQ2050306.d	8:2 FTS	34.8
12/2/21	QQQ2050317.d	8:2 FTS	37.5
		PFTA	54.8
12/2/21	QQQ2050328.d	8:2 FTS	32.0
		PFTA	48.1
		PFTrDA	37.3
12/2/21	QQQ2050339.d	6:2 FTS	36.4
12/2/21	QQQ2050345.d	8:2 FTS	70.1
		N-EtFOSSA	32.9

CCV analyses were analyzed throughout the analytical run on December 2, 2021. The samples were analyzed and reported from the December 2, 2021 sequence. Effected target analytes have been estimated "J"/"UJ" qualified.

Qualified data result pages are located in Appendix B of this report.

8. GC/MS INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every run. The method recommends that the internal standard area count must not vary by more than a factor of 2 (-50 % to +100%) from the associated continuing calibration standard. The method recommends that the retention time of the internal standard must not vary more than $\pm$30 seconds from the associated continuing calibration standard. The EPA CLP validation guidelines state that if the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified estimated, "J", and all non-detects below 50% are qualified "UJ", non-detects above 100% should not be qualified or "R" if there is a severe loss of sensitivity. The internal standard area count evaluation criteria are applied to all field and QC samples.

The samples in this data set were fortified with the internal standard MPFOA. The area counts and retention time met QC criteria in the field samples and QC samples associated with this data set.

9. FIELD DUPLICATE SAMPLE ANALYSIS:

Field duplicate samples are taken and analyzed as an indication of overall precision. These measure both field and lab precision, therefore, the results may have more variability than lab duplicate samples. Soil samples are also expected to have a greater variance due to the difficulties associated with collecting exact duplicate soil samples.

Sample S-1A was collected in duplicate (S-DUP). Project target analytes were not detected in the parent sample (S-1A) and the field duplicate sample reported in this data set. No further action was taken.

ORGANIC DATA ASSESSMENT

7. GC/MS CALIBRATION:

B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D) Cont'd) :

Continuing calibration verification (CCV) standard analyses were analyzed on November 23, 2021 and December 2, 2021. Below is a summary of the target analyte outliers:

Date	CCV - File ID	Target Analyte	Percent (%) Difference
11/23/21	QQQ2050195.d	None	
11/23/21	QQQ2050205.d	8:2 FTS	40.2
12/2/21	QQQ2050306.d	8:2 FTS	34.8
12/2/21	QQQ2050317.d	8:2 FTS	37.5
		PFTA	54.8
12/2/21	QQQ2050328.d	8:2 FTS	32.0
		PFTA	48.1
		PFTrDA	37.3
12/2/21	QQQ2050339.d	6:2 FTS	36.4
12/2/21	QQQ2050345.d	8:2 FTS	70.1
		N-EtFOSSA	32.9

CCV analyses were analyzed throughout the analytical run on December 2, 2021. The samples were analyzed and reported from the December 2, 2021 sequence. Effected target analytes have been estimated "J"/"UJ" qualified.

Qualified data result pages are located in Appendix B of this report.

8. GC/MS INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every run. The method recommends that the internal standard area count must not vary by more than a factor of 2 (-50 % to +100%) from the associated continuing calibration standard. The method recommends that the retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. The EPA CLP validation guidelines state that if the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified estimated, "J", and all non-detects below 50% are qualified "UJ", non-detects above 100% should not be qualified or "R" if there is a severe loss of sensitivity. The internal standard area count evaluation criteria are applied to all field and QC samples.

The samples in this data set were fortified with the internal standard MPFOA. The area counts and retention time met QC criteria in the field samples and QC samples associated with this data set.

9. FIELD DUPLICATE SAMPLE ANALYSIS:

Field duplicate samples are taken and analyzed as an indication of overall precision. These measure both field and lab precision, therefore, the results may have more variability than lab duplicate samples. Soil samples are also expected to have a greater variance due to the difficulties associated with collecting exact duplicate soil samples.

Sample S-1A was collected in duplicate (S-DUP). Project target analytes were not detected in the parent sample (S-1A) and the field duplicate sample reported in this data set. No further action was taken.

ORGANIC DATA ASSESSMENT

10. LABORATORY DUPLICATE ANALYSIS:

Laboratory duplicate samples are analyzed as an indication of overall laboratory precision. Soil samples are also expected to have a greater variance due to the difficulties associated with collecting exact duplicate soil samples. Data has been qualified based on the results of the laboratory duplicate sample data.

Laboratory Duplicate Analysis was performed on Batch QC sample (L2312138-02). Sample data has not been qualified based on the Batch QC Laboratory Duplicate sample reported in this laboratory report.

11. COMPOUND IDENTIFICATION:

Target compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within $\pm$ 0.06 RRT units of the standard compound and have an ion spectrum which has a ratio of the primary and secondary ion intensities with 20% of that in the standard compound.

Five aqueous field samples, and one (1) Field Blank sample were marked on the COC for PFAS analysis by EPA Method 537m. These sample analyses were performed at Alpha Analytical located Westboro, MA.

The samples were analyzed in accordance with the cited method. Results reported between the method detection limit and the reporting limit are "J" qualified by the laboratory.

The samples in this data set were analyzed and reported without dilution. The laboratory provided the Form I sample result summaries in the laboratory report. The laboratory did not include the raw data, quantitation and chromatogram reports, and the analyte spectra in the New York State DEC ASP Category B deliverable (per the COC documentation) that was reported for this data set.

12. OVERALL ASSESSMENT:

The aqueous field samples and the Equipment Blank sample associated with this data set were collected March 1, 2023. The COC document that accompanied the samples to the laboratory indicated which samples were to be analyzed by EPA Method 537m. The data reported agrees with raw data (where applicable) presented in the final laboratory report.

DATA VALIDATION FOR:	**Target Analyte List (TAL) Metal Analyses Total and Dissolved Metals**
SITE:	**HYGRADE PLATING**
PROJECT NUMBER:	**L2311275**
CONTRACT LAB:	**York Analytical Laboratories, Inc. Stratford, CT**
REVIEWER:	**Renee Cohen**
DATE REVIEW COMPLETED:	**January 2022**
MATRIX:	**Non-Aqueous**

The data validation was performed according to the guidelines in the current SOP No. HW-2 (Revision 13), September 2006 for the Evaluation of Metal Data for the Contract Laboratory Program. All data are considered valid and acceptable except those analytes which have been rejected "R" (unusable/unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident, and the reported analyte concentration is unreliable.

Appendix A of this report contains a copy of the definitions that may be used in this report. Appendix B of this report contains the qualified data result pages associated with this data set. Appendix C of this report contains a copy of the Chain of Custody (COC) documents that accompanied the samples to the laboratory.

This data assessment is for the non-aqueous samples that were marked on the Chain of Custody documents for these analyses. These samples were analyzed for the Target Analyte List (TAL) of metals. A cross-reference between Field Sample ID and Laboratory Sample ID is located in Table 1 of this report.

The samples in these data set were collected (3/1/2023) and received at the laboratory on March 3, 2023. The laboratory report "did not" include a Chain of Custody document (COC). The samples were analyzed for the parameters included in the laboratory report.

INORGANIC DATA ASSESSMENT

1. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Metals with the exception of Mercury, are required to be digested and analyzed within 180 days of Verified Time of Sample Receipt (VTSR). Mercury samples are to be digested and analyzed within 26 days of VTSR.

The laboratory analyzed and reported the project specified metals in each of the samples reported in this data set. The samples were prepared/digested for **Total ICP/MS Metals** (Total) in one (1) sample batch on March 7, 2023 (Batch: WG1751734-1). These sample digestates were analyzed in one (1) ICP analytical sequence on March 7, 2023. Holding time criteria for sample preparation and digestate analyses was met for the samples reported in this data set.

The laboratory analyzed and reported the project specified metals in each of the samples reported in this data set. The samples were prepared/digested for **Dissolved ICP Metals** in one (1) sample batch on March 16, 2023 (Batch WG1754863). Holding time criteria for sample preparation and digestate analyses was met for the samples reported in this data set.

The samples were prepared/digested and analyzed for **Total Mercury** in one (1) sample batch (WG1751736) on March 7, 2023. Holding time criteria for sample preparation and analyses was met for the samples reported in this data set.

The samples were prepared/digested and analyzed for **Dissolved Mercury** in one (1) sample batch (WG1756263) on March 16, 2023. Holding time criteria for sample preparation and analyses was met for the samples reported in this data set.

2. CALIBRATION ANALYSIS

The laboratory did not include the calibration analyses associated with the Inductively Coupled Plasma MS (EPA 6020B) analysis.

The laboratory did not include the calibration analyses associated with the Mercury (CVAA-EPA 7470A) was utilized for these analyses.

3. CRDL STANDARD

The CRDL standard is used for the verification of instrument linearity near the CRDL. The CRDL standard control limits are 70-130% recovery. If the CRDL standard falls outside of the control limits, associated data less than or equal to the 10X the CRDL are qualified estimated (J or UJ) or rejected (R) depending on the recovery of the CRDL standard and the concentration of the analyte in the sample. When the CRDL standard exceeds the control limit, indicating a high bias, and the associated sample results are reported non-detect, no action is taken. When the CRDL standard exceeds the control limit, indicating a high bias positive sample results are qualified estimated (J).

The samples in this data set were analyzed for Total Metals. The analytical sequence associated with these data sets included a CRDL standard. Percent recovery limits (25-175%) were applied to each target analyte. QC criteria were met in each of the reported target analytes.

INORGANIC DATA ASSESSMENT

4. INTERFERENCE CHECK STANDARD

The Interference Check Standard (ICS) is used to verify the laboratory interelement and background correction factors of the ICP. Two solutions comprise the ICS A and ICS AB. Solution A consists of the interferent metals while solution AB is the group of target analytes and the interferent metals. An ICS analysis consists of analyzing both solutions consecutively for all wavelengths used for each analyte reported by ICP.

ICS data was not provided in the laboratory report. Sample data has not been qualified based on this QC component.

5. MATRIX SPIKE ANALYSIS

The spike sample analysis provides information about the effect of the sample matrix upon the digestion and measurement methodology. The spike control limits are 75%-125% when the sample concentration is less than four (4) times the spike added. If the matrix spike recoveries fall in the range of 30%-74%, the sample results may be biased low and are qualified as estimated (J or UJ). If the matrix spike recoveries fall in the range of 126%-200%, sample results may be biased high. Positive results are qualified estimated (J). If the spike recovery is greater than 125% and the reported sample result is less than the IDL the data point is acceptable for use. If the matrix spike recovery is greater than 200%, the associated sample data are unusable and are rejected (R). If matrix spike results are less than 30%, the associated non-detect results are qualified unusable and rejected (R), and the results reported above the IDL are qualified estimated (J).

One (1) site specific (MS/MSD) was reported sample analysis is reported in this data set. Site specific analysis was performed on sample MW-6S (L2311275-05). The percent recovery of the reported target analytes: Ca, Mg and Sodium were recovered outside QC limits.

Total Metals

Analyte	**Recovery (%)/Recovery (%)**	**RPD (0-20%)**
Calcium	OK/High	OK
Magnesium	Low/Low	OK
Sodium	NA/NA	OK*

*Denotes that the concentration of Na in the field sample was greater than 10X of the matrix spike addition. No action was taken.

Qualified data result pages are located in Appendix B of this report.

In addition, Batch QC MS/MSD was reported in this data set. Sample data has not been qualified based on the results of the Batch QC MS/MSD analyses.

Mercury Analysis – Site specific matrix spike analysis was performed using site specific sample MW-6S. The percent recovery (%) of Mercury, Total (Hg) met QC criteria in the MS/MSD sample analysis reported in the laboratory report.

One (1) site specific (MS/MSD) was reported sample analysis is reported in this data set. Site specific analysis was performed on sample MW-6S (L2311275-05). The percent recovery of the reported target analytes: Ca, Mg and Sodium were recovered outside QC limits.

5. MATRIX SPIKE ANALYSIS: (cont'd):

Total Metals

Analyte	Recovery (%)/Recovery (%)	RPD (0-20%)
Calcium	OK/High	OK
Magnesium	Low/Low	OK
Sodium	NA/NA	NA

Dissolved Metals-Batch WG1754863 (L2311275-05)

Analyte	Recovery (%)/Recovery (%)	RPD (0-20%)
Calcium	OK/High*	OK

No action was taken based on the matrix spike concentration versus the amount fortified in the matrix spike sample.

6. DUPLICATE SAMPLE ANALYSIS

The duplicate sample analysis is used to evaluate the precision of the methods for each parameter. If the duplicate sample analysis results for a particular analyte fall outside the control windows of 35% RPD or =/- CRDL, whichever is appropriate depending upon the concentration of the sample, the associated sample results are qualified "J" estimated.

Site specific and/or Batch QC Duplicate analyses were not prepared and/or analyzed with this data set. No further action has been taken.

7. ICP SERIAL DILUTION ANALYSIS

The serial dilution analysis indicates whether significant physical or chemical interferences exist due to the sample matrix. If the concentration of any analyte in the original sample is greater than 50 times the instrument detection limit (IDL), an analysis of a 5-fold dilution samples must yield results which have a percent difference (%D) of less than or equal to 10 with the original sample results. If the %D of the serial dilution exceeds the10% (and is not greater than 100%) for a particular analyte, all the associated sample results are qualified estimated (J).

ICP Serial Dilution analysis was performed on field sample MW-6S/Total (L2311275-05). QC criteria was met in this serial dilution analysis. In addition, Batch QC WG1751734-10 was prepared and analyzed as a serial dilution sample analysis (Total). Sample data was not qualified based on the Batch QC sample reported in this data set.

ICP Serial Dilution analysis was performed on field sample MW-6S/Dissolved (L2311275-05). QC criteria was met in this serial dilution analysis.

In addition, the laboratory report included Batch QC serial dilution analyses. Sample data was not qualified based on the Batch QC samples reported in this data set.

INORGANIC DATA ASSESSMENT

8. BLANKS

Blank analyses are assessed to determine the existence and magnitude of contamination problems. The criteria used for the evaluation of blanks applies to all blanks, including but not limited to reagent blanks, method blanks and field blanks. The responsibility for action in the case of an unsuitable blank result depends upon the circumstances and the origin of the blank itself. If the problem with any blank exists, then all associated data must be carefully evaluated to determine whether there is inherent variability in the data for that case, or the problem is an isolated occurrence not affecting other data.

ICPMS Metals/Total - One (1) aqueous preparation blank sample (WG1751734) is associated with the samples reported in this data set. Target analytes were not detected in the ICPMS method blank sample. at a concentration less than that of the method reporting limit (MRL). Sample data has not been qualified/negated due to method blank contamination.

Mercury/Total – One (1) aqueous preparation blank sample (WG1751736) is associated with the samples reported in this data set. The method blank sample (WG1751736) detected Mercury (0.00010 J mg/L).

ICPMS Metals/Dissolved - One (1) aqueous preparation blank sample (WG1754863) is associated with the samples reported in this data set. Potassium, dissolved (0.674 mg/L), Thallium, dissolved (0.00029 J mg/L) and Sodium Dissolved (0.0755 mg/L)

Mercury/Dissolved – One (1) aqueous preparation blank sample (WG1754865) is associated with the samples reported in this data set. The method blank sample (WG1754865) was free from contamination of Mercury.

9. LABORATORY CONTROL SAMPLE ANALYSIS

The laboratory control sample (LCS) analysis provides information about the efficiency of the digestion procedure. If the recovery of any analyte is outside the reported in-house control limits, then laboratory performance and method accuracy are in question. Professional judgment is used to determine of data should be qualified or rejected.

Two (2) laboratory control samples are associated with this data set. The laboratory applied in house QC limits to the LCS sample recovery (80-120%) SRM recovery.

Total Metals - Batch – WG1751734-2 - The percent (%) recovery of the reported target analytes met QC criteria.

Dissolved Metals – Batch - WG1754863-2 - The percent (%) recovery of the reported target analytes met QC criteria.

Total Mercury – Batch WG1751736 – One (1) Laboratory Control Samples (LCS)/Standard Reference Material (SRM) is associated with this data set. The LCS sample was prepared and analyzed with the field samples reported in this data set. In-house percent recovery (80-120%) limits were reviewed. The SRM/LCS percent recovery (%) met QC criteria in the sample batch associated with these Mercury sample analyses.

Dissolved Mercury – Batch WG11754865 and Batch WG1756263 were reported in this data set. The percent recovery (80-120%) QC criteria was met in each of the sample batches associated in this data set.

INORGANIC DATA ASSESSMENT

10. SAMPLE RESULTS DATA

Laboratory report L2311275 reports the analytical results for the review of four (4) Monitoring Well (MW) samples, one (1) Field Duplicate sample and one (1) Field Blank (3/1/2023).

Target analyte results were reported in mg/L. Samples were analyzed in accordance with the cited method (EPA 6020B, EPA 7470A). Analyte results reported between the method detection limit (MDL) and RL have been estimated "J" qualified by the laboratory.

11. FIELD DUPLICATE SAMPLE DATA

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples. Soil samples will have a greater variance due to the difficulties associated with collecting exact duplicate soil samples than aqueous samples. RPD < than 35% in these non-aqueous sample analyses indicates acceptable precision.

Sample S-1A was collected in duplicate (S-DUP-Standard). Below is a summary of the detected target analytes:

Target Analyte	MW-6D Total (L2311275-03)	MW-X-Total (L2311275-04)	RPD (%)
Aluminum	0.0153	0.007799 J	NC
Antimony	ND	ND	NC
Arsenic	0.00189	0.00195	3.13
Barium	0.2602	0.2729	12.3
Beryllium	ND	ND	NC
Cadmium	ND	ND	NC
Calcium	219	224	2.26
Chromium	0.00027 J	ND	NC
Cobalt	0.00107	0.00121	12.3
Copper	0.00158	0.00117	29.8
Iron	0.398	0.368	7.83
Lead	ND	ND	NC
Magnesium	111	112	0.89
Manganese	1.048	1.157	9.89
Nickel	0.01519	0.01624	6.68
Potassium	15.0	15.1	< 1
Selenium	ND	ND	NC
Silver	ND	ND	NC
Sodium	208	201	3.42
Thallium	ND	ND	NC
Vanadium	ND	ND	NC
Zinc	ND	ND	NC
Mercury	0.00013 J	0.00017 J	NC

ND denotes Not Detected
NC denotes Not Calculated

Target analytes met QC criteria in the Total Field Duplicate analyses reported in this data set.

INORGANIC DATA ASSESSMENT

12. FIELD DUPLICATE SAMPLE DATA (cont'd):

Target Analyte	MW-6D Dissolved (L2311275-03)	MW-X Dissolved (L2311275-04)	RPD (%)
Aluminum	0.00615 J	ND	NC
Antimony	**ND**	**ND**	**NC**
Arsenic	0.00167	0.00195	15.5
Barium	0.2435	0.2729	11.4
Beryllium	**ND**	**ND**	**NC**
Cadmium	**ND**	**ND**	**NC**
Calcium	232	224	3.51
Chromium	**ND**	**ND**	**NC**
Cobalt	0.00091	0.00121	28.3
Copper	0.00071	0.00117	31.9
Iron	**ND**	**0.368**	**NC**
Lead	**ND**	**ND**	**NC**
Magnesium	95.1	112	16.3
Manganese	1.107	1.157	4.42
Nickel	0.01260	0.01624	25.2
Potassium	15.5	15.1	0
Selenium	**ND**	**ND**	**NC**
Silver	**ND**	**ND**	**NC**
Sodium	**204**	**201**	1.48
Thallium	0.00016 J	ND	NC
Vanadium	**ND**	**ND**	**NC**
Zinc	**ND**	**ND**	**NC**
Mercury	ND	0.00017 J	NC

ND denotes Not Detected
NC denotes Not Calculated

Target analytes met QC criteria in the Dissolved Field Duplicate analyses reported in this data set.

13. INSTRUMENT QC DATA

The laboratory is required by the method to perform specific instrument verification tests on a specific timeframe. Based on a review of the QC summary forms included in the data report, this QC criteria has been met.

14. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

This data review report includes the analysis of the samples marked on the Chain of Custody documents for these inorganic analytes. These include a subset of site-specific metals. Sample results have been reported in accordance with the cited methods. The data associated with this data set is acceptable for use with the noted data qualifiers. Data qualifiers are detailed in the above report.

TABLE 1

FIELD SAMPLE ID	LABORATORY ID
MW-E	L2311275-01
MW-5	L2311275-02
MW-6D	L2311275-03
MW-X	L2311275-04
MW-6S	L2311275-05
FIELD BLANK 3-1-23	L2311275-06
TRIP BLANK	L2311275-07

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2311275-01	MW-E	WATER	LONG ISLAND CITY, NY	03/01/23 14:50	03/03/23
L2311275-02	MW-5	WATER	LONG ISLAND CITY, NY	03/01/23 11:30	03/03/23
L2311275-03	MW-6D	WATER	LONG ISLAND CITY, NY	03/01/23 12:35	03/03/23
L2311275-04	MW-X	WATER	LONG ISLAND CITY, NY	03/01/23 12:50	03/03/23
L2311275-05	MW-6S	WATER	LONG ISLAND CITY, NY	03/01/23 13:55	03/03/23
L2311275-06	FIELD BLANK 3-1-23	WATER	LONG ISLAND CITY, NY	03/01/23 00:00	03/03/23
L2311275-07	TRIP BLANK	WATER	LONG ISLAND CITY, NY	03/01/23 00:00	03/03/23

APPENDIX A

DATA QUALIFIER DEFINITIONS

U - The analyte was analyzed for but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

APPENDIX B

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01
Client ID: MW-E
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 14:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 18:44
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	1.1	J	ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01
Client ID: MW-E
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 14:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	0.80	J	ug/l	2.5	0.70	1
1,4-Dichlorobenzene	1.0	J	ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND	UJ	ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01
Client ID: MW-E
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 14:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	111		70-130

Project Name: HYGRADE PLATING
Lab Number: L2311275
Project Number: HYGRADE PLATING
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 11:30
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 19:06
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.37	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 11:30
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	3.2		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND	UJ	ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02 Date Collected: 03/01/23 11:30

Client ID: MW-5 Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	111		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03 D
Client ID: MW-6D
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:35
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 19:51
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	25	7.0	10
1,1-Dichloroethane	ND		ug/l	25	7.0	10
Chloroform	ND		ug/l	25	7.0	10
Carbon tetrachloride	ND		ug/l	5.0	1.3	10
1,2-Dichloropropane	ND		ug/l	10	1.4	10
Dibromochloromethane	ND		ug/l	5.0	1.5	10
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10
Tetrachloroethene	39		ug/l	5.0	1.8	10
Chlorobenzene	ND		ug/l	25	7.0	10
Trichlorofluoromethane	ND		ug/l	25	7.0	10
1,2-Dichloroethane	ND		ug/l	5.0	1.3	10
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10
Bromodichloromethane	ND		ug/l	5.0	1.9	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10
1,3-Dichloropropene, Total	ND		ug/l	5.0	1.4	10
1,1-Dichloropropene	ND		ug/l	25	7.0	10
Bromoform	ND		ug/l	20	6.5	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10
Benzene	ND		ug/l	5.0	1.6	10
Toluene	ND		ug/l	25	7.0	10
Ethylbenzene	ND		ug/l	25	7.0	10
Chloromethane	ND		ug/l	25	7.0	10
Bromomethane	ND		ug/l	25	7.0	10
Vinyl chloride	ND		ug/l	10	0.71	10
Chloroethane	ND		ug/l	25	7.0	10
1,1-Dichloroethene	ND		ug/l	5.0	1.7	10
trans-1,2-Dichloroethene	ND		ug/l	25	7.0	10

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03 D
Client ID: MW-6D
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 12:35
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	15		ug/l	5.0	1.8	10
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10
1,3-Dichlorobenzene	ND		ug/l	25	7.0	10
1,4-Dichlorobenzene	ND		ug/l	25	7.0	10
Methyl tert butyl ether	230		ug/l	25	7.0	10
p/m-Xylene	ND		ug/l	25	7.0	10
o-Xylene	ND		ug/l	25	7.0	10
Xylenes, Total	ND		ug/l	25	7.0	10
cis-1,2-Dichloroethene	27		ug/l	25	7.0	10
1,2-Dichloroethene, Total	27		ug/l	25	7.0	10
Dibromomethane	ND		ug/l	50	10.	10
1,2,3-Trichloropropane	ND		ug/l	25	7.0	10
Acrylonitrile	ND		ug/l	50	15.	10
Styrene	ND		ug/l	25	7.0	10
Dichlorodifluoromethane	ND		ug/l	50	10.	10
Acetone	ND		ug/l	50	15.	10
Carbon disulfide	ND		ug/l	50	10.	10
2-Butanone	ND		ug/l	50	19.	10
Vinyl acetate	ND	UJ	ug/l	50	10.	10
4-Methyl-2-pentanone	ND		ug/l	50	10.	10
2-Hexanone	ND		ug/l	50	10.	10
Bromochloromethane	ND		ug/l	25	7.0	10
2,2-Dichloropropane	ND		ug/l	25	7.0	10
1,2-Dibromoethane	ND		ug/l	20	6.5	10
1,3-Dichloropropane	ND		ug/l	25	7.0	10
1,1,1,2-Tetrachloroethane	ND		ug/l	25	7.0	10
Bromobenzene	ND		ug/l	25	7.0	10
n-Butylbenzene	ND		ug/l	25	7.0	10
sec-Butylbenzene	ND		ug/l	25	7.0	10
tert-Butylbenzene	ND		ug/l	25	7.0	10
o-Chlorotoluene	ND		ug/l	25	7.0	10
p-Chlorotoluene	ND		ug/l	25	7.0	10
1,2-Dibromo-3-chloropropane	ND		ug/l	25	7.0	10
Hexachlorobutadiene	ND		ug/l	25	7.0	10
Isopropylbenzene	ND		ug/l	25	7.0	10
p-Isopropyltoluene	ND		ug/l	25	7.0	10
Naphthalene	ND		ug/l	25	7.0	10

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03 D
Client ID: MW-6D
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 12:35
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	25	7.0	10
1,2,3-Trichlorobenzene	ND		ug/l	25	7.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	7.0	10
1,3,5-Trimethylbenzene	ND		ug/l	25	7.0	10
1,2,4-Trimethylbenzene	ND		ug/l	25	7.0	10
1,4-Dioxane	ND		ug/l	2500	610	10
p-Diethylbenzene	ND		ug/l	20	7.0	10
p-Ethyltoluene	ND		ug/l	20	7.0	10
1,2,4,5-Tetramethylbenzene	ND		ug/l	20	5.4	10
Ethyl ether	ND		ug/l	25	7.0	10
trans-1,4-Dichloro-2-butene	ND		ug/l	25	7.0	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	112		70-130

Project Name: HYGRADE PLATING
Lab Number: L2311275
Project Number: HYGRADE PLATING
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04 D
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 20:13
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	25	7.0	10
1,1-Dichloroethane	ND		ug/l	25	7.0	10
Chloroform	ND		ug/l	25	7.0	10
Carbon tetrachloride	ND		ug/l	5.0	1.3	10
1,2-Dichloropropane	ND		ug/l	10	1.4	10
Dibromochloromethane	ND		ug/l	5.0	1.5	10
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10
Tetrachloroethene	45		ug/l	5.0	1.8	10
Chlorobenzene	ND		ug/l	25	7.0	10
Trichlorofluoromethane	ND		ug/l	25	7.0	10
1,2-Dichloroethane	ND		ug/l	5.0	1.3	10
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10
Bromodichloromethane	ND		ug/l	5.0	1.9	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10
1,3-Dichloropropene, Total	ND		ug/l	5.0	1.4	10
1,1-Dichloropropene	ND		ug/l	25	7.0	10
Bromoform	ND		ug/l	20	6.5	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10
Benzene	ND		ug/l	5.0	1.6	10
Toluene	ND		ug/l	25	7.0	10
Ethylbenzene	ND		ug/l	25	7.0	10
Chloromethane	ND		ug/l	25	7.0	10
Bromomethane	ND		ug/l	25	7.0	10
Vinyl chloride	ND		ug/l	10	0.71	10
Chloroethane	ND		ug/l	25	7.0	10
1,1-Dichloroethene	ND		ug/l	5.0	1.7	10
trans-1,2-Dichloroethene	ND		ug/l	25	7.0	10

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04 D
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	17		ug/l	5.0	1.8	10
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10
1,3-Dichlorobenzene	ND		ug/l	25	7.0	10
1,4-Dichlorobenzene	ND		ug/l	25	7.0	10
Methyl tert butyl ether	210		ug/l	25	7.0	10
p/m-Xylene	ND		ug/l	25	7.0	10
o-Xylene	ND		ug/l	25	7.0	10
Xylenes, Total	ND		ug/l	25	7.0	10
cis-1,2-Dichloroethene	26		ug/l	25	7.0	10
1,2-Dichloroethene, Total	26		ug/l	25	7.0	10
Dibromomethane	ND		ug/l	50	10.	10
1,2,3-Trichloropropane	ND		ug/l	25	7.0	10
Acrylonitrile	ND		ug/l	50	15.	10
Styrene	ND		ug/l	25	7.0	10
Dichlorodifluoromethane	ND		ug/l	50	10.	10
Acetone	ND		ug/l	50	15.	10
Carbon disulfide	ND		ug/l	50	10.	10
2-Butanone	ND		ug/l	50	19.	10
Vinyl acetate	ND	UJ	ug/l	50	10.	10
4-Methyl-2-pentanone	ND		ug/l	50	10.	10
2-Hexanone	ND		ug/l	50	10.	10
Bromochloromethane	ND		ug/l	25	7.0	10
2,2-Dichloropropane	ND		ug/l	25	7.0	10
1,2-Dibromoethane	ND		ug/l	20	6.5	10
1,3-Dichloropropane	ND		ug/l	25	7.0	10
1,1,1,2-Tetrachloroethane	ND		ug/l	25	7.0	10
Bromobenzene	ND		ug/l	25	7.0	10
n-Butylbenzene	ND		ug/l	25	7.0	10
sec-Butylbenzene	ND		ug/l	25	7.0	10
tert-Butylbenzene	ND		ug/l	25	7.0	10
o-Chlorotoluene	ND		ug/l	25	7.0	10
p-Chlorotoluene	ND		ug/l	25	7.0	10
1,2-Dibromo-3-chloropropane	ND		ug/l	25	7.0	10
Hexachlorobutadiene	ND		ug/l	25	7.0	10
Isopropylbenzene	ND		ug/l	25	7.0	10
p-Isopropyltoluene	ND		ug/l	25	7.0	10
Naphthalene	ND		ug/l	25	7.0	10

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04 D
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	25	7.0	10
1,2,3-Trichlorobenzene	ND		ug/l	25	7.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	7.0	10
1,3,5-Trimethylbenzene	ND		ug/l	25	7.0	10
1,2,4-Trimethylbenzene	ND		ug/l	25	7.0	10
1,4-Dioxane	ND		ug/l	2500	610	10
p-Diethylbenzene	ND		ug/l	20	7.0	10
p-Ethyltoluene	ND		ug/l	20	7.0	10
1,2,4,5-Tetramethylbenzene	ND		ug/l	20	5.4	10
Ethyl ether	ND		ug/l	25	7.0	10
trans-1,4-Dichloro-2-butene	ND		ug/l	25	7.0	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	110		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05
Client ID: MW-6S
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 13:55
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 19:29
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.78		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05
Client ID: MW-6S
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 13:55
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	1.2		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND	UJ	ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05
Client ID: MW-6S
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 13:55
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND	UJ	ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND	UJ	ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	111		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-06
Client ID: FIELD BLANK 3-1-23
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 00:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 18:22
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-06
Client ID: FIELD BLANK 3-1-23
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 00:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.6	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND	UJ	ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-06
Client ID: FIELD BLANK 3-1-23
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 00:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	111		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-07
Client ID: TRIP BLANK
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 00:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/13/23 16:34
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-07
Client ID: TRIP BLANK
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 00:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-07
Client ID: TRIP BLANK
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 00:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01
Client ID: MW-E
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 14:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 11:05
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	21.7		ng/l	2.07	0.422	1
Perfluoropentanoic Acid (PFPeA)	43.8		ng/l	2.07	0.410	1
Perfluorobutanesulfonic Acid (PFBS)	8.03		ng/l	2.07	0.246	1
Perfluorohexanoic Acid (PFHxA)	48.7		ng/l	2.07	0.340	1
Perfluoroheptanoic Acid (PFHpA)	7.66		ng/l	2.07	0.233	1
Perfluorohexanesulfonic Acid (PFHxS)	1.54	J	ng/l	2.07	0.389	1
Perfluorooctanoic Acid (PFOA)	9.84		ng/l	2.07	0.244	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	1.83 U	~~JB~~	ng/l	2.07	1.38	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.07	0.712	1
Perfluorononanoic Acid (PFNA)	1.36	J	ng/l	2.07	0.323	1
Perfluorooctanesulfonic Acid (PFOS)	5.13		ng/l	2.07	0.522	1
Perfluorodecanoic Acid (PFDA)	0.493	J	ng/l	2.07	0.315	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND UJ		ng/l	2.07	1.25	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.07	0.671	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.07	0.269	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.07	1.01	1
Perfluorooctanesulfonamide (FOSA)	ND UJ		ng/l	2.07	0.600	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.07	0.832	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.07	0.385	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.07	0.339	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.07	0.257	1
PFOA/PFOS, Total	15.0		ng/l	2.07	0.244	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01 Date Collected: 03/01/23 14:50

Client ID: MW-E Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	84		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	92		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	69		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	146		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	69		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	79		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	67		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	93		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	66		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	63		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	13		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	63		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	61		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	66		22-136

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 11:30
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 11:21
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	13.7		ng/l	1.88	0.384	1
Perfluoropentanoic Acid (PFPeA)	14.1		ng/l	1.88	0.373	1
Perfluorobutanesulfonic Acid (PFBS)	20.5		ng/l	1.88	0.224	1
Perfluorohexanoic Acid (PFHxA)	12.6		ng/l	1.88	0.309	1
Perfluoroheptanoic Acid (PFHpA)	6.23		ng/l	1.88	0.212	1
Perfluorohexanesulfonic Acid (PFHxS)	3.42		ng/l	1.88	0.354	1
Perfluorooctanoic Acid (PFOA)	25.7		ng/l	1.88	0.222	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.88	0.648	1
Perfluorononanoic Acid (PFNA)	0.731	J	ng/l	1.88	0.294	1
Perfluorooctanesulfonic Acid (PFOS)	135		ng/l	1.88	0.475	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.88	0.286	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND UJ		ng/l	1.88	1.14	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.88	0.610	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.88	0.245	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.88	0.923	1
Perfluorooctanesulfonamide (FOSA)	ND UJ		ng/l	1.88	0.546	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.88	0.757	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.88	0.350	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.88	0.308	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.88	0.234	1
PFOA/PFOS, Total	161		ng/l	1.88	0.222	1

Project Name: HYGRADE PLATING
Lab Number: L2311275
Project Number: HYGRADE PLATING
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 11:30
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	82		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	84		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	91		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	66		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	75		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	81		62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	70		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	87		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	75		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	101		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	68		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	78		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	17		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	76		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	80		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	84		22-136

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02 RE
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 11:30
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/18/23 20:28
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 03/17/23 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	2.18	J	ng/l	1.83	1.22	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	73		14-147

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03
Client ID: MW-6D
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:35
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 11:38
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	10.1		ng/l	1.86	0.379	1
Perfluoropentanoic Acid (PFPeA)	10.9		ng/l	1.86	0.368	1
Perfluorobutanesulfonic Acid (PFBS)	8.16		ng/l	1.86	0.221	1
Perfluorohexanoic Acid (PFHxA)	21.7		ng/l	1.86	0.305	1
Perfluoroheptanoic Acid (PFHpA)	7.99		ng/l	1.86	0.209	1
Perfluorohexanesulfonic Acid (PFHxS)	24.5		ng/l	1.86	0.350	1
Perfluorooctanoic Acid (PFOA)	60.8		ng/l	1.86	0.219	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	97.2		ng/l	1.86	1.24	1
Perfluoroheptanesulfonic Acid (PFHpS)	3.10		ng/l	1.86	0.640	1
Perfluorononanoic Acid (PFNA)	3.10		ng/l	1.86	0.290	1
Perfluorooctanesulfonic Acid (PFOS)	337		ng/l	1.86	0.468	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.86	0.283	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	UJ	ng/l	1.86	1.13	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.86	0.602	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.86	0.242	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.86	0.911	1
Perfluorooctanesulfonamide (FOSA)	ND	UJ	ng/l	1.86	0.539	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.86	0.747	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	0.346	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.86	0.304	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.86	0.230	1
PFOA/PFOS, Total	398		ng/l	1.86	0.219	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03
Client ID: MW-6D
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:35
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	95		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	80		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	65		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	79		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**271** R	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	87		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	82		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**218** R	Q	10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	101		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	89		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	26		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	110		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	83		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	83		22-136

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 11:54
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	9.82		ng/l	1.87	0.381	1
Perfluoropentanoic Acid (PFPeA)	10.4		ng/l	1.87	0.370	1
Perfluorobutanesulfonic Acid (PFBS)	8.83		ng/l	1.87	0.222	1
Perfluorohexanoic Acid (PFHxA)	18.6		ng/l	1.87	0.306	1
Perfluoroheptanoic Acid (PFHpA)	8.14		ng/l	1.87	0.210	1
Perfluorohexanesulfonic Acid (PFHxS)	26.0		ng/l	1.87	0.351	1
Perfluorooctanoic Acid (PFOA)	59.5		ng/l	1.87	0.220	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.96		ng/l	1.87	0.642	1
Perfluorononanoic Acid (PFNA)	3.19		ng/l	1.87	0.291	1
Perfluorooctanesulfonic Acid (PFOS)	387		ng/l	1.87	0.470	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.87	0.284	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	UJ	ng/l	1.87	1.13	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.87	0.605	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.87	0.243	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.87	0.915	1
Perfluorooctanesulfonamide (FOSA)	ND	UJ	ng/l	1.87	0.541	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.87	0.750	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.87	0.347	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.87	0.305	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.87	0.231	1
PFOA/PFOS, Total	447		ng/l	1.87	0.220	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	91		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	77		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	64		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	85		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	81		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**214** R	Q	10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	97		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	89		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	29		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	112		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	82		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	79		22-136

Project Name: HYGRADE PLATING
Lab Number: L2311275
Project Number: HYGRADE PLATING
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04 RE
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/18/23 20:45
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 03/17/23 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	89.7	J	ng/l	1.84	1.22	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**157**	Q	14-147

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05
Client ID: MW-6S
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 13:55
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 12:27
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	14.3		ng/l	1.78	0.363	1
Perfluoropentanoic Acid (PFPeA)	15.0		ng/l	1.78	0.352	1
Perfluorobutanesulfonic Acid (PFBS)	18.9		ng/l	1.78	0.212	1
Perfluorohexanoic Acid (PFHxA)	20.4		ng/l	1.78	0.292	1
Perfluoroheptanoic Acid (PFHpA)	7.21		ng/l	1.78	0.200	1
Perfluorohexanesulfonic Acid (PFHxS)	4.82		ng/l	1.78	0.334	1
Perfluorooctanoic Acid (PFOA)	23.3		ng/l	1.78	0.210	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	1.56 J	JB	ng/l	1.78	1.18	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.04	J	ng/l	1.78	0.612	1
Perfluorononanoic Acid (PFNA)	2.33		ng/l	1.78	0.278	1
Perfluorooctanesulfonic Acid (PFOS)	100		ng/l	1.78	0.448	1
Perfluorodecanoic Acid (PFDA)	0.399	J	ng/l	1.78	0.270	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND UJ		ng/l	1.78	1.08	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.78	0.576	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.78	0.231	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.78	0.872	1
Perfluorooctanesulfonamide (FOSA)	ND UJ		ng/l	1.78	0.516	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.78	0.715	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.78	0.331	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.78	0.291	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.78	0.221	1
PFOA/PFOS, Total	123		ng/l	1.78	0.210	1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05
Client ID: MW-6S
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 13:55
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	85		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	90		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	69		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	78		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	88		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**164**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	78		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	79		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	128		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	75		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	87		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	18		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	82		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	87		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	97		22-136

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-06
Client ID: FIELD BLANK 3-1-23
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 00:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 13:17
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.88	0.384	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.88	0.373	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.88	0.224	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.88	0.309	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.88	0.212	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.88	0.354	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.88	0.222	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.88	1.25	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.88	0.647	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.88	0.294	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.88	0.474	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.88	0.286	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.88	1.14	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.88	0.610	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.88	0.245	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.88	0.922	1
Perfluorooctanesulfonamide (FOSA)	ND	UJ	ng/l	1.88	0.546	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.88	0.756	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.88	0.350	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.88	0.308	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.88	0.233	1
PFOA/PFOS, Total	ND		ng/l	1.88	0.222	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-06 Date Collected: 03/01/23 00:00

Client ID: FIELD BLANK 3-1-23 Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	114		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	98		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	88		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	90		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	82		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	88		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	93		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	90		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	95		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	100		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	49		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	99		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	94		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	116		22-136

APPENDIX E – LABORATORY REPORT

ANALYTICAL REPORT

Lab Number:	L2311340
Client:	Eric A. Weinstock, P. G., P. C. 314 Hudson View Ter. Hyde Park, NY 12538
ATTN:	Eric Weinstock
Phone:	(516) 413-6643
Project Name:	HYGRADE PLATING
Project Number:	HYGRADE PLATING
Report Date:	04/17/23

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311340
Report Date: 04/17/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2311340-01	IA-1/3-1-2023	AIR	LONG ISLAND CITY, NY	03/01/23 09:00	03/03/23

Project Name:	HYGRADE PLATING	**Lab Number:**	L2311340
Project Number:	HYGRADE PLATING	**Report Date:**	04/17/23

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	HYGRADE PLATING	**Lab Number:**	L2311340
Project Number:	HYGRADE PLATING	**Report Date:**	04/17/23

Case Narrative (continued)

Report Revision

April 17, 2023 the report has been amended to change the site name.

Volatile Organics in Air

Canisters were released from the laboratory on February 24, 2023. The canister certification results are provided as an addendum.

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

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 04/17/23

AIR

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311340
Report Date: 04/17/23

SAMPLE RESULTS

Lab ID: L2311340-01
Client ID: IA-1/3-1-2023
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 09:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/10/23 23:53
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.617	0.200	--	3.05	0.989	--		1
Chloromethane	0.679	0.200	--	1.40	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	80.4	5.00	--	151	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	88.4	1.00	--	210	2.38	--		1
Trichlorofluoromethane	0.236	0.200	--	1.33	1.12	--		1
Isopropanol	30.1	0.500	--	74.0	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	1.24	0.200	--	3.86	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.569	0.500	--	1.68	1.47	--		1
Ethyl Acetate	0.732	0.500	--	2.64	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311340
Report Date: 04/17/23

SAMPLE RESULTS

Lab ID: L2311340-01
Client ID: IA-1/3-1-2023
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 09:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.212	0.200	--	0.747	0.705	--		1
Benzene	0.360	0.200	--	1.15	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	1.24	0.200	--	4.67	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.499	0.400	--	2.17	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.206	0.200	--	0.895	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311340
Report Date: 04/17/23

SAMPLE RESULTS

Lab ID: L2311340-01
Client ID: IA-1/3-1-2023
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 09:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	95		60-140

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311340
Report Date: 04/17/23

SAMPLE RESULTS

Lab ID: L2311340-01
Client ID: IA-1/3-1-2023
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 09:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/10/23 23:53
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	0.029	0.020	--	0.115	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.083	0.020	--	0.522	0.126	--		1
Trichloroethene	0.078	0.020	--	0.419	0.107	--		1
Tetrachloroethene	0.076	0.020	--	0.515	0.136	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	94		60-140

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311340
Report Date: 04/17/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/10/23 15:21

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1753421-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311340
Report Date: 04/17/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/10/23 15:21

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1753421-4								
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311340
Report Date: 04/17/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 03/10/23 15:21

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1753421-4								
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311340
Report Date: 04/17/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/10/23 16:00

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01 Batch: WG1753422-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311340

Report Date: 04/17/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1753421-3								
Dichlorodifluoromethane	117		-		70-130	-		
Chloromethane	114		-		70-130	-		
Freon-114	117		-		70-130	-		
Vinyl chloride	108		-		70-130	-		
1,3-Butadiene	114		-		70-130	-		
Bromomethane	110		-		70-130	-		
Chloroethane	104		-		70-130	-		
Ethanol	120		-		40-160	-		
Vinyl bromide	91		-		70-130	-		
Acetone	108		-		40-160	-		
Trichlorofluoromethane	108		-		70-130	-		
Isopropanol	98		-		40-160	-		
1,1-Dichloroethene	98		-		70-130	-		
Tertiary butyl Alcohol	87		-		70-130	-		
Methylene chloride	103		-		70-130	-		
3-Chloropropene	104		-		70-130	-		
Carbon disulfide	95		-		70-130	-		
Freon-113	101		-		70-130	-		
trans-1,2-Dichloroethene	91		-		70-130	-		
1,1-Dichloroethane	91		-		70-130	-		
Methyl tert butyl ether	99		-		70-130	-		
2-Butanone	102		-		70-130	-		
cis-1,2-Dichloroethene	96		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311340

Report Date: 04/17/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1753421-3								
Ethyl Acetate	93		-		70-130	-		
Chloroform	109		-		70-130	-		
Tetrahydrofuran	95		-		70-130	-		
1,2-Dichloroethane	105		-		70-130	-		
n-Hexane	104		-		70-130	-		
1,1,1-Trichloroethane	117		-		70-130	-		
Benzene	97		-		70-130	-		
Carbon tetrachloride	123		-		70-130	-		
Cyclohexane	101		-		70-130	-		
1,2-Dichloropropane	100		-		70-130	-		
Bromodichloromethane	119		-		70-130	-		
1,4-Dioxane	107		-		70-130	-		
Trichloroethene	104		-		70-130	-		
2,2,4-Trimethylpentane	104		-		70-130	-		
Heptane	116		-		70-130	-		
cis-1,3-Dichloropropene	116		-		70-130	-		
4-Methyl-2-pentanone	122		-		70-130	-		
trans-1,3-Dichloropropene	101		-		70-130	-		
1,1,2-Trichloroethane	106		-		70-130	-		
Toluene	86		-		70-130	-		
2-Hexanone	108		-		70-130	-		
Dibromochloromethane	105		-		70-130	-		
1,2-Dibromoethane	100		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311340

Report Date: 04/17/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1753421-3								
Tetrachloroethene	95		-		70-130	-		
Chlorobenzene	95		-		70-130	-		
Ethylbenzene	94		-		70-130	-		
p/m-Xylene	96		-		70-130	-		
Bromoform	106		-		70-130	-		
Styrene	95		-		70-130	-		
1,1,2,2-Tetrachloroethane	98		-		70-130	-		
o-Xylene	97		-		70-130	-		
4-Ethyltoluene	103		-		70-130	-		
1,3,5-Trimethylbenzene	106		-		70-130	-		
1,2,4-Trimethylbenzene	100		-		70-130	-		
Benzyl chloride	103		-		70-130	-		
1,3-Dichlorobenzene	95		-		70-130	-		
1,4-Dichlorobenzene	94		-		70-130	-		
1,2-Dichlorobenzene	89		-		70-130	-		
1,2,4-Trichlorobenzene	88		-		70-130	-		
Hexachlorobutadiene	85		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311340

Report Date: 04/17/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1753422-3								
Vinyl chloride	107		-		70-130	-		25
1,1-Dichloroethene	99		-		70-130	-		25
cis-1,2-Dichloroethene	96		-		70-130	-		25
1,1,1-Trichloroethane	113		-		70-130	-		25
Carbon tetrachloride	110		-		70-130	-		25
Trichloroethene	100		-		70-130	-		25
Tetrachloroethene	94		-		70-130	-		25

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311340

Report Date: 04/17/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2311340-01	IA-1/3-1-2023	02062	Flow 4	02/24/23	413783		-	-	-	Pass	10.0	9.5	5
L2311340-01	IA-1/3-1-2023	2479	6.0L Can	02/24/23	413783	L2308322-10	Pass	-29.9	-4.6	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2308322
Report Date: 04/17/23

Air Canister Certification Results

Lab ID: L2308322-10
Client ID: CAN 1000 SHELF 53
Sample Location:

Date Collected: 02/16/23 10:00
Date Received: 02/16/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 02/17/23 00:26
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2308322
Report Date: 04/17/23

Air Canister Certification Results

Lab ID: L2308322-10
Client ID: CAN 1000 SHELF 53
Sample Location:

Date Collected: 02/16/23 10:00
Date Received: 02/16/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2308322
Report Date: 04/17/23

Air Canister Certification Results

Lab ID: L2308322-10
Client ID: CAN 1000 SHELF 53
Sample Location:

Date Collected: 02/16/23 10:00
Date Received: 02/16/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2308322
Report Date: 04/17/23

Air Canister Certification Results

Lab ID: L2308322-10
Client ID: CAN 1000 SHELF 53
Sample Location:

Date Collected: 02/16/23 10:00
Date Received: 02/16/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2308322
Report Date: 04/17/23

Air Canister Certification Results

Lab ID: L2308322-10
Client ID: CAN 1000 SHELF 53
Sample Location:

Date Collected: 02/16/23 10:00
Date Received: 02/16/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		60-140
Bromochloromethane	105		60-140
chlorobenzene-d5	100		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2308322
Report Date: 04/17/23

Air Canister Certification Results

Lab ID: L2308322-10
Client ID: CAN 1000 SHELF 53
Sample Location:

Date Collected: 02/16/23 10:00
Date Received: 02/16/23
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 02/17/23 00:26
Analyst: RAY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2308322
Report Date: 04/17/23

Air Canister Certification Results

Lab ID: L2308322-10
Client ID: CAN 1000 SHELF 53
Sample Location:

Date Collected: 02/16/23 10:00
Date Received: 02/16/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2308322

Project Number: CANISTER QC BAT **Report Date:** 04/17/23

Air Canister Certification Results

Lab ID: L2308322-10
Client ID: CAN 1000 SHELF 53
Sample Location:

Date Collected: 02/16/23 10:00
Date Received: 02/16/23
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	99		60-140
bromochloromethane	106		60-140
chlorobenzene-d5	98		60-140

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311340
Report Date: 04/17/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	*Custody Seal*
NA	Absent

Container Information

Container ID	*Container Type*	*Cooler*	*Initial pH*	*Final pH*	*Temp deg C*	*Pres*	*Seal*	*Frozen Date/Time*	*Analysis(*)*
L2311340-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	HYGRADE PLATING	**Lab Number:**	L2311340
Project Number:	HYGRADE PLATING	**Report Date:**	04/17/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	HYGRADE PLATING	**Lab Number:**	L2311340
Project Number:	HYGRADE PLATING	**Report Date:**	04/17/23

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

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

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

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

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

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

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

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

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

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

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

Report Format: Data Usability Report

Project Name:	HYGRADE PLATING	**Lab Number:**	L2311340
Project Number:	HYGRADE PLATING	**Report Date:**	04/17/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

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

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

Serial_No:04172310:14

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

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

Date Rec'd in Lab: 3/4/23

ALPHA Job #: L2311340

Client Information

Client: Eric Wemstock, P.G.
Address: 314 Hudson View Tr.
Hyde Park, NY 12538
Phone: 516-413-6643
Fax:
Email: ewemstock65@gmail.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Hydrock Plating
Project Location: Long Island City, NY
Project #:
Project Manager: Eric Wemstock
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH ☐ Subset Non-petroleum HCs	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
134001	IA-1/3-1-2023		9:00		-30.55		AA	F.A.	6L.	2479	0262						

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
(AAL)	3/3/23 1335	(AAL)	3/3/23 1335
	3/3/23 1817		3/3/23 2100
	3/3/23		3/3/23 2350
	3/4/23 0440		3/4/23 04:40

Form No: 101-03 Rev: (25-Sep-15)

ANALYTICAL REPORT

Lab Number:	L2311275
Client:	Eric A. Weinstock, P. G., P. C. 314 Hudson View Ter. Hyde Park, NY 12538
ATTN:	Eric Weinstock
Phone:	(516) 413-6643
Project Name:	HYGRADE PLATING
Project Number:	HYGRADE PLATING
Report Date:	03/22/23

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

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

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2311275-01	MW-E	WATER	LONG ISLAND CITY, NY	03/01/23 14:50	03/03/23
L2311275-02	MW-5	WATER	LONG ISLAND CITY, NY	03/01/23 11:30	03/03/23
L2311275-03	MW-6D	WATER	LONG ISLAND CITY, NY	03/01/23 12:35	03/03/23
L2311275-04	MW-X	WATER	LONG ISLAND CITY, NY	03/01/23 12:50	03/03/23
L2311275-05	MW-6S	WATER	LONG ISLAND CITY, NY	03/01/23 13:55	03/03/23
L2311275-06	FIELD BLANK 3-1-23	WATER	LONG ISLAND CITY, NY	03/01/23 00:00	03/03/23
L2311275-07	TRIP BLANK	WATER	LONG ISLAND CITY, NY	03/01/23 00:00	03/03/23

Project Name:	HYGRADE PLATING	**Lab Number:**	L2311275
Project Number:	HYGRADE PLATING	**Report Date:**	03/22/23

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Case Narrative (continued)

Report Submission
March 22, 2023: This final report includes the results of all requested analyses.
March 20, 2023: This is a preliminary report.

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

Volatile Organics
L2311275-03D and -04D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

Perfluorinated Alkyl Acids by Isotope Dilution
L2311275-01, -03, -04, -04RE, -05, and WG1753892-3/-4: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.
L2311275-02RE and -04RE: The sample was re-extracted within holding time due to QC failures in the original extraction. The results of the re-extraction are reported for 6:2FTS.
The WG1753892-1 Method Blank, associated with L2311275-01, -03, -05 and -06, has a concentration above the reporting limit for 6:2FTS. Since the associated sample concentrations are either greater than 10x the blank concentration or non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B".

Total Metals
L2311275-06: The Field Blank has a result for sodium present above the reporting limit. The sample was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.
The WG1751734-3/-4 MS/MSD recoveries, performed on L2311275-05, are outside the acceptance criteria

Project Name:	HYGRADE PLATING	**Lab Number:**	L2311275
Project Number:	HYGRADE PLATING	**Report Date:**	03/22/23

Case Narrative (continued)

for magnesium (60%/73%). A post digestion spike was performed and was within acceptance criteria.
The WG1751734-3/-4 MS/MSD recoveries for calcium (MSD at 170%) and sodium (0%/0%), performed on L2311275-05, do not apply because the sample concentrations are greater than four times the spike amounts added.

Dissolved Metals
L2311275-02: The dissolved result is greater than the total result for potassium. The sample containers were verified as being labeled correctly by the laboratory, and aliquots were analyzed from each bottle, confirming the original results.
The WG1754863-1 Method Blank, associated with L2311275-01 through -05, has a concentration above the reporting limit for potassium. Since the associated sample concentrations are greater than 10x the blank concentration for this target analyte, no corrective action is required.
The WG1754863-4 MSD recovery for calcium (200%), performed on L2311275-05, does not apply because the sample concentration is greater than four times the spike amount added.

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

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 03/22/23

ORGANICS

VOLATILES

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01
Client ID: MW-E
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 14:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 18:44
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	1.1	J	ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01 Date Collected: 03/01/23 14:50

Client ID: MW-E Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	0.80	J	ug/l	2.5	0.70	1
1,4-Dichlorobenzene	1.0	J	ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01 Date Collected: 03/01/23 14:50

Client ID: MW-E Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	111		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 11:30
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 19:06
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.37	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02 Date Collected: 03/01/23 11:30

Client ID: MW-5 Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	3.2		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02 Date Collected: 03/01/23 11:30

Client ID: MW-5 Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	111		70-130

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03 D
Client ID: MW-6D
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:35
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 19:51
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	25	7.0	10
1,1-Dichloroethane	ND		ug/l	25	7.0	10
Chloroform	ND		ug/l	25	7.0	10
Carbon tetrachloride	ND		ug/l	5.0	1.3	10
1,2-Dichloropropane	ND		ug/l	10	1.4	10
Dibromochloromethane	ND		ug/l	5.0	1.5	10
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10
Tetrachloroethene	39		ug/l	5.0	1.8	10
Chlorobenzene	ND		ug/l	25	7.0	10
Trichlorofluoromethane	ND		ug/l	25	7.0	10
1,2-Dichloroethane	ND		ug/l	5.0	1.3	10
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10
Bromodichloromethane	ND		ug/l	5.0	1.9	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10
1,3-Dichloropropene, Total	ND		ug/l	5.0	1.4	10
1,1-Dichloropropene	ND		ug/l	25	7.0	10
Bromoform	ND		ug/l	20	6.5	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10
Benzene	ND		ug/l	5.0	1.6	10
Toluene	ND		ug/l	25	7.0	10
Ethylbenzene	ND		ug/l	25	7.0	10
Chloromethane	ND		ug/l	25	7.0	10
Bromomethane	ND		ug/l	25	7.0	10
Vinyl chloride	ND		ug/l	10	0.71	10
Chloroethane	ND		ug/l	25	7.0	10
1,1-Dichloroethene	ND		ug/l	5.0	1.7	10
trans-1,2-Dichloroethene	ND		ug/l	25	7.0	10

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03 D
Client ID: MW-6D
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:35
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	15		ug/l	5.0	1.8	10
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10
1,3-Dichlorobenzene	ND		ug/l	25	7.0	10
1,4-Dichlorobenzene	ND		ug/l	25	7.0	10
Methyl tert butyl ether	230		ug/l	25	7.0	10
p/m-Xylene	ND		ug/l	25	7.0	10
o-Xylene	ND		ug/l	25	7.0	10
Xylenes, Total	ND		ug/l	25	7.0	10
cis-1,2-Dichloroethene	27		ug/l	25	7.0	10
1,2-Dichloroethene, Total	27		ug/l	25	7.0	10
Dibromomethane	ND		ug/l	50	10.	10
1,2,3-Trichloropropane	ND		ug/l	25	7.0	10
Acrylonitrile	ND		ug/l	50	15.	10
Styrene	ND		ug/l	25	7.0	10
Dichlorodifluoromethane	ND		ug/l	50	10.	10
Acetone	ND		ug/l	50	15.	10
Carbon disulfide	ND		ug/l	50	10.	10
2-Butanone	ND		ug/l	50	19.	10
Vinyl acetate	ND		ug/l	50	10.	10
4-Methyl-2-pentanone	ND		ug/l	50	10.	10
2-Hexanone	ND		ug/l	50	10.	10
Bromochloromethane	ND		ug/l	25	7.0	10
2,2-Dichloropropane	ND		ug/l	25	7.0	10
1,2-Dibromoethane	ND		ug/l	20	6.5	10
1,3-Dichloropropane	ND		ug/l	25	7.0	10
1,1,1,2-Tetrachloroethane	ND		ug/l	25	7.0	10
Bromobenzene	ND		ug/l	25	7.0	10
n-Butylbenzene	ND		ug/l	25	7.0	10
sec-Butylbenzene	ND		ug/l	25	7.0	10
tert-Butylbenzene	ND		ug/l	25	7.0	10
o-Chlorotoluene	ND		ug/l	25	7.0	10
p-Chlorotoluene	ND		ug/l	25	7.0	10
1,2-Dibromo-3-chloropropane	ND		ug/l	25	7.0	10
Hexachlorobutadiene	ND		ug/l	25	7.0	10
Isopropylbenzene	ND		ug/l	25	7.0	10
p-Isopropyltoluene	ND		ug/l	25	7.0	10
Naphthalene	ND		ug/l	25	7.0	10

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03 D
Client ID: MW-6D
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:35
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	25	7.0	10
1,2,3-Trichlorobenzene	ND		ug/l	25	7.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	7.0	10
1,3,5-Trimethylbenzene	ND		ug/l	25	7.0	10
1,2,4-Trimethylbenzene	ND		ug/l	25	7.0	10
1,4-Dioxane	ND		ug/l	2500	610	10
p-Diethylbenzene	ND		ug/l	20	7.0	10
p-Ethyltoluene	ND		ug/l	20	7.0	10
1,2,4,5-Tetramethylbenzene	ND		ug/l	20	5.4	10
Ethyl ether	ND		ug/l	25	7.0	10
trans-1,4-Dichloro-2-butene	ND		ug/l	25	7.0	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	112		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04 D
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 20:13
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	25	7.0	10
1,1-Dichloroethane	ND		ug/l	25	7.0	10
Chloroform	ND		ug/l	25	7.0	10
Carbon tetrachloride	ND		ug/l	5.0	1.3	10
1,2-Dichloropropane	ND		ug/l	10	1.4	10
Dibromochloromethane	ND		ug/l	5.0	1.5	10
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10
Tetrachloroethene	45		ug/l	5.0	1.8	10
Chlorobenzene	ND		ug/l	25	7.0	10
Trichlorofluoromethane	ND		ug/l	25	7.0	10
1,2-Dichloroethane	ND		ug/l	5.0	1.3	10
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10
Bromodichloromethane	ND		ug/l	5.0	1.9	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10
1,3-Dichloropropene, Total	ND		ug/l	5.0	1.4	10
1,1-Dichloropropene	ND		ug/l	25	7.0	10
Bromoform	ND		ug/l	20	6.5	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10
Benzene	ND		ug/l	5.0	1.6	10
Toluene	ND		ug/l	25	7.0	10
Ethylbenzene	ND		ug/l	25	7.0	10
Chloromethane	ND		ug/l	25	7.0	10
Bromomethane	ND		ug/l	25	7.0	10
Vinyl chloride	ND		ug/l	10	0.71	10
Chloroethane	ND		ug/l	25	7.0	10
1,1-Dichloroethene	ND		ug/l	5.0	1.7	10
trans-1,2-Dichloroethene	ND		ug/l	25	7.0	10

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04 D
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	17		ug/l	5.0	1.8	10
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10
1,3-Dichlorobenzene	ND		ug/l	25	7.0	10
1,4-Dichlorobenzene	ND		ug/l	25	7.0	10
Methyl tert butyl ether	210		ug/l	25	7.0	10
p/m-Xylene	ND		ug/l	25	7.0	10
o-Xylene	ND		ug/l	25	7.0	10
Xylenes, Total	ND		ug/l	25	7.0	10
cis-1,2-Dichloroethene	26		ug/l	25	7.0	10
1,2-Dichloroethene, Total	26		ug/l	25	7.0	10
Dibromomethane	ND		ug/l	50	10.	10
1,2,3-Trichloropropane	ND		ug/l	25	7.0	10
Acrylonitrile	ND		ug/l	50	15.	10
Styrene	ND		ug/l	25	7.0	10
Dichlorodifluoromethane	ND		ug/l	50	10.	10
Acetone	ND		ug/l	50	15.	10
Carbon disulfide	ND		ug/l	50	10.	10
2-Butanone	ND		ug/l	50	19.	10
Vinyl acetate	ND		ug/l	50	10.	10
4-Methyl-2-pentanone	ND		ug/l	50	10.	10
2-Hexanone	ND		ug/l	50	10.	10
Bromochloromethane	ND		ug/l	25	7.0	10
2,2-Dichloropropane	ND		ug/l	25	7.0	10
1,2-Dibromoethane	ND		ug/l	20	6.5	10
1,3-Dichloropropane	ND		ug/l	25	7.0	10
1,1,1,2-Tetrachloroethane	ND		ug/l	25	7.0	10
Bromobenzene	ND		ug/l	25	7.0	10
n-Butylbenzene	ND		ug/l	25	7.0	10
sec-Butylbenzene	ND		ug/l	25	7.0	10
tert-Butylbenzene	ND		ug/l	25	7.0	10
o-Chlorotoluene	ND		ug/l	25	7.0	10
p-Chlorotoluene	ND		ug/l	25	7.0	10
1,2-Dibromo-3-chloropropane	ND		ug/l	25	7.0	10
Hexachlorobutadiene	ND		ug/l	25	7.0	10
Isopropylbenzene	ND		ug/l	25	7.0	10
p-Isopropyltoluene	ND		ug/l	25	7.0	10
Naphthalene	ND		ug/l	25	7.0	10

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04 D
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	25	7.0	10
1,2,3-Trichlorobenzene	ND		ug/l	25	7.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	7.0	10
1,3,5-Trimethylbenzene	ND		ug/l	25	7.0	10
1,2,4-Trimethylbenzene	ND		ug/l	25	7.0	10
1,4-Dioxane	ND		ug/l	2500	610	10
p-Diethylbenzene	ND		ug/l	20	7.0	10
p-Ethyltoluene	ND		ug/l	20	7.0	10
1,2,4,5-Tetramethylbenzene	ND		ug/l	20	5.4	10
Ethyl ether	ND		ug/l	25	7.0	10
trans-1,4-Dichloro-2-butene	ND		ug/l	25	7.0	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	110		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05
Client ID: MW-6S
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 13:55
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 19:29
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.78		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05 Date Collected: 03/01/23 13:55

Client ID: MW-6S Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	1.2		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05 Date Collected: 03/01/23 13:55

Client ID: MW-6S Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	111		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-06
Client ID: FIELD BLANK 3-1-23
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 00:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/11/23 18:22
Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-06 Date Collected: 03/01/23 00:00

Client ID: FIELD BLANK 3-1-23 Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.6	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-06 Date Collected: 03/01/23 00:00

Client ID: FIELD BLANK 3-1-23 Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	111		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-07
Client ID: TRIP BLANK
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 00:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260D
Analytical Date: 03/13/23 16:34
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-07 Date Collected: 03/01/23 00:00

Client ID: TRIP BLANK Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-07 Date Collected: 03/01/23 00:00

Client ID: TRIP BLANK Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 03/11/23 12:46
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1754356-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 03/11/23 12:46
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1754356-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 03/11/23 12:46
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1754356-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	111		70-130

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 03/13/23 09:02
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 07 Batch: WG1754880-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 03/13/23 09:02
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 07 Batch: WG1754880-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 03/13/23 09:02
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 07 Batch: WG1754880-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311275

Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1754356-3 WG1754356-4								
Methylene chloride	91		93		70-130	2		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	100		100		63-132	0		20
1,2-Dichloropropane	95		99		70-130	4		20
Dibromochloromethane	94		95		63-130	1		20
1,1,2-Trichloroethane	95		99		70-130	4		20
Tetrachloroethene	100		100		70-130	0		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	100		100		62-150	0		20
1,2-Dichloroethane	96		97		70-130	1		20
1,1,1-Trichloroethane	99		100		67-130	1		20
Bromodichloromethane	92		96		67-130	4		20
trans-1,3-Dichloropropene	82		84		70-130	2		20
cis-1,3-Dichloropropene	86		89		70-130	3		20
1,1-Dichloropropene	97		100		70-130	3		20
Bromoform	86		89		54-136	3		20
1,1,2,2-Tetrachloroethane	83		84		67-130	1		20
Benzene	100		100		70-130	0		20
Toluene	99		100		70-130	1		20
Ethylbenzene	94		97		70-130	3		20
Chloromethane	90		92		64-130	2		20
Bromomethane	79		77		39-139	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1754356-3 WG1754356-4								
Vinyl chloride	100		110		55-140	10		20
Chloroethane	100		110		55-138	10		20
1,1-Dichloroethene	93		99		61-145	6		20
trans-1,2-Dichloroethene	96		99		70-130	3		20
Trichloroethene	110		110		70-130	0		20
1,2-Dichlorobenzene	99		100		70-130	1		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	98		89		63-130	10		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Dibromomethane	96		100		70-130	4		20
1,2,3-Trichloropropane	92		93		64-130	1		20
Acrylonitrile	100		100		70-130	0		20
Styrene	95		100		70-130	5		20
Dichlorodifluoromethane	110		110		36-147	0		20
Acetone	120		120		58-148	0		20
Carbon disulfide	99		100		51-130	1		20
2-Butanone	84		84		63-138	0		20
Vinyl acetate	**58**	Q	**60**	Q	70-130	3		20
4-Methyl-2-pentanone	74		74		59-130	0		20
2-Hexanone	70		72		57-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311275

Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1754356-3 WG1754356-4								
Bromochloromethane	110		110		70-130	0		20
2,2-Dichloropropane	84		87		63-133	4		20
1,2-Dibromoethane	92		93		70-130	1		20
1,3-Dichloropropane	92		95		70-130	3		20
1,1,1,2-Tetrachloroethane	98		100		64-130	2		20
Bromobenzene	98		99		70-130	1		20
n-Butylbenzene	92		94		53-136	2		20
sec-Butylbenzene	93		96		70-130	3		20
tert-Butylbenzene	91		94		70-130	3		20
o-Chlorotoluene	81		83		70-130	2		20
p-Chlorotoluene	92		94		70-130	2		20
1,2-Dibromo-3-chloropropane	84		83		41-144	1		20
Hexachlorobutadiene	89		90		63-130	1		20
Isopropylbenzene	90		93		70-130	3		20
p-Isopropyltoluene	90		92		70-130	2		20
Naphthalene	84		86		70-130	2		20
n-Propylbenzene	92		94		69-130	2		20
1,2,3-Trichlorobenzene	92		94		70-130	2		20
1,2,4-Trichlorobenzene	89		91		70-130	2		20
1,3,5-Trimethylbenzene	93		95		64-130	2		20
1,2,4-Trimethylbenzene	92		94		70-130	2		20
1,4-Dioxane	84		86		56-162	2		20
p-Diethylbenzene	88		90		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1754356-3 WG1754356-4								
p-Ethyltoluene	92		93		70-130	1		20
1,2,4,5-Tetramethylbenzene	75		80		70-130	6		20
Ethyl ether	95		96		59-134	1		20
trans-1,4-Dichloro-2-butene	73		74		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		96		70-130
Toluene-d8	101		100		70-130
4-Bromofluorobenzene	89		89		70-130
Dibromofluoromethane	104		104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07 Batch: WG1754880-3 WG1754880-4								
Methylene chloride	98		95		70-130	3		20
1,1-Dichloroethane	100		98		70-130	2		20
Chloroform	100		96		70-130	4		20
Carbon tetrachloride	100		97		63-132	3		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	100		100		63-130	0		20
1,1,2-Trichloroethane	93		97		70-130	4		20
Tetrachloroethene	100		100		70-130	0		20
Chlorobenzene	99		98		75-130	1		20
Trichlorofluoromethane	100		110		62-150	10		20
1,2-Dichloroethane	95		95		70-130	0		20
1,1,1-Trichloroethane	100		98		67-130	2		20
Bromodichloromethane	96		100		67-130	4		20
trans-1,3-Dichloropropene	98		97		70-130	1		20
cis-1,3-Dichloropropene	100		97		70-130	3		20
1,1-Dichloropropene	100		100		70-130	0		20
Bromoform	96		90		54-136	6		20
1,1,2,2-Tetrachloroethane	98		93		67-130	5		20
Benzene	100		100		70-130	0		20
Toluene	99		98		70-130	1		20
Ethylbenzene	98		98		70-130	0		20
Chloromethane	100		100		64-130	0		20
Bromomethane	130		130		39-139	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311275

Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07 Batch: WG1754880-3 WG1754880-4								
Vinyl chloride	110		110		55-140	0		20
Chloroethane	**150**	Q	**140**	Q	55-138	7		20
1,1-Dichloroethene	100		92		61-145	8		20
trans-1,2-Dichloroethene	97		94		70-130	3		20
Trichloroethene	93		95		70-130	2		20
1,2-Dichlorobenzene	100		97		70-130	3		20
1,3-Dichlorobenzene	100		96		70-130	4		20
1,4-Dichlorobenzene	100		97		70-130	3		20
Methyl tert butyl ether	98		98		63-130	0		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	100		99		70-130	1		20
Dibromomethane	100		96		70-130	4		20
1,2,3-Trichloropropane	92		89		64-130	3		20
Acrylonitrile	95		93		70-130	2		20
Styrene	90		90		70-130	0		20
Dichlorodifluoromethane	99		95		36-147	4		20
Acetone	83		97		58-148	16		20
Carbon disulfide	100		100		51-130	0		20
2-Butanone	83		94		63-138	12		20
Vinyl acetate	100		97		70-130	3		20
4-Methyl-2-pentanone	88		86		59-130	2		20
2-Hexanone	96		93		57-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311275

Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07 Batch: WG1754880-3 WG1754880-4								
Bromochloromethane	93		91		70-130	2		20
2,2-Dichloropropane	110		100		63-133	10		20
1,2-Dibromoethane	99		98		70-130	1		20
1,3-Dichloropropane	98		98		70-130	0		20
1,1,1,2-Tetrachloroethane	100		98		64-130	2		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	96		91		53-136	5		20
sec-Butylbenzene	100		96		70-130	4		20
tert-Butylbenzene	100		97		70-130	3		20
o-Chlorotoluene	99		96		70-130	3		20
p-Chlorotoluene	100		95		70-130	5		20
1,2-Dibromo-3-chloropropane	93		94		41-144	1		20
Hexachlorobutadiene	100		99		63-130	1		20
Isopropylbenzene	100		97		70-130	3		20
p-Isopropyltoluene	99		94		70-130	5		20
Naphthalene	88		83		70-130	6		20
n-Propylbenzene	100		95		69-130	5		20
1,2,3-Trichlorobenzene	90		88		70-130	2		20
1,2,4-Trichlorobenzene	94		89		70-130	5		20
1,3,5-Trimethylbenzene	98		93		64-130	5		20
1,2,4-Trimethylbenzene	96		90		70-130	6		20
1,4-Dioxane	106		104		56-162	2		20
p-Diethylbenzene	96		90		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07 Batch: WG1754880-3 WG1754880-4								
p-Ethyltoluene	100		94		70-130	6		20
1,2,4,5-Tetramethylbenzene	88		82		70-130	7		20
Ethyl ether	100		97		59-134	3		20
trans-1,4-Dichloro-2-butene	100		100		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		100		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	102		98		70-130
Dibromofluoromethane	98		99		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1754356-6 WG1754356-7 QC Sample: L2311275-05 Client ID: MW-6S												
Methylene chloride	ND	10	10	100		9.1	91		70-130	9		20
1,1-Dichloroethane	ND	10	12	120		10	100		70-130	18		20
Chloroform	ND	10	12	120		10	100		70-130	18		20
Carbon tetrachloride	ND	10	12	120		10	100		63-132	18		20
1,2-Dichloropropane	ND	10	11	110		9.3	93		70-130	17		20
Dibromochloromethane	ND	10	10	100		8.8	88		63-130	13		20
1,1,2-Trichloroethane	ND	10	10	100		9.1	91		70-130	9		20
Tetrachloroethene	0.78	10	12	112		11	102		70-130	9		20
Chlorobenzene	ND	10	11	110		9.7	97		75-130	13		20
Trichlorofluoromethane	ND	10	12	120		10	100		62-150	18		20
1,2-Dichloroethane	ND	10	10	100		9.2	92		70-130	8		20
1,1,1-Trichloroethane	ND	10	12	120		10	100		67-130	18		20
Bromodichloromethane	ND	10	10	100		9.0	90		67-130	11		20
trans-1,3-Dichloropropene	ND	10	8.9	89		7.8	78		70-130	13		20
cis-1,3-Dichloropropene	ND	10	9.0	90		7.6	76		70-130	17		20
1,1-Dichloropropene	ND	10	11	110		9.7	97		70-130	13		20
Bromoform	ND	10	9.0	90		8.0	80		54-136	12		20
1,1,2,2-Tetrachloroethane	ND	10	9.8	98		8.9	89		67-130	10		20
Benzene	ND	10	12	120		9.9	99		70-130	19		20
Toluene	ND	10	11	110		9.7	97		70-130	13		20
Ethylbenzene	ND	10	11	110		9.2	92		70-130	18		20
Chloromethane	ND	10	10	100		9.0	90		64-130	11		20
Bromomethane	ND	10	6.8	68		6.7	67		39-139	1		20

Matrix Spike Analysis

Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1754356-6 WG1754356-7 QC Sample: L2311275-05 Client ID: MW-6S												
Vinyl chloride	ND	10	13	130		11	110		55-140	17		20
Chloroethane	ND	10	12	120		11	110		55-138	9		20
1,1-Dichloroethene	ND	10	11	110		10	100		61-145	10		20
trans-1,2-Dichloroethene	ND	10	11	110		9.4	94		70-130	16		20
Trichloroethene	1.2	10	13	118		11	98		70-130	17		20
1,2-Dichlorobenzene	ND	10	11	110		9.4	94		70-130	16		20
1,3-Dichlorobenzene	ND	10	11	110		9.5	95		70-130	15		20
1,4-Dichlorobenzene	ND	10	11	110		9.4	94		70-130	16		20
Methyl tert butyl ether	ND	10	9.4	94		8.3	83		63-130	12		20
p/m-Xylene	ND	20	22	110		19	95		70-130	15		20
o-Xylene	ND	20	22	110		18	90		70-130	20		20
cis-1,2-Dichloroethene	ND	10	12	120		10	100		70-130	18		20
Dibromomethane	ND	10	10	100		9.6	96		70-130	4		20
1,2,3-Trichloropropane	ND	10	9.2	92		8.6	86		64-130	7		20
Acrylonitrile	ND	10	10	100		9.6	96		70-130	4		20
Styrene	ND	20	21	105		18	90		70-130	15		20
Dichlorodifluoromethane	ND	10	13	130		11	110		36-147	17		20
Acetone	ND	10	9.5	95		9.8	98		58-148	3		20
Carbon disulfide	ND	10	12	120		10	100		51-130	18		20
2-Butanone	ND	10	7.6	76		7.0	70		63-138	8		20
Vinyl acetate	ND	10	10	100		9.1	91		70-130	9		20
4-Methyl-2-pentanone	ND	10	7.5	75		7.0	70		59-130	7		20
2-Hexanone	ND	10	6.3	63		5.8	58		57-130	8		20

Matrix Spike Analysis

Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1754356-6 WG1754356-7 QC Sample: L2311275-05 Client ID: MW-6S												
Bromochloromethane	ND	10	12	120		10	100		70-130	18		20
2,2-Dichloropropane	ND	10	9.9	99		8.4	84		63-133	16		20
1,2-Dibromoethane	ND	10	9.6	96		8.6	86		70-130	11		20
1,3-Dichloropropane	ND	10	9.9	99		8.7	87		70-130	13		20
1,1,1,2-Tetrachloroethane	ND	10	11	110		9.3	93		64-130	17		20
Bromobenzene	ND	10	10	100		9.1	91		70-130	9		20
n-Butylbenzene	ND	10	10	100		8.9	89		53-136	12		20
sec-Butylbenzene	ND	10	10	100		9.0	90		70-130	11		20
tert-Butylbenzene	ND	10	10	100		8.7	87		70-130	14		20
o-Chlorotoluene	ND	10	10	100		8.8	88		70-130	13		20
p-Chlorotoluene	ND	10	10	100		8.7	87		70-130	14		20
1,2-Dibromo-3-chloropropane	ND	10	8.2	82		7.7	77		41-144	6		20
Hexachlorobutadiene	ND	10	9.7	97		8.6	86		63-130	12		20
Isopropylbenzene	ND	10	10	100		8.6	86		70-130	15		20
p-Isopropyltoluene	ND	10	10	100		8.7	87		70-130	14		20
Naphthalene	ND	10	8.5	85		7.5	75		70-130	13		20
n-Propylbenzene	ND	10	10	100		8.9	89		69-130	12		20
1,2,3-Trichlorobenzene	ND	10	9.7	97		8.3	83		70-130	16		20
1,2,4-Trichlorobenzene	ND	10	9.5	95		8.1	81		70-130	16		20
1,3,5-Trimethylbenzene	ND	10	10	100		8.8	88		64-130	13		20
1,2,4-Trimethylbenzene	ND	10	10	100		8.5	85		70-130	16		20
1,4-Dioxane	ND	500	360	72		350	70		56-162	3		20
p-Diethylbenzene	ND	10	9.8	98		8.2	82		70-130	18		20

Matrix Spike Analysis

Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1754356-6 WG1754356-7 QC Sample: L2311275-05 Client ID: MW-6S												
p-Ethyltoluene	ND	10	10	100		8.8	88		70-130	13		20
1,2,4,5-Tetramethylbenzene	ND	10	8.3	83		6.3	**63**	Q	70-130	**27**	Q	20
Ethyl ether	ND	10	9.9	99		8.7	87		59-134	13		20
trans-1,4-Dichloro-2-butene	ND	10	7.3	73		6.6	**66**	Q	70-130	10		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		102		70-130
4-Bromofluorobenzene	87		87		70-130
Dibromofluoromethane	105		107		70-130
Toluene-d8	99		99		70-130

SEMIVOLATILES

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01
Client ID: MW-E
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 14:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 11:05
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	21.7		ng/l	2.07	0.422	1
Perfluoropentanoic Acid (PFPeA)	43.8		ng/l	2.07	0.410	1
Perfluorobutanesulfonic Acid (PFBS)	8.03		ng/l	2.07	0.246	1
Perfluorohexanoic Acid (PFHxA)	48.7		ng/l	2.07	0.340	1
Perfluoroheptanoic Acid (PFHpA)	7.66		ng/l	2.07	0.233	1
Perfluorohexanesulfonic Acid (PFHxS)	1.54	J	ng/l	2.07	0.389	1
Perfluorooctanoic Acid (PFOA)	9.84		ng/l	2.07	0.244	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	1.83	JB	ng/l	2.07	1.38	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.07	0.712	1
Perfluorononanoic Acid (PFNA)	1.36	J	ng/l	2.07	0.323	1
Perfluorooctanesulfonic Acid (PFOS)	5.13		ng/l	2.07	0.522	1
Perfluorodecanoic Acid (PFDA)	0.493	J	ng/l	2.07	0.315	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.07	1.25	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.07	0.671	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.07	0.269	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.07	1.01	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.07	0.600	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.07	0.832	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.07	0.385	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.07	0.339	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.07	0.257	1
PFOA/PFOS, Total	15.0		ng/l	2.07	0.244	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01 Date Collected: 03/01/23 14:50

Client ID: MW-E Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

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

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	84		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	92		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	69		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	146		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	69		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	79		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	67		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	93		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	66		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	63		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	13		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	63		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	61		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	66		22-136

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 11:30
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 11:21
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	13.7		ng/l	1.88	0.384	1
Perfluoropentanoic Acid (PFPeA)	14.1		ng/l	1.88	0.373	1
Perfluorobutanesulfonic Acid (PFBS)	20.5		ng/l	1.88	0.224	1
Perfluorohexanoic Acid (PFHxA)	12.6		ng/l	1.88	0.309	1
Perfluoroheptanoic Acid (PFHpA)	6.23		ng/l	1.88	0.212	1
Perfluorohexanesulfonic Acid (PFHxS)	3.42		ng/l	1.88	0.354	1
Perfluorooctanoic Acid (PFOA)	25.7		ng/l	1.88	0.222	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.88	0.648	1
Perfluorononanoic Acid (PFNA)	0.731	J	ng/l	1.88	0.294	1
Perfluorooctanesulfonic Acid (PFOS)	135		ng/l	1.88	0.475	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.88	0.286	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.88	1.14	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.88	0.610	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.88	0.245	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.88	0.923	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.88	0.546	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.88	0.757	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.88	0.350	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.88	0.308	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.88	0.234	1
PFOA/PFOS, Total	161		ng/l	1.88	0.222	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02 Date Collected: 03/01/23 11:30

Client ID: MW-5 Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

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

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	82		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	84		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	91		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	66		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	75		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	81		62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	70		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	87		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	75		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	101		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	68		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	78		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	17		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	76		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	80		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	84		22-136

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02 RE
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 11:30
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/18/23 20:28
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 03/17/23 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	2.18		ng/l	1.83	1.22	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	73		14-147

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03
Client ID: MW-6D
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:35
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 11:38
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	10.1		ng/l	1.86	0.379	1
Perfluoropentanoic Acid (PFPeA)	10.9		ng/l	1.86	0.368	1
Perfluorobutanesulfonic Acid (PFBS)	8.16		ng/l	1.86	0.221	1
Perfluorohexanoic Acid (PFHxA)	21.7		ng/l	1.86	0.305	1
Perfluoroheptanoic Acid (PFHpA)	7.99		ng/l	1.86	0.209	1
Perfluorohexanesulfonic Acid (PFHxS)	24.5		ng/l	1.86	0.350	1
Perfluorooctanoic Acid (PFOA)	60.8		ng/l	1.86	0.219	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	97.2		ng/l	1.86	1.24	1
Perfluoroheptanesulfonic Acid (PFHpS)	3.10		ng/l	1.86	0.640	1
Perfluorononanoic Acid (PFNA)	3.10		ng/l	1.86	0.290	1
Perfluorooctanesulfonic Acid (PFOS)	337		ng/l	1.86	0.468	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.86	0.283	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.86	1.13	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.86	0.602	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.86	0.242	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.86	0.911	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.86	0.539	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.86	0.747	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	0.346	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.86	0.304	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.86	0.230	1
PFOA/PFOS, Total	398		ng/l	1.86	0.219	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03 Date Collected: 03/01/23 12:35

Client ID: MW-6D Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

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

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	95		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	80		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	65		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	79		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**271**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	87		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	82		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**218**	Q	10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	101		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	89		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	26		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	110		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	83		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	83		22-136

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 11:54
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	9.82		ng/l	1.87	0.381	1
Perfluoropentanoic Acid (PFPeA)	10.4		ng/l	1.87	0.370	1
Perfluorobutanesulfonic Acid (PFBS)	8.83		ng/l	1.87	0.222	1
Perfluorohexanoic Acid (PFHxA)	18.6		ng/l	1.87	0.306	1
Perfluoroheptanoic Acid (PFHpA)	8.14		ng/l	1.87	0.210	1
Perfluorohexanesulfonic Acid (PFHxS)	26.0		ng/l	1.87	0.351	1
Perfluorooctanoic Acid (PFOA)	59.5		ng/l	1.87	0.220	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.96		ng/l	1.87	0.642	1
Perfluorononanoic Acid (PFNA)	3.19		ng/l	1.87	0.291	1
Perfluorooctanesulfonic Acid (PFOS)	387		ng/l	1.87	0.470	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.87	0.284	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.87	1.13	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.87	0.605	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.87	0.243	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.87	0.915	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.87	0.541	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.87	0.750	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.87	0.347	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.87	0.305	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.87	0.231	1
PFOA/PFOS, Total	447		ng/l	1.87	0.220	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04 Date Collected: 03/01/23 12:50

Client ID: MW-X Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

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

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	91		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	77		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	64		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	85		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	81		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**214**	Q	10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	97		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	89		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	29		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	112		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	82		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	79		22-136

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04 RE
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/18/23 20:45
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 03/17/23 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	89.7		ng/l	1.84	1.22	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**157**	Q	14-147

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05
Client ID: MW-6S
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 13:55
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 12:27
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	14.3		ng/l	1.78	0.363	1
Perfluoropentanoic Acid (PFPeA)	15.0		ng/l	1.78	0.352	1
Perfluorobutanesulfonic Acid (PFBS)	18.9		ng/l	1.78	0.212	1
Perfluorohexanoic Acid (PFHxA)	20.4		ng/l	1.78	0.292	1
Perfluoroheptanoic Acid (PFHpA)	7.21		ng/l	1.78	0.200	1
Perfluorohexanesulfonic Acid (PFHxS)	4.82		ng/l	1.78	0.334	1
Perfluorooctanoic Acid (PFOA)	23.3		ng/l	1.78	0.210	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	1.56	JB	ng/l	1.78	1.18	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.04	J	ng/l	1.78	0.612	1
Perfluorononanoic Acid (PFNA)	2.33		ng/l	1.78	0.278	1
Perfluorooctanesulfonic Acid (PFOS)	100		ng/l	1.78	0.448	1
Perfluorodecanoic Acid (PFDA)	0.399	J	ng/l	1.78	0.270	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.78	1.08	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.78	0.576	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.78	0.231	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.78	0.872	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.78	0.516	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.78	0.715	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.78	0.331	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.78	0.291	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.78	0.221	1
PFOA/PFOS, Total	123		ng/l	1.78	0.210	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05 Date Collected: 03/01/23 13:55

Client ID: MW-6S Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

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

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	85		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	90		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	69		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	78		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	88		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**164**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	78		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	79		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	128		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	75		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	87		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	18		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	82		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	87		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	97		22-136

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-06
Client ID: FIELD BLANK 3-1-23
Sample Location: LONG ISLAND CITY, NY

Date Collected: 03/01/23 00:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 13:17
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.88	0.384	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.88	0.373	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.88	0.224	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.88	0.309	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.88	0.212	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.88	0.354	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.88	0.222	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.88	1.25	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.88	0.647	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.88	0.294	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.88	0.474	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.88	0.286	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.88	1.14	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.88	0.610	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.88	0.245	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.88	0.922	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.88	0.546	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.88	0.756	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.88	0.350	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.88	0.308	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.88	0.233	1
PFOA/PFOS, Total	ND		ng/l	1.88	0.222	1

Project Name: HYGRADE PLATING **Lab Number:** L2311275

Project Number: HYGRADE PLATING **Report Date:** 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-06 Date Collected: 03/01/23 00:00

Client ID: FIELD BLANK 3-1-23 Date Received: 03/03/23

Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:

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

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	114		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	98		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	88		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	90		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	82		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	88		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	93		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	90		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	95		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	100		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	49		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	99		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	94		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	116		22-136

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 08:52
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-06 Batch: WG1753892-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.328
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	9.27		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
PFOA/PFOS, Total	ND		ng/l	2.00	0.236

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/14/23 08:52
Analyst: PS

Extraction Method: ALPHA 23528
Extraction Date: 03/13/23 06:50

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-06 Batch: WG1753892-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	103		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	86		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	89		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	95		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	82		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	92		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	98		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	66		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	101		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	43		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	95		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	106		22-136

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/18/23 18:49
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 03/17/23 12:30

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 02,04 Batch: WG1755655-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.328
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
PFOA/PFOS, Total	ND		ng/l	2.00	0.236

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 03/18/23 18:49
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 03/17/23 12:30

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 02,04 Batch: WG1755655-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	105		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	109		70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	85		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	83		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	112		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	93		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	52		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	81		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	96		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	56		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	52		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	91		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	46		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	58		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	77		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	103		22-136

Lab Control Sample Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 Batch: WG1753892-2								
Perfluorobutanoic Acid (PFBA)	99		-		67-148	-		30
Perfluoropentanoic Acid (PFPeA)	99		-		63-161	-		30
Perfluorobutanesulfonic Acid (PFBS)	97		-		65-157	-		30
Perfluorohexanoic Acid (PFHxA)	98		-		69-168	-		30
Perfluoroheptanoic Acid (PFHpA)	98		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	122		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	98		-		63-159	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	123		-		49-187	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	101		-		61-179	-		30
Perfluorononanoic Acid (PFNA)	118		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	110		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	101		-		63-171	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	117		-		56-173	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	114		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	97		-		60-153	-		30
Perfluorodecanesulfonic Acid (PFDS)	112		-		38-156	-		30
Perfluorooctanesulfonamide (FOSA)	101		-		46-170	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	101		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	95		-		67-153	-		30
Perfluorotridecanoic Acid (PFTrDA)	115		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	107		-		59-182	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 Batch: WG1753892-2								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	106				62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	96				70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	88				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	90				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	97				71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	95				62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	85				14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	80				59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94				69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91				62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	94				10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	77				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	92				55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	52				10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	83				27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	93				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	107				22-136

Lab Control Sample Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02,04 Batch: WG1755655-2								
Perfluorobutanoic Acid (PFBA)	98		-		67-148	-		30
Perfluoropentanoic Acid (PFPeA)	97		-		63-161	-		30
Perfluorobutanesulfonic Acid (PFBS)	100		-		65-157	-		30
Perfluorohexanoic Acid (PFHxA)	97		-		69-168	-		30
Perfluoroheptanoic Acid (PFHpA)	99		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	118		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	94		-		63-159	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	117		-		49-187	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	115		-		61-179	-		30
Perfluorononanoic Acid (PFNA)	102		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	118		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	101		-		63-171	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	114		-		56-173	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	108		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	96		-		60-153	-		30
Perfluorodecanesulfonic Acid (PFDS)	111		-		38-156	-		30
Perfluorooctanesulfonamide (FOSA)	92		-		46-170	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	97		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	96		-		67-153	-		30
Perfluorotridecanoic Acid (PFTrDA)	102		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	102		-		59-182	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02,04 Batch: WG1755655-2								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	91				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	98				62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	102				70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	82				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	78				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104				71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90				62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	54				14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	79				59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	90				69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	84				62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	57				10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	48				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86				55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	54				10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	51				27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	77				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	97				22-136

Matrix Spike Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311275

Report Date: 03/22/23

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1753892-3 WG1753892-4 QC Sample: L2311275-05 Client ID: MW-6S												
Perfluorobutanoic Acid (PFBA)	14.3	34.8	47.5	95		49.1	97		67-148	3		30
Perfluoropentanoic Acid (PFPeA)	15.0	34.8	49.1	98		50.8	99		63-161	3		30
Perfluorobutanesulfonic Acid (PFBS)	18.9	30.9	48.8	97		51.0	100		65-157	4		30
Perfluorohexanoic Acid (PFHxA)	20.4	34.8	55.6	101		56.8	101		69-168	2		30
Perfluoroheptanoic Acid (PFHpA)	7.21	34.8	41.2	98		43.3	100		58-159	5		30
Perfluorohexanesulfonic Acid (PFHxS)	4.82	31.8	42.6	119		46.0	125		69-177	8		30
Perfluorooctanoic Acid (PFOA)	23.3	34.8	56.6	96		62.0	107		63-159	9		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	1.56JB	33.1	38.2	111		39.1	109		49-187	2		30
Perfluoroheptanesulfonic Acid (PFHpS)	1.04J	33.2	37.3	109		37.6	106		61-179	1		30
Perfluorononanoic Acid (PFNA)	2.33	34.8	41.0	111		43.2	113		68-171	5		30
Perfluorooctanesulfonic Acid (PFOS)	100	32.3	139	121		140	120		52-151	1		30
Perfluorodecanoic Acid (PFDA)	0.399J	34.8	34.6	98		36.1	99		63-171	4		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	33.4	38.8	116		38.4	111		56-173	1		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	34.8	37.4	107		41.5	115		60-166	10		30
Perfluoroundecanoic Acid (PFUnA)	ND	34.8	32.9	94		31.8	88		60-153	3		30
Perfluorodecanesulfonic Acid (PFDS)	ND	33.6	37.9	113		39.9	115		38-156	5		30
Perfluorooctanesulfonamide (FOSA)	ND	34.8	31.8F	91		35.6F	99		46-170	11		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	34.8	36.1	104		36.5	101		45-170	1		30
Perfluorododecanoic Acid (PFDoA)	ND	34.8	32.7	94		34.1	95		67-153	4		30
Perfluorotridecanoic Acid (PFTrDA)	ND	34.8	38.0	109		39.7	110		48-158	4		30
Perfluorotetradecanoic Acid (PFTA)	ND	34.8	38.5	111		39.4	109		59-182	2		30

Matrix Spike Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311275

Report Date: 03/22/23

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1753892-3 WG1753892-4 QC Sample: L2311275-05 Client ID: MW-6S

Surrogate (Extracted Internal Standard)	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	125		129		10-162
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**167**	Q	**166**	Q	14-147
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96		90		27-126
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	88		76		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	92		87		55-137
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		77		62-124
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	69		69		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	79		77		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103		99		71-134
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	94		80		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	97		95		22-136
Perfluoro[13C4]Butanoic Acid (MPFBA)	87		84		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	90		88		62-163
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	17		22		10-112
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	91		89		69-131
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		82		62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	80		76		59-139
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	94		90		70-131

Matrix Spike Analysis

Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02,04 QC Batch ID: WG1755655-3 QC Sample: L2311826-06 Client ID: MS Sample												
Perfluorobutanoic Acid (PFBA)	ND	38.3	37.0	96		-	-		67-148	-		30
Perfluoropentanoic Acid (PFPeA)	ND	38.3	36.6	96		-	-		63-161	-		30
Perfluorobutanesulfonic Acid (PFBS)	ND	34	33.0	97		-	-		65-157	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	36	39.4	110		-	-		37-219	-		30
Perfluorohexanoic Acid (PFHxA)	ND	38.3	37.4	98		-	-		69-168	-		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	36.1	38.2	106		-	-		52-156	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	38.3	37.6	98		-	-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	35	40.8	116		-	-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	ND	38.3	36.9	96		-	-		63-159	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	36.5	46.7	128		-	-		49-187	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	36.6	42.8	117		-	-		61-179	-		30
Perfluorononanoic Acid (PFNA)	ND	38.3	37.7	98		-	-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	35.6	39.0	110		-	-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	ND	38.3	37.2	97		-	-		63-171	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	36.8	33.0	90		-	-		56-173	-		30
Perfluorononanesulfonic Acid (PFNS)	ND	36.9	31.6	86		-	-		48-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	38.3	42.8	112		-	-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	38.3	34.4	90		-	-		60-153	-		30
Perfluorodecanesulfonic Acid (PFDS)	ND	37	36.3	98		-	-		38-156	-		30
Perfluorooctanesulfonamide (FOSA)	ND	38.3	34.9F	91		-	-		46-170	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	38.3	42.8	112		-	-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	ND	38.3	35.8	93		-	-		67-153	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02,04 QC Batch ID: WG1755655-3 QC Sample: L2311826-06 Client ID: MS Sample												
Perfluorotridecanoic Acid (PFTrDA)	ND	38.3	36.7	96		-	-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	38.3	38.4	100		-	-		59-182	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	56				10-162
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	59				12-142
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	56				14-147
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	48				27-126
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	48				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	78				55-137
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	78				62-124
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	90				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	88				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	110				71-134
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	78				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	101				22-136
Perfluoro[13C4]Butanoic Acid (MPFBA)	94				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	106				62-163
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	30				10-112
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	85				69-131
Perfluoro[13C8]Octanoic Acid (M8PFOA)	92				62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	83				59-139
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	107				70-131

Lab Duplicate Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02,04 QC Batch ID: WG1755655-4 QC Sample: L2312138-02 Client ID: DUP Sample						
Perfluorobutanoic Acid (PFBA)	41.2	40.8	ng/l	1		30
Perfluoropentanoic Acid (PFPeA)	122	121	ng/l	1		30
Perfluorobutanesulfonic Acid (PFBS)	18.1	16.1	ng/l	12		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	0.586J	0.721J	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	92.6	92.6	ng/l	0		30
Perfluoropentanesulfonic Acid (PFPeS)	20.3	22.2	ng/l	9		30
Perfluoroheptanoic Acid (PFHpA)	76.5	73.1	ng/l	5		30
Perfluorohexanesulfonic Acid (PFHxS)	325	325	ng/l	0		30
Perfluorooctanoic Acid (PFOA)	79.4	78.0	ng/l	2		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	99.1	99.2	ng/l	0		30
Perfluoroheptanesulfonic Acid (PFHpS)	28.2	28.6	ng/l	1		30
Perfluorononanoic Acid (PFNA)	45.3	43.3	ng/l	5		30
Perfluorooctanesulfonic Acid (PFOS)	2400E	2470E	ng/l	3		30
Perfluorodecanoic Acid (PFDA)	12.8	12.7	ng/l	1		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	76.4	67.9	ng/l	12		30
Perfluorononanesulfonic Acid (PFNS)	2.18	2.82	ng/l	26		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	3.83	3.96	ng/l	3		30
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonamide (FOSA)	17.7F	16.6F	ng/l	6		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02,04 QC Batch ID: WG1755655-4 QC Sample: L2312138-02 Client ID: DUP Sample						
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	87		90		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	**58**	Q	**59**	Q	62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	106		113		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**244**	Q	**267**	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	**50**	Q	**54**	Q	57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	63		68		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	117		124		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		89		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**360**	Q	**395**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	74		84		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	81		85		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	76		85		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**290**	Q	**322**	Q	10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	87		91		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	81		86		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	37		36		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	86		86		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	70		77		48-131

Lab Duplicate Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02,04 QC Batch ID: WG1755655-4 QC Sample: L2312138-02 Client ID: DUP Sample						

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	75		81		22-136

METALS

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01
Client ID: MW-E
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 14:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	1.99		mg/l	0.0100	0.00327	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Antimony, Total	ND		mg/l	0.00400	0.00042	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Arsenic, Total	0.00410		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Barium, Total	0.07456		mg/l	0.00050	0.00017	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Beryllium, Total	0.00011	J	mg/l	0.00050	0.00010	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Calcium, Total	57.3		mg/l	0.100	0.0394	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Chromium, Total	0.00531		mg/l	0.00100	0.00017	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Cobalt, Total	0.00219		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Copper, Total	0.00783		mg/l	0.00100	0.00038	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Iron, Total	4.17		mg/l	0.0500	0.0191	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Lead, Total	0.00239		mg/l	0.00100	0.00034	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Magnesium, Total	14.1		mg/l	0.0700	0.0242	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Manganese, Total	0.7289		mg/l	0.00100	0.00044	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Mercury, Total	0.00011	J	mg/l	0.00020	0.00009	1	03/07/23 09:31	03/07/23 13:11	EPA 7470A	1,7470A	DMB
Nickel, Total	0.00629		mg/l	0.00200	0.00055	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Potassium, Total	11.5		mg/l	0.100	0.0309	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Selenium, Total	0.00175	J	mg/l	0.00500	0.00173	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Silver, Total	ND		mg/l	0.00040	0.00016	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Sodium, Total	90.6		mg/l	0.100	0.0293	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Thallium, Total	ND		mg/l	0.00100	0.00014	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Vanadium, Total	0.00629		mg/l	0.00500	0.00157	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Zinc, Total	0.01855		mg/l	0.01000	0.00341	1	03/07/23 07:51	03/07/23 14:46	EPA 3005A	1,6020B	NTB
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	0.00370	J	mg/l	0.0100	0.00327	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Antimony, Dissolved	ND		mg/l	0.00400	0.00042	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Arsenic, Dissolved	0.00289		mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Barium, Dissolved	0.05287		mg/l	0.00050	0.00017	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Beryllium, Dissolved	ND		mg/l	0.00050	0.00010	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-01
Client ID: MW-E
Sample Location: LONG ISLAND CITY, NY
Sample Depth:
Matrix: Water

Date Collected: 03/01/23 14:50
Date Received: 03/03/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Cadmium, Dissolved	ND		mg/l	0.00020	0.00005	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Calcium, Dissolved	63.8		mg/l	0.100	0.0394	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.00100	0.00017	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Cobalt, Dissolved	0.00033	J	mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Copper, Dissolved	0.00125	J	mg/l	0.00200	0.00038	1	03/20/23 08:23	03/20/23 12:26	EPA 3005A	1,6020B	NTB
Iron, Dissolved	ND		mg/l	0.0500	0.0191	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Lead, Dissolved	0.00034	J	mg/l	0.00100	0.00034	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Magnesium, Dissolved	13.0		mg/l	0.0700	0.0242	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Manganese, Dissolved	0.6088		mg/l	0.00100	0.00044	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Mercury, Dissolved	ND		mg/l	0.00020	0.00009	1	03/16/23 11:19	03/16/23 15:18	EPA 7470A	1,7470A	DMB
Nickel, Dissolved	0.00105	J	mg/l	0.00200	0.00055	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Potassium, Dissolved	13.2		mg/l	0.100	0.0309	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Selenium, Dissolved	ND		mg/l	0.00500	0.00173	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Silver, Dissolved	ND		mg/l	0.00040	0.00016	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Sodium, Dissolved	95.6		mg/l	0.100	0.0293	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Thallium, Dissolved	0.00019	J	mg/l	0.00100	0.00014	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Vanadium, Dissolved	ND		mg/l	0.00500	0.00157	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB
Zinc, Dissolved	ND		mg/l	0.01000	0.00341	1	03/16/23 10:34	03/16/23 16:12	EPA 3005A	1,6020B	NTB

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 11:30
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.0620		mg/l	0.0100	0.00327	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Antimony, Total	ND		mg/l	0.00400	0.00042	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Arsenic, Total	0.00028	J	mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Barium, Total	0.07932		mg/l	0.00050	0.00017	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Beryllium, Total	ND		mg/l	0.00050	0.00010	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Cadmium, Total	0.00007	J	mg/l	0.00020	0.00005	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Calcium, Total	96.0		mg/l	0.100	0.0394	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Chromium, Total	0.00136		mg/l	0.00100	0.00017	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Cobalt, Total	0.00100		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Copper, Total	0.00123		mg/l	0.00100	0.00038	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Iron, Total	0.0981		mg/l	0.0500	0.0191	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Lead, Total	0.00061	J	mg/l	0.00100	0.00034	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Magnesium, Total	10.1		mg/l	0.0700	0.0242	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Manganese, Total	0.1052		mg/l	0.00100	0.00044	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Mercury, Total	0.00009	J	mg/l	0.00020	0.00009	1	03/07/23 09:31	03/07/23 13:15	EPA 7470A	1,7470A	DMB
Nickel, Total	0.00249		mg/l	0.00200	0.00055	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Potassium, Total	19.4		mg/l	0.100	0.0309	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Selenium, Total	0.00862		mg/l	0.00500	0.00173	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Silver, Total	ND		mg/l	0.00040	0.00016	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Sodium, Total	298.		mg/l	0.100	0.0293	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Thallium, Total	ND		mg/l	0.00100	0.00014	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Vanadium, Total	ND		mg/l	0.00500	0.00157	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Zinc, Total	ND		mg/l	0.01000	0.00341	1	03/07/23 07:51	03/07/23 14:51	EPA 3005A	1,6020B	NTB
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	0.0110		mg/l	0.0100	0.00327	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Antimony, Dissolved	0.00051	J	mg/l	0.00400	0.00042	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Arsenic, Dissolved	ND		mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Barium, Dissolved	0.07463		mg/l	0.00050	0.00017	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Beryllium, Dissolved	ND		mg/l	0.00050	0.00010	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB

Project Name: HYGRADE PLATING
Lab Number: L2311275
Project Number: HYGRADE PLATING
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-02
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 11:30
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Cadmium, Dissolved	0.00007	J	mg/l	0.00020	0.00005	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Calcium, Dissolved	103.		mg/l	0.100	0.0394	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	0.00076	J	mg/l	0.00100	0.00017	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Cobalt, Dissolved	0.00068		mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Copper, Dissolved	0.00085	J	mg/l	0.00200	0.00038	1	03/20/23 08:23	03/20/23 12:31	EPA 3005A	1,6020B	NTB
Iron, Dissolved	0.0208	J	mg/l	0.0500	0.0191	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Lead, Dissolved	0.00145		mg/l	0.00100	0.00034	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Magnesium, Dissolved	9.56		mg/l	0.0700	0.0242	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Manganese, Dissolved	0.1011		mg/l	0.00100	0.00044	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Mercury, Dissolved	ND		mg/l	0.00020	0.00009	1	03/16/23 11:19	03/16/23 15:21	EPA 7470A	1,7470A	DMB
Nickel, Dissolved	0.00296		mg/l	0.00200	0.00055	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Potassium, Dissolved	28.0		mg/l	0.100	0.0309	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Selenium, Dissolved	0.00939		mg/l	0.00500	0.00173	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Silver, Dissolved	ND		mg/l	0.00040	0.00016	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Sodium, Dissolved	303.		mg/l	1.00	0.293	10	03/16/23 10:34	03/16/23 17:11	EPA 3005A	1,6020B	NTB
Thallium, Dissolved	0.00018	J	mg/l	0.00100	0.00014	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Vanadium, Dissolved	ND		mg/l	0.00500	0.00157	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB
Zinc, Dissolved	ND		mg/l	0.01000	0.00341	1	03/16/23 10:34	03/16/23 16:17	EPA 3005A	1,6020B	NTB

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03
Client ID: MW-6D
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 12:35
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.0153		mg/l	0.0100	0.00327	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Antimony, Total	ND		mg/l	0.00400	0.00042	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Arsenic, Total	0.00189		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Barium, Total	0.2602		mg/l	0.00050	0.00017	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Beryllium, Total	ND		mg/l	0.00050	0.00010	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Calcium, Total	219.		mg/l	0.100	0.0394	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Chromium, Total	0.00027	J	mg/l	0.00100	0.00017	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Cobalt, Total	0.00107		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Copper, Total	0.00158		mg/l	0.00100	0.00038	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Iron, Total	0.398		mg/l	0.0500	0.0191	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Lead, Total	ND		mg/l	0.00100	0.00034	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Magnesium, Total	111.		mg/l	0.0700	0.0242	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Manganese, Total	1.048		mg/l	0.00100	0.00044	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Mercury, Total	0.00013	J	mg/l	0.00020	0.00009	1	03/07/23 09:31	03/07/23 13:18	EPA 7470A	1,7470A	DMB
Nickel, Total	0.01519		mg/l	0.00200	0.00055	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Potassium, Total	15.0		mg/l	0.100	0.0309	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Selenium, Total	ND		mg/l	0.00500	0.00173	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Silver, Total	ND		mg/l	0.00040	0.00016	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Sodium, Total	208.		mg/l	0.100	0.0293	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Thallium, Total	ND		mg/l	0.00100	0.00014	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Vanadium, Total	ND		mg/l	0.00500	0.00157	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Zinc, Total	ND		mg/l	0.01000	0.00341	1	03/07/23 07:51	03/07/23 14:56	EPA 3005A	1,6020B	NTB
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	0.00615	J	mg/l	0.0100	0.00327	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Antimony, Dissolved	ND		mg/l	0.00400	0.00042	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Arsenic, Dissolved	0.00167		mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Barium, Dissolved	0.2435		mg/l	0.00050	0.00017	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Beryllium, Dissolved	ND		mg/l	0.00050	0.00010	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-03
Client ID: MW-6D
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 12:35
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Cadmium, Dissolved	ND		mg/l	0.00020	0.00005	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Calcium, Dissolved	232.		mg/l	0.100	0.0394	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.00100	0.00017	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Cobalt, Dissolved	0.00091		mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Copper, Dissolved	0.00071	J	mg/l	0.00200	0.00038	1	03/20/23 08:23	03/20/23 12:36	EPA 3005A	1,6020B	NTB
Iron, Dissolved	ND		mg/l	0.0500	0.0191	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Lead, Dissolved	ND		mg/l	0.00100	0.00034	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Magnesium, Dissolved	95.1		mg/l	0.0700	0.0242	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Manganese, Dissolved	1.107		mg/l	0.00100	0.00044	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Mercury, Dissolved	ND		mg/l	0.00020	0.00009	1	03/16/23 11:19	03/16/23 15:25	EPA 7470A	1,7470A	DMB
Nickel, Dissolved	0.01260		mg/l	0.00200	0.00055	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Potassium, Dissolved	15.5		mg/l	0.100	0.0309	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Selenium, Dissolved	ND		mg/l	0.00500	0.00173	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Silver, Dissolved	ND		mg/l	0.00040	0.00016	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Sodium, Dissolved	204.		mg/l	0.100	0.0293	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Thallium, Dissolved	0.00016	J	mg/l	0.00100	0.00014	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Vanadium, Dissolved	ND		mg/l	0.00500	0.00157	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB
Zinc, Dissolved	ND		mg/l	0.01000	0.00341	1	03/16/23 10:34	03/16/23 16:50	EPA 3005A	1,6020B	NTB

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.00788	J	mg/l	0.0100	0.00327	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Antimony, Total	ND		mg/l	0.00400	0.00042	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Arsenic, Total	0.00195		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Barium, Total	0.2729		mg/l	0.00050	0.00017	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Beryllium, Total	ND		mg/l	0.00050	0.00010	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Calcium, Total	224.		mg/l	0.100	0.0394	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Chromium, Total	ND		mg/l	0.00100	0.00017	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Cobalt, Total	0.00121		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Copper, Total	0.00117		mg/l	0.00100	0.00038	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Iron, Total	0.368		mg/l	0.0500	0.0191	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Lead, Total	ND		mg/l	0.00100	0.00034	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Magnesium, Total	112.		mg/l	0.0700	0.0242	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Manganese, Total	1.157		mg/l	0.00100	0.00044	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Mercury, Total	0.00017	J	mg/l	0.00020	0.00009	1	03/07/23 09:31	03/07/23 13:21	EPA 7470A	1,7470A	DMB
Nickel, Total	0.01624		mg/l	0.00200	0.00055	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Potassium, Total	15.1		mg/l	0.100	0.0309	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Selenium, Total	ND		mg/l	0.00500	0.00173	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Silver, Total	ND		mg/l	0.00040	0.00016	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Sodium, Total	201.		mg/l	0.100	0.0293	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Thallium, Total	ND		mg/l	0.00100	0.00014	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Vanadium, Total	ND		mg/l	0.00500	0.00157	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Zinc, Total	ND		mg/l	0.01000	0.00341	1	03/07/23 07:51	03/07/23 15:01	EPA 3005A	1,6020B	NTB
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	ND		mg/l	0.0100	0.00327	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Antimony, Dissolved	ND		mg/l	0.00400	0.00042	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Arsenic, Dissolved	0.00158		mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Barium, Dissolved	0.2266		mg/l	0.00050	0.00017	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Beryllium, Dissolved	ND		mg/l	0.00050	0.00010	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-04
Client ID: MW-X
Sample Location: LONG ISLAND CITY, NY
Sample Depth:
Matrix: Water

Date Collected: 03/01/23 12:50
Date Received: 03/03/23
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Cadmium, Dissolved	ND		mg/l	0.00020	0.00005	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Calcium, Dissolved	174.		mg/l	0.100	0.0394	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.00100	0.00017	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Cobalt, Dissolved	0.00062		mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Copper, Dissolved	0.00096	J	mg/l	0.00200	0.00038	1	03/20/23 08:23	03/20/23 13:02	EPA 3005A	1,6020B	NTB
Iron, Dissolved	ND		mg/l	0.0500	0.0191	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Lead, Dissolved	ND		mg/l	0.00100	0.00034	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Magnesium, Dissolved	96.0		mg/l	0.0700	0.0242	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Manganese, Dissolved	0.03828		mg/l	0.00100	0.00044	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Mercury, Dissolved	ND		mg/l	0.00020	0.00009	1	03/16/23 11:19	03/16/23 15:28	EPA 7470A	1,7470A	DMB
Nickel, Dissolved	0.01401		mg/l	0.00200	0.00055	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Potassium, Dissolved	14.6		mg/l	0.100	0.0309	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Selenium, Dissolved	ND		mg/l	0.00500	0.00173	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Silver, Dissolved	ND		mg/l	0.00040	0.00016	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Sodium, Dissolved	201.		mg/l	0.100	0.0293	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Thallium, Dissolved	0.00023	J	mg/l	0.00100	0.00014	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Vanadium, Dissolved	ND		mg/l	0.00500	0.00157	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB
Zinc, Dissolved	ND		mg/l	0.01000	0.00341	1	03/16/23 10:34	03/16/23 16:45	EPA 3005A	1,6020B	NTB

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05
Client ID: MW-6S
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 13:55
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.0356		mg/l	0.0100	0.00327	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Antimony, Total	0.00192	J	mg/l	0.00400	0.00042	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Arsenic, Total	0.00041	J	mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Barium, Total	0.1914		mg/l	0.00050	0.00017	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Beryllium, Total	ND		mg/l	0.00050	0.00010	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Cadmium, Total	0.00031		mg/l	0.00020	0.00005	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Calcium, Total	194.		mg/l	0.100	0.0394	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Chromium, Total	0.00834		mg/l	0.00100	0.00017	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Cobalt, Total	0.00100		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Copper, Total	0.00336		mg/l	0.00100	0.00038	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Iron, Total	0.298		mg/l	0.0500	0.0191	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Lead, Total	ND		mg/l	0.00100	0.00034	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Magnesium, Total	23.0		mg/l	0.0700	0.0242	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Manganese, Total	0.1480		mg/l	0.00100	0.00044	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Mercury, Total	0.00009	J	mg/l	0.00020	0.00009	1	03/07/23 09:31	03/07/23 12:21	EPA 7470A	1,7470A	DMB
Nickel, Total	0.05843		mg/l	0.00200	0.00055	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Potassium, Total	26.6		mg/l	0.100	0.0309	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Selenium, Total	0.00371	J	mg/l	0.00500	0.00173	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Silver, Total	ND		mg/l	0.00040	0.00016	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Sodium, Total	352.		mg/l	0.100	0.0293	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Thallium, Total	0.00029	J	mg/l	0.00100	0.00014	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Vanadium, Total	0.00182	J	mg/l	0.00500	0.00157	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Zinc, Total	ND		mg/l	0.01000	0.00341	1	03/07/23 07:51	03/07/23 13:49	EPA 3005A	1,6020B	NTB
Dissolved Metals - Mansfield Lab											
Aluminum, Dissolved	0.00329	J	mg/l	0.0100	0.00327	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Antimony, Dissolved	0.00070	J	mg/l	0.00400	0.00042	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Arsenic, Dissolved	ND		mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Barium, Dissolved	0.1763		mg/l	0.00050	0.00017	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Beryllium, Dissolved	ND		mg/l	0.00050	0.00010	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-05
Client ID: MW-6S
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 13:55
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Cadmium, Dissolved	0.00024		mg/l	0.00020	0.00005	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Calcium, Dissolved	208.		mg/l	0.100	0.0394	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Chromium, Dissolved	0.00037	J	mg/l	0.00100	0.00017	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Cobalt, Dissolved	0.00085		mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Copper, Dissolved	0.00114	J	mg/l	0.00200	0.00038	1	03/20/23 08:23	03/20/23 12:21	EPA 3005A	1,6020B	NTB
Iron, Dissolved	ND		mg/l	0.0500	0.0191	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Lead, Dissolved	ND		mg/l	0.00100	0.00034	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Magnesium, Dissolved	19.6		mg/l	0.0700	0.0242	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Manganese, Dissolved	0.1568		mg/l	0.00100	0.00044	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Mercury, Dissolved	ND		mg/l	0.00020	0.00009	1	03/16/23 11:19	03/16/23 15:08	EPA 7470A	1,7470A	DMB
Nickel, Dissolved	0.05030		mg/l	0.00200	0.00055	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Potassium, Dissolved	27.1		mg/l	0.100	0.0309	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Selenium, Dissolved	0.00369	J	mg/l	0.00500	0.00173	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Silver, Dissolved	ND		mg/l	0.00040	0.00016	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Sodium, Dissolved	332.		mg/l	1.00	0.293	10	03/16/23 10:34	03/16/23 17:00	EPA 3005A	1,6020B	NTB
Thallium, Dissolved	0.00038	J	mg/l	0.00100	0.00014	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Vanadium, Dissolved	ND		mg/l	0.00500	0.00157	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB
Zinc, Dissolved	ND		mg/l	0.01000	0.00341	1	03/16/23 10:34	03/16/23 16:06	EPA 3005A	1,6020B	NTB

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

SAMPLE RESULTS

Lab ID: L2311275-06
Client ID: FIELD BLANK 3-1-23
Sample Location: LONG ISLAND CITY, NY
Date Collected: 03/01/23 00:00
Date Received: 03/03/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	ND		mg/l	0.0100	0.00327	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Antimony, Total	ND		mg/l	0.00400	0.00042	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Arsenic, Total	ND		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Barium, Total	0.00048	J	mg/l	0.00050	0.00017	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Beryllium, Total	ND		mg/l	0.00050	0.00010	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Calcium, Total	ND		mg/l	0.100	0.0394	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Chromium, Total	ND		mg/l	0.00100	0.00017	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Cobalt, Total	ND		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Copper, Total	0.00067	J	mg/l	0.00100	0.00038	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Iron, Total	ND		mg/l	0.0500	0.0191	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Lead, Total	ND		mg/l	0.00100	0.00034	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Magnesium, Total	ND		mg/l	0.0700	0.0242	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Manganese, Total	ND		mg/l	0.00100	0.00044	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Mercury, Total	ND		mg/l	0.00020	0.00009	1	03/07/23 09:31	03/07/23 13:25	EPA 7470A	1,7470A	DMB
Nickel, Total	ND		mg/l	0.00200	0.00055	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Potassium, Total	ND		mg/l	0.100	0.0309	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Selenium, Total	ND		mg/l	0.00500	0.00173	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Silver, Total	ND		mg/l	0.00040	0.00016	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Sodium, Total	0.214		mg/l	0.100	0.0293	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Thallium, Total	ND		mg/l	0.00100	0.00014	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Vanadium, Total	ND		mg/l	0.00500	0.00157	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB
Zinc, Total	ND		mg/l	0.01000	0.00341	1	03/07/23 07:51	03/07/23 14:36	EPA 3005A	1,6020B	NTB

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-06 Batch: WG1751734-1										
Aluminum, Total	ND		mg/l	0.0100	0.00327	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Antimony, Total	ND		mg/l	0.00400	0.00042	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Arsenic, Total	ND		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Barium, Total	ND		mg/l	0.00050	0.00017	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Beryllium, Total	ND		mg/l	0.00050	0.00010	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Calcium, Total	ND		mg/l	0.100	0.0394	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Chromium, Total	ND		mg/l	0.00100	0.00017	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Cobalt, Total	ND		mg/l	0.00050	0.00016	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Copper, Total	ND		mg/l	0.00100	0.00038	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Iron, Total	ND		mg/l	0.0500	0.0191	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Lead, Total	ND		mg/l	0.00100	0.00034	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Magnesium, Total	ND		mg/l	0.0700	0.0242	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Manganese, Total	ND		mg/l	0.00100	0.00044	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Nickel, Total	ND		mg/l	0.00200	0.00055	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Potassium, Total	ND		mg/l	0.100	0.0309	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Selenium, Total	ND		mg/l	0.00500	0.00173	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Silver, Total	ND		mg/l	0.00040	0.00016	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Sodium, Total	ND		mg/l	0.100	0.0293	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Thallium, Total	ND		mg/l	0.00100	0.00014	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Vanadium, Total	ND		mg/l	0.00500	0.00157	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB
Zinc, Total	ND		mg/l	0.01000	0.00341	1	03/07/23 07:51	03/07/23 12:26	1,6020B	NTB

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-06 Batch: WG1751736-1										
Mercury, Total	0.00010	J	mg/l	0.00020	0.00009	1	03/07/23 09:31	03/07/23 12:14	1,7470A	DMB

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-05 Batch: WG1754863-1										
Aluminum, Dissolved	ND		mg/l	0.0100	0.00327	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Antimony, Dissolved	ND		mg/l	0.00400	0.00042	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Arsenic, Dissolved	ND		mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Barium, Dissolved	ND		mg/l	0.00050	0.00017	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Beryllium, Dissolved	ND		mg/l	0.00050	0.00010	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Cadmium, Dissolved	ND		mg/l	0.00020	0.00005	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Calcium, Dissolved	ND		mg/l	0.100	0.0394	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.00100	0.00017	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Cobalt, Dissolved	ND		mg/l	0.00050	0.00016	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Iron, Dissolved	ND		mg/l	0.0500	0.0191	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Lead, Dissolved	ND		mg/l	0.00100	0.00034	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Magnesium, Dissolved	ND		mg/l	0.0700	0.0242	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Manganese, Dissolved	ND		mg/l	0.00100	0.00044	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Nickel, Dissolved	ND		mg/l	0.00200	0.00055	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Potassium, Dissolved	0.674		mg/l	0.100	0.0309	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Selenium, Dissolved	ND		mg/l	0.00500	0.00173	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Silver, Dissolved	ND		mg/l	0.00040	0.00016	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Sodium, Dissolved	0.0755	J	mg/l	0.100	0.0293	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Thallium, Dissolved	0.00029	J	mg/l	0.00100	0.00014	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Vanadium, Dissolved	ND		mg/l	0.00500	0.00157	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB
Zinc, Dissolved	ND		mg/l	0.01000	0.00341	1	03/16/23 10:34	03/16/23 15:31	1,6020B	NTB

Prep Information

Digestion Method: EPA 3005A

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING
Lab Number: L2311275
Report Date: 03/22/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-05 Batch: WG1754865-1										
Mercury, Dissolved	ND		mg/l	0.00020	0.00009	1	03/16/23 11:19	03/16/23 15:02	1,7470A	DMB

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab for sample(s): 01-05 Batch: WG1756263-1										
Arsenic, Dissolved	ND		mg/l	0.00050	0.00016	1	03/20/23 08:23	03/20/23 11:51	1,6020B	NTB
Barium, Dissolved	ND		mg/l	0.00050	0.00017	1	03/20/23 08:23	03/20/23 11:51	1,6020B	NTB
Cadmium, Dissolved	ND		mg/l	0.00020	0.00005	1	03/20/23 08:23	03/20/23 11:51	1,6020B	NTB
Chromium, Dissolved	ND		mg/l	0.00100	0.00017	1	03/20/23 08:23	03/20/23 11:51	1,6020B	NTB
Copper, Dissolved	0.00118	J	mg/l	0.00200	0.00038	1	03/20/23 08:23	03/20/23 11:51	1,6020B	NTB
Lead, Dissolved	ND		mg/l	0.00100	0.00034	1	03/20/23 08:23	03/20/23 11:51	1,6020B	NTB
Selenium, Dissolved	ND		mg/l	0.00500	0.00173	1	03/20/23 08:23	03/20/23 11:51	1,6020B	NTB
Silver, Dissolved	ND		mg/l	0.00040	0.00016	1	03/20/23 08:23	03/20/23 11:51	1,6020B	NTB

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311275

Report Date: 03/22/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1751734-2								
Aluminum, Total	95		-		80-120	-		
Antimony, Total	86		-		80-120	-		
Arsenic, Total	98		-		80-120	-		
Barium, Total	95		-		80-120	-		
Beryllium, Total	99		-		80-120	-		
Cadmium, Total	100		-		80-120	-		
Calcium, Total	100		-		80-120	-		
Chromium, Total	92		-		80-120	-		
Cobalt, Total	93		-		80-120	-		
Copper, Total	95		-		80-120	-		
Iron, Total	98		-		80-120	-		
Lead, Total	93		-		80-120	-		
Magnesium, Total	95		-		80-120	-		
Manganese, Total	92		-		80-120	-		
Nickel, Total	93		-		80-120	-		
Potassium, Total	95		-		80-120	-		
Selenium, Total	100		-		80-120	-		
Silver, Total	93		-		80-120	-		
Sodium, Total	89		-		80-120	-		
Thallium, Total	86		-		80-120	-		
Vanadium, Total	91		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311275

Report Date: 03/22/23

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1751734-2					
Zinc, Total	96	-	80-120	-	
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1751736-2					
Mercury, Total	96	-	80-120	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311275

Report Date: 03/22/23

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1754863-2					
Aluminum, Dissolved	88	-	80-120	-	
Antimony, Dissolved	93	-	80-120	-	
Arsenic, Dissolved	92	-	80-120	-	
Barium, Dissolved	99	-	80-120	-	
Beryllium, Dissolved	98	-	80-120	-	
Cadmium, Dissolved	94	-	80-120	-	
Calcium, Dissolved	115	-	80-120	-	
Chromium, Dissolved	99	-	80-120	-	
Cobalt, Dissolved	94	-	80-120	-	
Iron, Dissolved	106	-	80-120	-	
Lead, Dissolved	92	-	80-120	-	
Magnesium, Dissolved	102	-	80-120	-	
Manganese, Dissolved	104	-	80-120	-	
Nickel, Dissolved	92	-	80-120	-	
Potassium, Dissolved	111	-	80-120	-	
Selenium, Dissolved	97	-	80-120	-	
Silver, Dissolved	96	-	80-120	-	
Sodium, Dissolved	103	-	80-120	-	
Thallium, Dissolved	97	-	80-120	-	
Vanadium, Dissolved	98	-	80-120	-	
Zinc, Dissolved	91	-	80-120	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: HYGRADE PLATING

Project Number: HYGRADE PLATING

Lab Number: L2311275

Report Date: 03/22/23

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1754865-2					
Mercury, Dissolved	102	-	80-120	-	
Dissolved Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1756263-2					
Arsenic, Dissolved	101	-	80-120	-	
Barium, Dissolved	98	-	80-120	-	
Cadmium, Dissolved	100	-	80-120	-	
Chromium, Dissolved	97	-	80-120	-	
Copper, Dissolved	99	-	80-120	-	
Lead, Dissolved	99	-	80-120	-	
Selenium, Dissolved	102	-	80-120	-	
Silver, Dissolved	87	-	80-120	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1751734-3 WG1751734-4 QC Sample: L2311275-05 Client ID: MW-6S												
Aluminum, Total	0.0356	2	1.93	95		2.00	98		75-125	4		20
Antimony, Total	0.00192J	0.5	0.4007	80		0.4200	84		75-125	5		20
Arsenic, Total	0.00041J	0.12	0.1146	96		0.1202	100		75-125	5		20
Barium, Total	0.1914	2	1.982	90		2.079	94		75-125	5		20
Beryllium, Total	ND	0.05	0.04954	99		0.05152	103		75-125	4		20
Cadmium, Total	0.00031	0.053	0.04937	92		0.05202	98		75-125	5		20
Calcium, Total	194.	10	203	90		211	**170**	Q	75-125	4		20
Chromium, Total	0.00834	0.2	0.1808	86		0.1914	92		75-125	6		20
Cobalt, Total	0.00100	0.5	0.4443	89		0.4751	95		75-125	7		20
Copper, Total	0.00336	0.25	0.2281	90		0.2446	96		75-125	7		20
Iron, Total	0.298	1	1.21	91		1.47	117		75-125	19		20
Lead, Total	ND	0.53	0.4679	88		0.4844	91		75-125	3		20
Magnesium, Total	23.0	10	29.0	**60**	Q	30.3	**73**	Q	75-125	4		20
Manganese, Total	0.1480	0.5	0.5833	87		0.6120	93		75-125	5		20
Nickel, Total	0.05843	0.5	0.5016	89		0.5381	96		75-125	7		20
Potassium, Total	26.6	10	34.2	76		34.5	79		75-125	1		20
Selenium, Total	0.00371J	0.12	0.115	96		0.122	102		75-125	6		20
Silver, Total	ND	0.05	0.04407	88		0.04585	92		75-125	4		20
Sodium, Total	352.	10	329	**0**	Q	349	**0**	Q	75-125	6		20
Thallium, Total	0.00029J	0.12	0.1002	84		0.1098	92		75-125	9		20
Vanadium, Total	0.00182J	0.5	0.4419	88		0.4665	93		75-125	5		20

Matrix Spike Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1751734-3 WG1751734-4 QC Sample: L2311275-05 Client ID: MW-6S									
Zinc, Total	ND	0.5	0.4366	87	0.4690	94	75-125	7	20

Matrix Spike Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1751734-7 WG1751734-8 QC Sample: L2311349-01 Client ID: MS Sample											
Aluminum, Total	0.356	2	2.28	96		2.44	104		75-125	7	20
Antimony, Total	ND	0.5	0.4061	81		0.4357	87		75-125	7	20
Arsenic, Total	0.00259	0.12	0.1224	100		0.1241	101		75-125	1	20
Barium, Total	0.07739	2	1.942	93		2.041	98		75-125	5	20
Beryllium, Total	ND	0.05	0.05287	106		0.05386	108		75-125	2	20
Cadmium, Total	ND	0.053	0.05164	97		0.05300	100		75-125	3	20
Calcium, Total	10.3	10	21.8	115		21.8	115		75-125	0	20
Chromium, Total	0.00183	0.2	0.1825	90		0.1835	91		75-125	1	20
Cobalt, Total	0.00074	0.5	0.4884	98		0.4886	98		75-125	0	20
Copper, Total	0.00443	0.25	0.2503	98		0.2529	99		75-125	1	20
Iron, Total	0.836	1	1.86	102		1.86	102		75-125	0	20
Lead, Total	0.00205	0.53	0.4767	90		0.5110	96		75-125	7	20
Magnesium, Total	9.91	10	19.0	91		19.5	96		75-125	3	20
Manganese, Total	0.1281	0.5	0.5817	91		0.5978	94		75-125	3	20
Nickel, Total	0.00743	0.5	0.4845	95		0.4931	97		75-125	2	20
Potassium, Total	10.3	10	19.4	91		20.0	97		75-125	3	20
Selenium, Total	ND	0.12	0.119	99		0.120	100		75-125	1	20
Silver, Total	ND	0.05	0.04582	92		0.04751	95		75-125	4	20
Sodium, Total	278.	10	271	**0**	Q	278	**0**	Q	75-125	3	20
Thallium, Total	0.00016J	0.12	0.1042	87		0.1064	89		75-125	2	20
Vanadium, Total	ND	0.5	0.4531	91		0.4539	91		75-125	0	20

Matrix Spike Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1751734-7 WG1751734-8 QC Sample: L2311349-01 Client ID: MS Sample									
Zinc, Total	0.00509J	0.5	0.4772	95	0.4743	95	75-125	1	20
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1751736-3 WG1751736-4 QC Sample: L2311275-05 Client ID: MW-6S									
Mercury, Total	0.00009J	0.005	0.00494	99	0.00464	93	75-125	6	20
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1751736-5 WG1751736-6 QC Sample: L2311349-01 Client ID: MS Sample									
Mercury, Total	0.00019J	0.005	0.00493	99	0.00440	88	75-125	11	20

Matrix Spike Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery		Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1754863-3 WG1754863-4 QC Sample: L2311275-05 Client ID: MW-6S										
Aluminum, Dissolved	0.00329J	2	1.77	88	1.88	94		75-125	6	20
Antimony, Dissolved	0.00070J	0.5	0.4893	98	0.4854	97		75-125	1	20
Arsenic, Dissolved	ND	0.12	0.1104	92	0.1126	94		75-125	2	20
Barium, Dissolved	0.1763	2	2.063	94	2.055	94		75-125	0	20
Beryllium, Dissolved	ND	0.05	0.04877	98	0.05084	102		75-125	4	20
Cadmium, Dissolved	0.00024	0.053	0.04932	92	0.04886	92		75-125	1	20
Calcium, Dissolved	208.	10	220	120	228	**200**	Q	75-125	4	20
Chromium, Dissolved	0.00037J	0.2	0.1899	95	0.1923	96		75-125	1	20
Cobalt, Dissolved	0.00085	0.5	0.4599	92	0.4604	92		75-125	0	20
Iron, Dissolved	ND	1	1.13	113	1.12	112		75-125	1	20
Lead, Dissolved	ND	0.53	0.5119	96	0.4952	93		75-125	3	20
Magnesium, Dissolved	19.6	10	30.6	110	29.4	98		75-125	4	20
Manganese, Dissolved	0.1568	0.5	0.6474	98	0.6586	100		75-125	2	20
Nickel, Dissolved	0.05030	0.5	0.5354	97	0.5223	94		75-125	2	20
Potassium, Dissolved	27.1	10	36.7	96	37.8	107		75-125	3	20
Selenium, Dissolved	0.00369J	0.12	0.104	87	0.103	86		75-125	1	20
Silver, Dissolved	ND	0.05	0.04690	94	0.04515	90		75-125	4	20
Sodium, Dissolved	332.	10	341	90	340	80		75-125	0	20
Thallium, Dissolved	0.00038J	0.12	0.1204	100	0.1188	99		75-125	1	20
Vanadium, Dissolved	ND	0.5	0.5032	101	0.5069	101		75-125	1	20
Zinc, Dissolved	ND	0.5	0.4231	85	0.4408	88		75-125	4	20

Matrix Spike Analysis
Batch Quality Control

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1754865-3 WG1754865-4 QC Sample: L2311275-05 Client ID: MW-6S									
Mercury, Dissolved	ND	0.005	0.00496	99	0.00434	87	75-125	13	20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1756263-7 WG1756263-8 QC Sample: L2311275-05 Client ID: MW-6S									
Arsenic, Dissolved	0.0003J	0.12	0.1187	99	0.1247	104	75-125	5	20
Barium, Dissolved	0.1878	2	2.149	98	2.177	99	75-125	1	20
Cadmium, Dissolved	ND	0.053	0.05256	99	0.05277	100	75-125	0	20
Chromium, Dissolved	0.0003J	0.2	0.1870	94	0.1922	96	75-125	3	20
Copper, Dissolved	0.00114J	0.25	0.2384	95	0.2451	98	75-125	3	20
Lead, Dissolved	ND	0.53	0.4813	91	0.4706	89	75-125	2	20
Selenium, Dissolved	0.003J	0.12	0.123	102	0.123	102	75-125	0	20
Silver, Dissolved	ND	0.05	0.04327	86	0.04345	87	75-125	0	20

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATIN(

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	Serial Dilution	Units	% D	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1751734-10 QC Sample: L2311349-01 Client ID: DUP Sample						
Aluminum, Total	0.356	0.365	mg/l	3		20
Barium, Total	0.07739	0.07836	mg/l	1		20
Calcium, Total	10.3	11.1	mg/l	8		20
Magnesium, Total	9.91	10.1	mg/l	2		20
Manganese, Total	0.1281	0.1435	mg/l	12		20
Potassium, Total	10.3	10.5	mg/l	2		20
Sodium, Total	278.	280.	mg/l	1		20
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1751734-6 QC Sample: L2311275-05 Client ID: MW-6S						
Barium, Total	0.1914	0.1850	mg/l	3		20
Calcium, Total	194.	205.	mg/l	6		20
Magnesium, Total	23.0	21.2	mg/l	8		20
Manganese, Total	0.1480	0.1614	mg/l	9		20
Nickel, Total	0.05843	0.06118	mg/l	5		20
Potassium, Total	26.6	27.5	mg/l	3		20
Sodium, Total	352.	344.	mg/l	2		20

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATIN(

Lab Serial Dilution Analysis
Batch Quality Control

Lab Number: L2311275
Report Date: 03/22/23

Parameter	Native Sample	Serial Dilution	Units	% D	RPD Limits
Dissolved Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1754863-6 QC Sample: L2311275-05 Client ID: MW-6S					
Barium, Dissolved	0.1763	0.1743	mg/l	1	20
Calcium, Dissolved	208.	204.	mg/l	2	20
Magnesium, Dissolved	19.6	20.3	mg/l	4	20
Manganese, Dissolved	0.1568	0.1614	mg/l	3	20
Nickel, Dissolved	0.05030	0.05109	mg/l	2	20
Potassium, Dissolved	27.1	26.7	mg/l	1	20
Dissolved Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1754863-6 QC Sample: L2311275-05 Client ID: MW-6S					
Sodium, Dissolved	332.	328.	mg/l	1	20

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2311275-01A	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-01B	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-01C	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-01D	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		FE-6020T(180),BA-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),NA-6020T(180),ZN-6020T(180),CU-6020T(180),PB-6020T(180),MN-6020T(180),BE-6020T(180),SB-6020T(180),AS-6020T(180),V-6020T(180),MG-6020T(180),CD-6020T(180),HG-T(28),AG-6020T(180),AL-6020T(180),CO-6020T(180)
L2311275-01D1	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		MN-6020T(180)
L2311275-01D2	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		MN-6020T(180)
L2311275-01E	Plastic 250ml unpreserved	A	<2	<2	3.6	Y	Absent		-
L2311275-01F	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-01G	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-01X	Plastic 120ml HNO3 preserved Filtrates	A	NA		3.6	Y	Absent		K-6020S(180),CU-6020S(180),V-6020S(180),SE-6020S(180),MN-6020S(180),CO-6020S(180),BE-6020S(180),MG-6020S(180),ZN-6020S(180),FE-6020S(180),CR-6020S(180),CA-6020S(180),NA-6020S(180),TL-6020S(180),BA-6020S(180),NI-6020S(180),PB-6020S(180),AS-6020S(180),SB-6020S(180),AG-6020S(180),AL-6020S(180),CD-6020S(180),HG-S(28)
L2311275-02A	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-02B	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-02C	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2311275-02D	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		FE-6020T(180),BA-6020T(180),SE-6020T(180),TL-6020T(180),K-6020T(180),NI-6020T(180),CA-6020T(180),CR-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),V-6020T(180),AS-6020T(180),SB-6020T(180),MG-6020T(180),HG-T(28),CD-6020T(180),AG-6020T(180),AL-6020T(180),CO-6020T(180)
L2311275-02E	Plastic 250ml unpreserved	A	7	7	3.6	Y	Absent		-
L2311275-02F	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-02G	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-02X	Plastic 120ml HNO3 preserved Filtrates	A	NA		3.6	Y	Absent		CU-6020S(180),SE-6020S(180),V-6020S(180),K-6020S(180),MN-6020S(180),BE-6020S(180),MG-6020S(180),CO-6020S(180),ZN-6020S(180),CR-6020S(180),CA-6020S(180),FE-6020S(180),PB-6020S(180),BA-6020S(180),NI-6020S(180),TL-6020S(180),NA-6020S(180),AG-6020S(180),AS-6020S(180),SB-6020S(180),HG-S(28),AL-6020S(180),CD-6020S(180)
L2311275-03A	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-03B	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-03C	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-03D	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		SE-6020T(180),TL-6020T(180),BA-6020T(180),FE-6020T(180),CR-6020T(180),CA-6020T(180),NI-6020T(180),K-6020T(180),CU-6020T(180),ZN-6020T(180),NA-6020T(180),PB-6020T(180),BE-6020T(180),SB-6020T(180),V-6020T(180),AS-6020T(180),AG-6020T(180),MG-6020T(180),HG-T(28),AL-6020T(180),CD-6020T(180),CO-6020T(180)
L2311275-03E	Plastic 250ml unpreserved	A	7	7	3.6	Y	Absent		-
L2311275-03F	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-03G	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2311275-03X	Plastic 120ml HNO3 preserved Filtrates	A	NA		3.6	Y	Absent		V-6020S(180),CU-6020S(180),K-6020S(180),SE-6020S(180),MN-6020S(180),ZN-6020S(180),CO-6020S(180),BE-6020S(180),MG-6020S(180),CR-6020S(180),FE-6020S(180),CA-6020S(180),PB-6020S(180),TL-6020S(180),NA-6020S(180),NI-6020S(180),BA-6020S(180),AG-6020S(180),SB-6020S(180),AS-6020S(180),AL-6020S(180),CD-6020S(180),HG-S(28)
L2311275-04A	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-04B	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-04C	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-04D	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		TL-6020T(180),BA-6020T(180),FE-6020T(180),SE-6020T(180),CA-6020T(180),CR-6020T(180),NI-6020T(180),K-6020T(180),NA-6020T(180),CU-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),MG-6020T(180),AG-6020T(180),AL-6020T(180),HG-T(28),CD-6020T(180),CO-6020T(180)
L2311275-04E	Plastic 250ml unpreserved	A	7	7	3.6	Y	Absent		-
L2311275-04F	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-04G	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-04X	Plastic 120ml HNO3 preserved Filtrates	A	NA		3.6	Y	Absent		CU-6020S(180),V-6020S(180),K-6020S(180),SE-6020S(180),MN-6020S(180),CO-6020S(180),BE-6020S(180),ZN-6020S(180),MG-6020S(180),CR-6020S(180),FE-6020S(180),CA-6020S(180),BA-6020S(180),PB-6020S(180),NI-6020S(180),TL-6020S(180),NA-6020S(180),AG-6020S(180),SB-6020S(180),AS-6020S(180),HG-S(28),AL-6020S(180),CD-6020S(180)
L2311275-05A	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-05A1	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-05A2	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-05B	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-05B1	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-05B2	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2311275-05C	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-05C1	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-05C2	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-05D	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		SE-6020T(180),BA-6020T(180),FE-6020T(180),TL-6020T(180),CA-6020T(180),K-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),MN-6020T(180),BE-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),MG-6020T(180),AG-6020T(180),CD-6020T(180),AL-6020T(180),HG-T(28),CO-6020T(180)
L2311275-05D1	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		SE-6020T(180),BA-6020T(180),FE-6020T(180),TL-6020T(180),CA-6020T(180),K-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),MN-6020T(180),BE-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),MG-6020T(180),AG-6020T(180),CD-6020T(180),AL-6020T(180),HG-T(28),CO-6020T(180)
L2311275-05D2	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		SE-6020T(180),BA-6020T(180),FE-6020T(180),TL-6020T(180),CA-6020T(180),K-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),MN-6020T(180),BE-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),MG-6020T(180),AG-6020T(180),CD-6020T(180),AL-6020T(180),HG-T(28),CO-6020T(180)
L2311275-05E	Plastic 250ml unpreserved	A	7	7	3.6	Y	Absent		-
L2311275-05E1	Plastic 250ml unpreserved	A	7	7	3.6	Y	Absent		-
L2311275-05E2	Plastic 250ml unpreserved	A	7	7	3.6	Y	Absent		-
L2311275-05F	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-05F1	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-05F2	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-05G	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-05G1	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-05G2	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2311275-05X	Plastic 120ml HNO3 preserved Filtrates	A	NA		3.6	Y	Absent		V-6020S(180),SE-6020S(180),CU-6020S(180),K-6020S(180),MN-6020S(180),MG-6020S(180),BE-6020S(180),CO-6020S(180),ZN-6020S(180),CA-6020S(180),CR-6020S(180),FE-6020S(180),NI-6020S(180),PB-6020S(180),TL-6020S(180),NA-6020S(180),BA-6020S(180),SB-6020S(180),AG-6020S(180),AS-6020S(180),AL-6020S(180),CD-6020S(180),HG-S(28)
L2311275-05X1	Plastic 120ml HNO3 preserved Filtrates	A	NA		3.6	Y	Absent		V-6020S(180),SE-6020S(180),CU-6020S(180),K-6020S(180),MN-6020S(180),MG-6020S(180),BE-6020S(180),CO-6020S(180),ZN-6020S(180),CA-6020S(180),CR-6020S(180),FE-6020S(180),NI-6020S(180),PB-6020S(180),TL-6020S(180),NA-6020S(180),BA-6020S(180),SB-6020S(180),AG-6020S(180),AS-6020S(180),AL-6020S(180),CD-6020S(180),HG-S(28)
L2311275-05X2	Plastic 120ml HNO3 preserved Filtrates	A	NA		3.6	Y	Absent		V-6020S(180),SE-6020S(180),CU-6020S(180),K-6020S(180),MN-6020S(180),MG-6020S(180),BE-6020S(180),CO-6020S(180),ZN-6020S(180),CA-6020S(180),CR-6020S(180),FE-6020S(180),NI-6020S(180),PB-6020S(180),TL-6020S(180),NA-6020S(180),BA-6020S(180),SB-6020S(180),AG-6020S(180),AS-6020S(180),AL-6020S(180),CD-6020S(180),HG-S(28)
L2311275-06A	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-06B	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-06C	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-06D	Plastic 250ml HNO3 preserved	A	<2	<2	3.6	Y	Absent		BA-6020T(180),FE-6020T(180),TL-6020T(180),SE-6020T(180),NI-6020T(180),K-6020T(180),CA-6020T(180),CR-6020T(180),CU-6020T(180),ZN-6020T(180),NA-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),V-6020T(180),SB-6020T(180),AS-6020T(180),MG-6020T(180),AG-6020T(180),HG-T(28),CD-6020T(180),AL-6020T(180),CO-6020T(180)
L2311275-06F	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-NY-537-ISOTOPE(28)
L2311275-07A	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)
L2311275-07B	Vial HCl preserved	A	NA		3.6	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: HYGRADE PLATING
Project Number: HYGRADE PLATING

Lab Number: L2311275
Report Date: 03/22/23

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	HYGRADE PLATING	**Lab Number:**	L2311275
Project Number:	HYGRADE PLATING	**Report Date:**	03/22/23

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	HYGRADE PLATING	**Lab Number:**	L2311275
Project Number:	HYGRADE PLATING	**Report Date:**	03/22/23

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

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

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

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

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

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

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

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

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

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	HYGRADE PLATING	**Lab Number:**	L2311275
Project Number:	HYGRADE PLATING	**Report Date:**	03/22/23

Data Qualifiers

Identified Compounds (TICs).

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name:	HYGRADE PLATING	**Lab Number:**	L2311275
Project Number:	HYGRADE PLATING	**Report Date:**	03/22/23

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

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

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

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

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

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

Page 1 of 1

Date Rec'd in Lab: 3/3/23

ALPHA Job #: L2311275

Client Information
Client: Eric Weinstock, PG
Address: 314 Hudson View Tr.
Hyde Park, NY 12538
Phone: 516-413-6643
Fax:
Email: cweinstock65@gmail.com

Project Information
Project Name: Hygrade Plating
Project Location: Long Island City, NY
Project #
(Use Project name as Project #) ☑
Project Manager: Eric Weinstock
ALPHAQuote #:

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

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

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

Billing Information
☒ Same as Client Info
PO #

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

These samples have been previously analyzed by Alpha ☒

Other project specific requirements/comments:
Lab to filter dissolved metals sample

Please specify Metals or TAL. TAL metals

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs 8260	Total Metals	Dissolved Metals	PFAS	Sample Specific Comments	Total Bottle
11275-01	MW-E	3/1/23	1450	Water		X	X	X	X	TAL Metals	
-02	MW-5		1130								
-03	MW-6D		1235								
-04	MW-X		1250								
-05	MW-6S		1355								
	MW-6S MS		1345								
	MW-6S MSD		1350								
-06	Field Blank 3-1-23										
-07	Trip Blank	3/1/23									

Container Type: V P P P
Preservative: B C A A

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

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

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

Relinquished By:	Date/Time	Received By:	Date/Time
	3/3/23 1310	(AAL)	3/3/23 1310
(AAL)	3/3/23 1825	(BMM)	3/3/23 19:30
(BMM)	3/3/23 2130		3/3/23 2130
	3/3/23 2350		3/3/23 2350

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

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

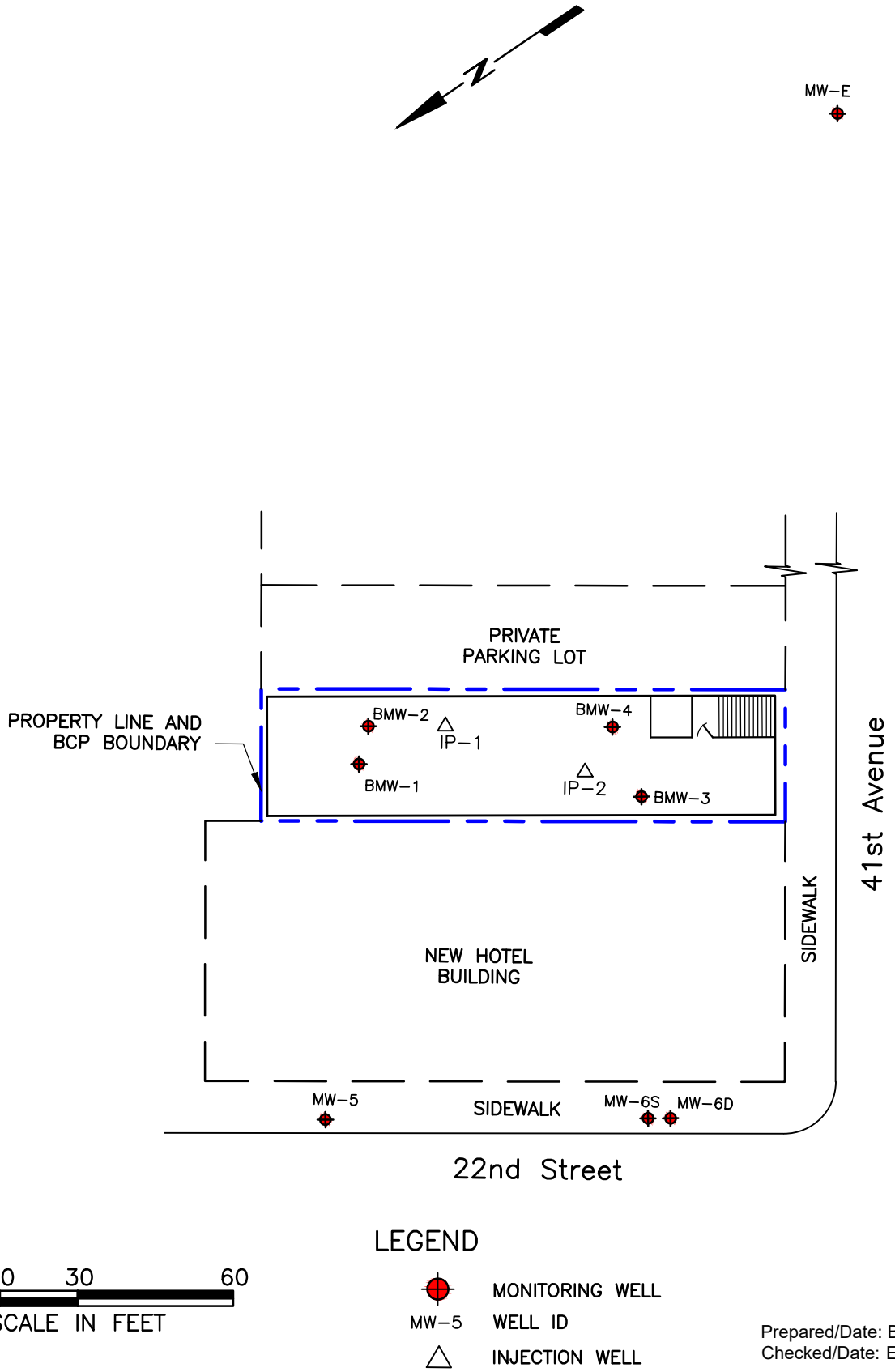
APPENDIX F – REMEDIAL SYSTEM MONITORING FORM

Table F-1 Remedial System Monitoring Form

Date of Visit: March 1, 2023

Remedial System Component	**Monitoring Parameter**	**Operating Range**	**Monitoring Schedule**
SSD System Fan	Vacuum in riser pipe at Startup	1.0 to 1.1 inches of water	Annually, in person, 24 hrs. a day/7 days a week, remotely
	Vacuum during annual inspection	1.3 inches of water	
Duct Work	Condition At Startup	Excellent	Annually, in person
	Condition during inspection (circle one)	Excellent, Good, Needs Repair	
Concrete Slab Cover System	Condition at Startup	Excellent	Annually, in person
	Condition during inspection (circle one)	Excellent, Good, Needs Repair	

APPENDIX G – GROUNDWATER MONITORING WELL AND INJECTION POINT LOCATION MAP



LEGEND

MONITORING WELL

MW-5 WELL ID

INJECTION WELL

0 10 30 60

SCALE IN FEET

Prepared/Date: BRT 10/26/20
Checked/Date: EAW 6/29/23

Former Hygrade Plating 20-07 41st Ave Long Island City, NY	Eric A. Weinstock, PG, PC 314 Hudson View Terrace Hyde Park, NY 12538	Groundwater Monitoring Well and Injection Point Location Map Figure G-1

Z:\Projects\Clifton Park Misc Proj\Former Hygrade Planting\Figures\Figure-8 GW MW and Injection Pts Locations Map.dwg Mon, 26 Oct 2020 - 1:57pm branko.tomic