



Environmental Remediation Group

490 Stuart Road NE
Cleveland, TN 37312
FAX (423) 336-4166
abcarringer@olin.com

SENT VIA OVERNIGHT CARRIER AND FILE TRANSFER PORTAL

May 31, 2023

Mr. Glenn May
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203-2915

**RE: Industrial Welding Site
NYSDEC Registry No. 9-32-050
Periodic Review Report – May 2022 through May 2023**

Dear Mr. May:

As requested by NYSDEC, we have submitted this IWS PRR and certification via Olin's cloud-based service portal as well as via overnight carrier. This report summarizes the site conditions and activities performed from May 2022 through May 2023 for the monitoring, operation, and maintenance of the containment remedy for the Industrial Welding site in Niagara Falls, New York. This report is being submitted in accordance with the requirements and schedule listed in the notification letter dated May 2, 2023.

Should you have questions, please contact me at (423) 508-2768. Should you have technical difficulties with the download/BOX process, please contact Lisa Harper (423) 336-4587 or ldharper@olin.com.

Sincerely,
OLIN CORPORATION

A handwritten signature in black ink, appearing to read "Adam B. Carringer", written in a cursive style.

Adam B. Carringer
Senior Environmental Specialist



Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form



Site No. 932050	Site Details	Box 1
Site Name Olin Corporation-Industrial Welding		
Site Address: Packard Road near 30th Street Zip Code: 14303		
City/Town: Niagara Falls		
County: Niagara		
Site Acreage: 13.290		
Reporting Period: May 01, 2022 to May 01, 2023		
		YES NO
1. Is the information above correct?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Box 2
	YES NO
6. Is the current site use consistent with the use(s) listed below? Closed Landfill	<input checked="" type="checkbox"/> <input type="checkbox"/>
7. Are all ICs in place and functioning as designed?	<input checked="" type="checkbox"/> <input type="checkbox"/>

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

Description of Institutional ControlsParcelOwnerInstitutional Control**159.12-1-10**

Olin Corporation

Soil Management Plan
Monitoring Plan
O&M Plan

Record of Decision; November 3, 1994 for Operable Units one and two (OU1 and OU2).

Deed Restriction; December 7, 2001.

159.12-1-2.2

Olin Corporation

Monitoring Plan
Soil Management Plan
O&M Plan

Record of Decision (ROD) November 3, 1994 for Operable Units 1 and 2 (OU1 and OU2.)

Deed Restriction; December 7, 2001.

159.12-1-7

Olin Corporation

Site Management Plan
O&M Plan

Operable Unit 3 (OU3) Packard Road Parcel.

Record of Decision (ROD) March 24, 2006.

Environmental Easement; June 24, 2010.

Description of Engineering ControlsParcelEngineering Control**159.12-1-10**

Monitoring Wells
Cover System
Fencing/Access Control
Groundwater Containment
Leachate Collection

Southern Cover System (American Legion Post Parcel, 136 Packard Road):

Operable Unit Two (OU2) was constructed as a subgrade, aggregate base course, asphalt concrete pavement (binder and top course), storm drainage, catch basins, storm drain piping with landscaping and security fencing.

A leachate collection and recovery system is active and extends beneath both the northern (150 Packard) and southern (136 Packard) covers. An extraction well pump is under the southern asphalt cover and automatically activates at a pre-set leachate level. Leachate is discharged to the Niagara Falls sewer system by City Permit No. ICU-23. The status of pump operations are monitored remotely.

159.12-1-2.2

Parcel

Engineering Control

Monitoring Wells
Cover System
Groundwater Containment
Leachate Collection
Fencing/Access Control

The remediation consisted of the consolidation of sediments, soils and demolition debris from Gill Creek the American Legion Post and other excavated materials.

The North Cover System (150 Packard Road, IWS Parcel) was constructed as a leachate collection and recovery system, consisting of a trench, geotextile, coarse stone aggregate, collection piping, recovery well, leachate extraction pumping system with a force main and a clay barrier.

The cap details are a six inch clay buffer layer, 40-mil. geomembrane liner, eighteen inch protective/drainage soil layer and six inch vegetative soil layer and vegetative cover.

A leachate collection and recovery system is active and extends beneath both the northern (150 Packard) and southern (136 Packard) covers. A extraction well pump is under the southern asphalt cover and automatically activates at a pre-set leachate level. Leachate is discharged to the Niagara Falls sewer system by City Permit No. ICU-23. The status of pump operations are monitored remotely.

159.12-1-7

Monitoring Wells
Cover System
Fencing/Access Control

Operable Unit 3 (OU3) Packard Road Parcel: The remediation consists of an asphalt cover to the equivalent specifications as the cover system of south OU2.

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 complete.

YES NO
☒ ☐

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
☒ ☐

**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. 932050

Box 6

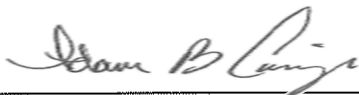
SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

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 Adam Carringer at 490 Stuart Rd NE, Cleveland, TN 37312,
print name print business address

am certifying as Olin's Representative (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

5/30/2023

Date

EC CERTIFICATIONS

Box 7

Qualified Environmental Professional 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 Carrie Hunt at 490 Stuart Rd NE, Cleveland, TN 37312,
print name print business address

am certifying as a Qualified Environmental Professional for the Owner's Representative
(Owner or Remedial Party)



Signature of Qualified Environmental Professional, for
the Owner or Remedial Party, Rendering Certification

11148

Stamp
(Required for PE)

5/30/2023

Date

**ANNUAL PERIODIC REVIEW REPORT
INDUSTRIAL WELDING SITE
NIAGARA FALLS, NEW YORK**

Site Number: 932050

Prepared By:



OLIN CORPORATION

**490 Stuart Road NE
Cleveland, Tennessee 37312**

May 31, 2023

TABLE OF CONTENTS

- I. Executive Summary**
 - A. Brief summary, nature and extent, remedial history**
 - B. Effectiveness of Remedial Program**
 - C. Compliance**
 - D. Recommendations**
- II. Site Overview**
 - A. Site description and nature/extent prior to remediation**
 - B. Remediation chronology**
- III. Remedy Performance, Effectiveness, and Protectiveness**
 - A. Effectiveness of remedial goals**
- IV. IC/EC Plan (not applicable)**
 - A. IC/EC requirements**
- V. Monitoring Plan Compliance Report**
 - A. Components of Monitoring Plan**
 - B. & C. Summary and Comparisons to remedial objectives**
 - D. Deficiencies**
 - E. Recommendations for changes**
- VI. Operation and Maintenance (O&M) Plan Compliance Report**
 - A. Components of the O&M Plan**
 - B. O&M Summary**
 - C. Evaluation of remedial systems**
 - D. O&M deficiencies**
 - E. Conclusions**
- VII. Overall PRR Conclusions and Recommendations**
 - A. Compliance with SMP**
 - B. Remedy Effectiveness**
 - C. Future submittals**

Attachments

Attachment A – Site Features Map

Attachment B – Groundwater Monitoring Data

Attachment C – Discharge Monitoring Report

Attachment D – Calendar Year Flows

Attachment E – Site Activities Reports, Inspections, and Sampling Logs

Attachment F – Mercury Data

I. **Executive Summary**

- A. **Brief summary, nature and extent, remedial history:** The site is comprised of three parcels. The original Industrial Welding Site (IWS) and the subsequently added American Legion Post (ALP) property lie immediately west of Veterans Drive and approximately 0.2 miles north of Buffalo Avenue in the City of Niagara Falls, New York. The third parcel, formerly called the Packard Road Parcel, lies immediately south of the American Legion Post parcel. Gill Creek, the site of a remedial action in 1998, lies immediately to the east of Veterans Drive. A site location map is presented in Figure 1, ***Attachment A***, of this report.

The ownership and usage of the IWS property have varied over the past 60 years. The High Energy Fuels (HEF) Division of the Olin Corporation (formerly Olin Mathieson Corporation) operated a research laboratory and pilot process plant at the property from 1952 until 1956. In 1956, the HEF Division was disbanded, and the laboratory and plant buildings demolished. The eastern side of the property was filled with fly ash, concrete debris, rubble from a building possibly contaminated with hexachlorocyclohexane (commonly known as benzene hexachloride [BHC]) and salt dirt (brine muds).

In 1966, Olin conveyed the IWS property to Niagara County Community College. This property was subsequently transferred to Niagara County. The Cerebral Palsy Association of Niagara County leases a building on property owned by Niagara County. Olin reacquired the IWS from Niagara County in 1997. The ALP property has formerly been utilized as a meeting and event hall.

- B. **Effectiveness of remedial program:** The isolation of ground water within the capped area has been established and is being maintained by current operation and maintenance activities. The remedial program is achieving the objectives of containing groundwater flow and discharging to the local sewer authority via permitted discharge.
- C. **Compliance:** There are no areas of non-compliance.
- D. **Recommendations:** The Operation and Maintenance program has shown that the conditions at the site are stable and consistent.

II. **SITE OVERVIEW**

- A. **Site description and nature/extent prior to remediation:** A map showing site features is included in ***Attachment A***. The nature and extent of contamination were evaluated during the Remedial Investigation (RI) and Feasibility Study (FS), which was conducted by International Technology Corporation, Knoxville, Tennessee. The final RI/FS was submitted to NYSDEC in July 1993. An addendum to the final FS was issued in November 1993.

The RI was performed in two phases. RI activities consisted of the following.

- Collecting soil samples to delineate the horizontal and vertical extent of contamination as well as to determine the physical properties of the underlying soils.
- Installing monitoring wells and piezometers to evaluate groundwater quality and determine the hydrogeologic properties of the IWS.
- Hydraulic monitoring of groundwater at the IWS and Gill Creek water levels to determine the ground-water flow direction, relationship to Gill Creek, and off-site migration.
- Collecting air samples to assess the existence of any airborne constituents.
- Collecting and analyzing sediments from catch basins adjacent to the IWS.

The data collected during the RI/FS were compared with NYSDEC Standards, Criteria, and Guidance (SCGs) for groundwater, drinking water, surface water, soils and site-specific, risk-based criteria. Mercury, BHCs, and polycyclic aromatic hydrocarbons (PAHs) were determined to be the contaminants of concern.

Remediation chronology:

Pre-design sampling and analysis was performed in 1997 and 1998. Additional soil sampling was conducted on the Packard Road Parcel and evaluated to determine the appropriate remedy.

The final cover system was installed over the main disposal area and served to minimize the potential for contaminant migration from Site soils and prevent direct human exposure. Except for the ALP property and the former Packard Road Parcel, which received asphalt concrete cover, impacted soils outside the boundaries of the Site was excavated and consolidated beneath the IWS final cover system. Sediments from the Gill Creek Excavation and Restoration Project completed in 1998 were also consolidated beneath the final cover system.

The selected remedy for the IWS as stated in the ROD consists of a multi-layer final cover system over an area of approximately 4 acres. The sediments currently present at the IWS under the temporary cover system were consolidated under the IWS final cover system. The height of the final cover system was no greater than eight feet. The modified multi-layer IWS final cover system consists of the following.

- Six (6) inches of a compacted soil layer or 20-mil PVC geomembrane.
- 40-mil linear high-density polyethylene (HDPE) geomembrane liner.

- Eighteen (18) inches of cover soil consisting of 6 inches of topsoil and 12 inches of compacted soil material with a top slope not less than 2 percent and side slopes not greater than 33 percent. The topsoil was seeded and mulched to establish vegetative cover.

Surface drainage from the IWS final cover system was captured by a perimeter drainage swale and was directed either to Gill Creek or through the existing combined storm sewer system located adjacent to the IWS.

Based on the results of the pre-design sampling and analysis, impacted soils from areas outside the IWS were excavated and consolidated under the IWS final cover system.

The remedial design of the IWS final cover system is based upon the estimated volume of soils and sediments that are to be consolidated. The material to be consolidated beneath the IWS cover system was approximately 2,900 cubic yards of impacted soils from the eastern perimeter and 6,900 cubic yards of sediments. The volume of sediments is based on a survey of the consolidated material placed on IWS in 1998. The limits of excavation are based on the RI/FS and the sampling and the results of the pre-design field activities. The American Legion Parcel and the Packard Road Parcel was asphalted subsequent to the IWS cap construction.

III. **REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS**

The work performed for the Site during the reporting period was reviewed and found to be in accordance with the approved O&M Manual. The ground water monitoring data for the September 2021 and March 2022 monitoring events are presented in ***Attachment B*** along with the surface drainage data from November 2021.

IV. **IC/EC Plan (not applicable)**

A. IC/EC requirements:

- Fence is in place around the landfill, effectively restricting access.
- Clean soil cover and asphalt cover is in place on the landfill, restricting infiltration and promoting runoff.

B. Certification:

- Attached.

V. **MONITORING PLAN COMPLIANCE REPORT**

A. Components of Monitoring Plan: Routine operation of the leachate control and recovery system (LCRS) consists of the extraction well pump automatically discharging leachate from the extraction well to the City of Niagara Falls sewer system, per city permit No. ICU-23. The pump is controlled by float switches in the extraction well. The status of pump operations is monitored remotely.

B, C. Summary and comparison to remedial objectives:

Groundwater monitoring is performed semi-annually. Monitoring includes:

1. Measurements of water levels in each of the piezometers installed in the swale during the remedial construction. These water levels are provided in Attachment E.
2. Annual collection of groundwater samples from the LCRS recovery well for chemical analysis for mercury, BHC and PAH compounds and semiannual monitoring at two onsite monitoring wells. Lab reports are provided in Attachment B, while historic mercury results and trend plots are provided in Attachment F.

The isolation of ground water within the capped area has been established and is being maintained by current operation and maintenance activities.

The ground water chemistry at the monitoring wells has been consistent across sampling events. Semivolatile organics were generally undetected. No SVOCs were detected at concentrations above the New York State Class GA standards in the monitoring wells surrounding the capped area, providing evidence that contaminants are not migrating from beneath the cap.

The isolation of ground water within the capped area has been established and is being maintained by current operation and maintenance activities.

D. Deficiencies: None

E. Recommendations for changes: The groundwater monitoring program has shown consistent results throughout this monitoring period.

VI. O&M PLAN COMPLIANCE REPORT

A. Components of the O&M Plan: Operation, maintenance, and monitoring activities to be performed include:

- Security fencing is inspected for evidence of vandalism, missing or deteriorated warning signs, fencing member failure or degradation, and soil erosion.
- The cover is inspected for settlement, surface erosion, vegetation, and asphalt concrete conditions.
- The surface water drainage and erosion control system is inspected for erosion, settlement, obstructions, and damage to:
 - Vegetative-lined swales
 - Drainage piping and inlets
- The LCRS is inspected for proper pump operation, condition of cleanouts and pipes, and presence of standing water and debris. The most recent annual Discharge Monitoring Report to the City POTW is included in ***Attachment C.***
- The site access ways are inspected for surface deterioration and erosion

of shoulders.

- Recordkeeping is maintained for site inspections and monitoring.

B. O&M Summary: Groundwater samples are collected from the sampling port at the LCRS recovery well annually. The samples are submitted to the off-site laboratory for analysis for mercury, BHC, and semi-volatile compounds. These results, along with the lab report, are provided in Attachment C.

Calendar-year flows by day for 2021 and for 2022 through April are presented in ***Attachment D***.

Inspection reports, sampling logs, and site activities reports are presented in ***Attachment E***. Inspections are conducted per the items listed on the Site Activities Report format. Information entered on these forms includes the inspector's name, date, item inspected and any comments. The inspector indicates whether the condition of each item was acceptable or unacceptable per the requirements of the O&M Plan. The completed Site Activities Reports are maintained at Olin Environmental Remediation offices in Cleveland, TN.

C. **Evaluation of remedial systems**: All components are performing as designed

D. **O&M deficiencies**: None

E. **Conclusions**: The O&M system is being run and maintained properly and does not require additions or modifications at this time.

VII. **OVERALL PRR CONCLUSIONS AND RECOMMENDATIONS**

A. **Compliance with Site Monitoring Plan**: Based on the operations and maintenance documentation listed above, the system requirements are being met. There are no new exposure pathways. Additional plans and modifications are not necessary.

B. **Remedy Effectiveness**: Based on the data developed to date, the remedy has been effective in attaining the remedial objectives:

- The isolation of ground water within the capped area has been established and is being maintained by current operation and maintenance activities.
- The ground water chemistry at the monitoring wells has been consistent across sampling events. Semivolatile organics were generally undetected. No SVOCs were detected at concentrations above the New York State Class GA standards in the monitoring wells surrounding the capped area, providing evidence that contaminants are not migrating from beneath the cap.
- Overall, no appreciable difference in mercury concentrations were noted for MW-1 during this timeframe. The mercury concentrations reported for MW-2 indicated an upward departure from the overall trend. Historically, concentration spikes have been detected but fell back to historic levels in the following years. Over the past 19 years, the higher concentrations have occurred in the spring of the calendar years, with exception of the fall 2013 event. Whenever there were elevated hits in the spring, the results immediately fell back within the historic ranges during the next sampling event. We will closely monitor the spring outlier in future sampling events. The trends for mercury concentrations are illustrated by the graph and data included in ***Attachment F***.

C. **Future submittals**: Future submittals of reports will be done on an annual basis in the appropriate Periodic Review Report format.

ATTACHMENT A

ATTACHMENT B



October 07, 2022

Service Request No:R2208946

Adam Carringer
Olin Corporation
490 Stuart Road
Cleveland, TN 37312

Laboratory Results for: Industrial Welding

Dear Adam,

Enclosed are the results of the sample(s) submitted to our laboratory September 21, 2022
For your reference, these analyses have been assigned our service request number **R2208946**.

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at Meghan.Pedro@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Meghan Pedro
Project Manager

CC: Randy Morris

ADDRESS

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

PHONE +1 585 288 5380 | **FAX** +1 585 288 8475

ALS Group USA, Corp.
dba ALS Environmental



Narrative Documents

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Client: Olin Corporation
Project: Industrial Welding
Sample Matrix: Water

Service Request: R2208946
Date Received: 09/21/2022

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Three water samples were received for analysis at ALS Environmental on 09/21/2022. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

Method 8270D, 09/29/2022: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Semivolatile GC:

Method 8081B, 09/27/2022: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

The RPD between the LCS and the LCSD was greater than the RPD limit. The percent recovery limit was met for both the LCS and the LCSD.

Metals:

No significant anomalies were noted with this analysis.

Approved by

Date

10/07/2022



Sample Receipt Information

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Client: Olin Corporation
Project: Industrial Welding/1283

Service Request:R2208946

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R2208946-001	IWS-SD1-092022	9/20/2022	0840
R2208946-002	IWS-MW1-092022	9/20/2022	1032
R2208946-003	IWS-MW2-092022	9/20/2022	0942

[illegible]



Cooler Receipt and Preservation

R2208946

5

Olin Corporation
Industrial WeldingProject/Client Olin Corp

Folder Number

Cooler received on 9/21/22by: MECOURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	<u>Y</u> N
2	Custody papers properly completed (ink, signed)?	<u>Y</u> N
3	Did all bottles arrive in good condition (unbroken)?	Y <u>N</u> *
4	Circle: <u>Wet Ice</u> Dry Ice Gel packs present?	<u>Y</u> N

5a	Perchlorate samples have required headspace?	Y N <u>NA</u>
5b	Did VOA vials, Alk, or Sulfide have sig* bubbles?	Y N <u>NA</u>
6	Where did the bottles originate?	<u>ALS/ROC</u> CLIENT
7	Soil VOA received as:	Bulk Encore 5035set <u>NA</u>

8. Temperature Readings

Date: 9/21/22Time: 10:29ID: IR#7 IR#11From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>5.9</u>						
Within 0-6°C?	<u>Y</u> N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule
 & Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: ROU2 by ME on 9/21/22 at 10:35

5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 09/21/22 Time: 1330by: AL

9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
 10. Did all bottle labels and tags agree with custody papers? YES NO
 11. Were correct containers used for the tests indicated? YES NO
 12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
 13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved?		Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
			Yes	No						
≥12		NaOH								
<u>2</u>	<u>206722</u>	HNO ₃	<u>X</u>		<u>2022012457</u>	<u>07/23</u>				
<u>2</u>		H ₂ SO ₄								
<4		NaHSO ₄								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add Na ₂ S ₂ O ₃ (625, 608, CN), ascorbic (phenol).					
		Na ₂ S ₂ O ₃								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis.
 Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 22-07-25 050922-1G5

Explain all Discrepancies/ Other Comments:

* IWS-MW2-092022-22
ME 9/21/22
20

* IWS-MW2-092022-1 broken 8081 Bottle

HPRD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: AL

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation
Project: Industrial Welding/1283

Service Request: R2208946

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2208946-001.01	7470A				
		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-001.02					
		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-001.03	8081B				
		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-001.04	8270D				
		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-001.05					
		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-001.06					
		9/22/2022	1333	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-001.07					
		9/22/2022	1333	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-001.08					
		9/22/2022	1333	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-001.09					
		9/22/2022	1333	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-001.10					
		9/22/2022	1334	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation
Project: Industrial Welding/1283

Service Request: R2208946

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2208946-001.11					
		9/22/2022	1334	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-001.12					
		9/22/2022	1334	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-001.13					
		9/22/2022	1334	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-002.01					
	7470A				
		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
		9/29/2022	1816	In Lab / CWOODS	
		9/29/2022	1821	In Lab / CWOODS	
R2208946-002.02					
	8081B				
		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-002.03					
		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-002.04					
	8270D				
		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-002.05					
		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-003.01					
	7470A				
		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
		9/29/2022	1816	In Lab / CWOODS	
		9/29/2022	1821	In Lab / CWOODS	

ALS Group USA, Corp.
dba ALS Environmental
Internal Chain of Custody Report

Client: Olin Corporation
Project: Industrial Welding/1283

Service Request: R2208946

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2208946-003.02	8081B	9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-003.04	8270D	9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	
R2208946-003.05		9/22/2022	1331	SMO / BKALKMAN	
		9/22/2022	1334	R-002 / BKALKMAN	



Miscellaneous Forms

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Accreditations¹



NELAP States
Florida ID # E87674
New Hampshire ID # 2941
New York ID # 10145
Pennsylvania ID# 68-786
Virginia #460167

Non-NELAP States
Connecticut ID #PH0556
Delaware Approved
Maine ID #NY01587
North Carolina #36701
North Carolina #676
Rhode Island LAO00333

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental>

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Olin Corporation
Project: Industrial Welding/1283

Service Request: R2208946

Sample Name: IWS-SD1-092022
Lab Code: R2208946-001
Sample Matrix: Water

Date Collected: 09/20/22
Date Received: 09/21/22

Analysis Method

7470A
8081B
8270D

Extracted/Digested By

CWOODS
JVANHEYNINGEN
JVANHEYNINGEN

Analyzed By

CWOODS
AFELSER
BALLGEIER

Sample Name: IWS-MW1-092022
Lab Code: R2208946-002
Sample Matrix: Water

Date Collected: 09/20/22
Date Received: 09/21/22

Analysis Method

7470A
8081B
8270D

Extracted/Digested By

CWOODS
JVANHEYNINGEN
JVANHEYNINGEN

Analyzed By

CWOODS
AFELSER
BALLGEIER

Sample Name: IWS-MW2-092022
Lab Code: R2208946-003
Sample Matrix: Water

Date Collected: 09/20/22
Date Received: 09/21/22

Analysis Method

7470A
8081B
8270D

Extracted/Digested By

CWOODS
JVANHEYNINGEN
JVANHEYNINGEN

Analyzed By

CWOODS
AFELSER
BALLGEIER



INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	



Sample Results

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Collected: 09/20/22 08:40
Date Received: 09/21/22 10:00

Sample Name: IWS-SD1-092022
Lab Code: R2208946-001

Units: ug/L
Basis: NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	9.1 U	9.1	1.3	1	09/29/22 11:44	9/26/22	
Acenaphthene	9.1 U	9.1	1.4	1	09/29/22 11:44	9/26/22	
Acenaphthylene	9.1 U	9.1	1.4	1	09/29/22 11:44	9/26/22	
Anthracene	9.1 U	9.1	1.3	1	09/29/22 11:44	9/26/22	
Benz(a)anthracene	9.1 U	9.1	1.6	1	09/29/22 11:44	9/26/22	
Benzo(a)pyrene	9.1 U	9.1	1.2	1	09/29/22 11:44	9/26/22	
Benzo(b)fluoranthene	9.1 U	9.1	1.2	1	09/29/22 11:44	9/26/22	
Benzo(g,h,i)perylene	9.1 U	9.1	1.0	1	09/29/22 11:44	9/26/22	
Benzo(k)fluoranthene	9.1 U	9.1	1.3	1	09/29/22 11:44	9/26/22	
Chrysene	9.1 U	9.1	1.2	1	09/29/22 11:44	9/26/22	
Dibenz(a,h)anthracene	9.1 U	9.1	1.1	1	09/29/22 11:44	9/26/22	
Fluoranthene	9.1 U	9.1	1.5	1	09/29/22 11:44	9/26/22	
Fluorene	9.1 U	9.1	1.3	1	09/29/22 11:44	9/26/22	
Indeno(1,2,3-cd)pyrene	9.1 U	9.1	1.8	1	09/29/22 11:44	9/26/22	
Naphthalene	9.1 U	9.1	1.2	1	09/29/22 11:44	9/26/22	
Phenanthrene	9.1 U	9.1	1.4	1	09/29/22 11:44	9/26/22	
Pyrene	9.1 U	9.1	1.5	1	09/29/22 11:44	9/26/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	67	31 - 118	09/29/22 11:44	
Nitrobenzene-d5	63	31 - 110	09/29/22 11:44	
p-Terphenyl-d14	69	10 - 165	09/29/22 11:44	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Collected: 09/20/22 10:32
Date Received: 09/21/22 10:00

Sample Name: IWS-MW1-092022
Lab Code: R2208946-002

Units: ug/L
Basis: NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	8.8 U	8.8	1.3	1	09/29/22 12:56	9/26/22	
Acenaphthene	8.8 U	8.8	1.4	1	09/29/22 12:56	9/26/22	
Acenaphthylene	8.8 U	8.8	1.4	1	09/29/22 12:56	9/26/22	
Anthracene	8.8 U	8.8	1.3	1	09/29/22 12:56	9/26/22	
Benz(a)anthracene	8.8 U	8.8	1.6	1	09/29/22 12:56	9/26/22	
Benzo(a)pyrene	8.8 U	8.8	1.2	1	09/29/22 12:56	9/26/22	
Benzo(b)fluoranthene	8.8 U	8.8	1.2	1	09/29/22 12:56	9/26/22	
Benzo(g,h,i)perylene	8.8 U	8.8	1.0	1	09/29/22 12:56	9/26/22	
Benzo(k)fluoranthene	8.8 U	8.8	1.3	1	09/29/22 12:56	9/26/22	
Chrysene	8.8 U	8.8	1.2	1	09/29/22 12:56	9/26/22	
Dibenz(a,h)anthracene	8.8 U	8.8	1.1	1	09/29/22 12:56	9/26/22	
Fluoranthene	8.8 U	8.8	1.5	1	09/29/22 12:56	9/26/22	
Fluorene	8.8 U	8.8	1.3	1	09/29/22 12:56	9/26/22	
Indeno(1,2,3-cd)pyrene	8.8 U	8.8	1.8	1	09/29/22 12:56	9/26/22	
Naphthalene	8.8 U	8.8	1.2	1	09/29/22 12:56	9/26/22	
Phenanthrene	8.8 U	8.8	1.4	1	09/29/22 12:56	9/26/22	
Pyrene	8.8 U	8.8	1.5	1	09/29/22 12:56	9/26/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	64	31 - 118	09/29/22 12:56	
Nitrobenzene-d5	61	31 - 110	09/29/22 12:56	
p-Terphenyl-d14	56	10 - 165	09/29/22 12:56	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Collected: 09/20/22 09:42
Date Received: 09/21/22 10:00

Sample Name: IWS-MW2-092022
Lab Code: R2208946-003

Units: ug/L
Basis: NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	8.8 U	8.8	1.3	1	09/29/22 13:20	9/26/22	
Acenaphthene	8.8 U	8.8	1.4	1	09/29/22 13:20	9/26/22	
Acenaphthylene	8.8 U	8.8	1.4	1	09/29/22 13:20	9/26/22	
Anthracene	8.8 U	8.8	1.3	1	09/29/22 13:20	9/26/22	
Benz(a)anthracene	8.8 U	8.8	1.6	1	09/29/22 13:20	9/26/22	
Benzo(a)pyrene	8.8 U	8.8	1.2	1	09/29/22 13:20	9/26/22	
Benzo(b)fluoranthene	8.8 U	8.8	1.2	1	09/29/22 13:20	9/26/22	
Benzo(g,h,i)perylene	8.8 U	8.8	1.0	1	09/29/22 13:20	9/26/22	
Benzo(k)fluoranthene	8.8 U	8.8	1.3	1	09/29/22 13:20	9/26/22	
Chrysene	8.8 U	8.8	1.2	1	09/29/22 13:20	9/26/22	
Dibenz(a,h)anthracene	8.8 U	8.8	1.1	1	09/29/22 13:20	9/26/22	
Fluoranthene	8.8 U	8.8	1.5	1	09/29/22 13:20	9/26/22	
Fluorene	8.8 U	8.8	1.3	1	09/29/22 13:20	9/26/22	
Indeno(1,2,3-cd)pyrene	8.8 U	8.8	1.8	1	09/29/22 13:20	9/26/22	
Naphthalene	8.8 U	8.8	1.2	1	09/29/22 13:20	9/26/22	
Phenanthrene	8.8 U	8.8	1.4	1	09/29/22 13:20	9/26/22	
Pyrene	8.8 U	8.8	1.5	1	09/29/22 13:20	9/26/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	63	31 - 118	09/29/22 13:20	
Nitrobenzene-d5	58	31 - 110	09/29/22 13:20	
p-Terphenyl-d14	57	10 - 165	09/29/22 13:20	



Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Collected: 09/20/22 08:40
Date Received: 09/21/22 10:00

Sample Name: IWS-SD1-092022
Lab Code: R2208946-001

Units: ug/L
Basis: NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.045 U	0.045	1	09/27/22 19:51	9/27/22	
beta-BHC	0.045 U	0.045	1	09/27/22 19:51	9/27/22	
delta-BHC	0.045 U	0.045	1	09/27/22 19:51	9/27/22	
gamma-BHC (Lindane)	0.045 U	0.045	1	09/27/22 19:51	9/27/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	16	10 - 164	09/27/22 19:51	
Tetrachloro-m-xylene	81	10 - 147	09/27/22 19:51	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Collected: 09/20/22 10:32
Date Received: 09/21/22 10:00

Sample Name: IWS-MW1-092022
Lab Code: R2208946-002

Units: ug/L
Basis: NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.044 U	0.044	1	09/27/22 20:48	9/27/22	
beta-BHC	0.044 U	0.044	1	09/27/22 20:48	9/27/22	
delta-BHC	0.044 U	0.044	1	09/27/22 20:48	9/27/22	
gamma-BHC (Lindane)	0.044 U	0.044	1	09/27/22 20:48	9/27/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	31	10 - 164	09/27/22 20:48	
Tetrachloro-m-xylene	60	10 - 147	09/27/22 20:48	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Collected: 09/20/22 09:42
Date Received: 09/21/22 10:00

Sample Name: IWS-MW2-092022
Lab Code: R2208946-003

Units: ug/L
Basis: NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.044 U	0.044	1	09/27/22 21:07	9/27/22	
beta-BHC	0.044 U	0.044	1	09/27/22 21:07	9/27/22	
delta-BHC	0.044 U	0.044	1	09/27/22 21:07	9/27/22	
gamma-BHC (Lindane)	0.044 U	0.044	1	09/27/22 21:07	9/27/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	29	10 - 164	09/27/22 21:07	
Tetrachloro-m-xylene	58	10 - 147	09/27/22 21:07	



Metals

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



right solutions.
right partner.

Form 1

Inorganic Analysis Data Sheet

Mercury by EPA 7470A

Workorder
R2208946

Client
Olin Corporation

Project
Industrial Welding

10/06/2022

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Industrial Welding

Workorder
R2208946

Mercury by EPA 7470A

R2208946-001				Collected	Received	Matrix / Units	Prep Method	Prep Amount	
IWS-SD1-092022				09/20/22 0840	09/21/22 1000	Water ug/L	7470A	Initial 25mL Final 25mL	
Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepDate
Mercury, Total	CV	0.20	U	0.08	0.20	1	09/28/22 16:50	RCVAA02_779231	09/27/22



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Industrial Welding

Workorder
R2208946

Mercury by EPA 7470A

R2208946-002				Collected	Received	Matrix / Units	Prep Method	Prep Amount	
IWS-MW1-092022				09/20/22 1032	09/21/22 1000	Water ug/L	7470A	Initial 25mL Final 25mL	
Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepDate
Mercury, Total	CV	0.20	U	0.08	0.20	1	09/30/22 12:33	RCVAA02_779671	09/29/22



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Industrial Welding

Workorder
R2208946

Mercury by EPA 7470A

R2208946-003			Collected	Received	Matrix / Units	Prep Method	Prep Amount	
IWS-MW2-092022			09/20/22 0942	09/21/22 1000	Water ug/L	7470A	Initial 25mL Final 25mL	
Analyte	MC	Result Q	DL	LOQ	DF	Analysis Date	Run ID	PrepDate
Mercury, Total	CV	5.42	0.08	0.20	1	09/30/22 12:35	RCVAA02_779671	09/29/22



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Industrial Welding

Workorder
R2208946

Mercury by EPA 7470A

R2208946-MB1						Matrix / Units	Prep Method	Prep Amount	
Method Blank						Water ug/L	7470A	Initial 25mL Final 25mL	
Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepDate
Mercury, Total	CV	0.20	U	0.08	0.20	1	09/28/22 16:15	RCVAA02_779231	09/27/22



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Industrial Welding

Workorder
R2208946

Mercury by EPA 7470A

R2208946-MB2						Matrix / Units	Prep Method	Prep Amount	
Method Blank						Water ug/L	7470A	Initial 25mL Final 25mL	
Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepDate
Mercury, Total	CV	0.20	U	0.08	0.20	1	09/30/22 12:03	RCVAA02_779671	09/29/22



QC Summary Forms

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

Sample Name	Lab Code	2-Fluorobiphenyl	Nitrobenzene-d5	p-Terphenyl-d14
		31-118	31-110	10-165
IWS-SD1-092022	R2208946-001	67	63	69
IWS-MW1-092022	R2208946-002	64	61	56
IWS-MW2-092022	R2208946-003	63	58	57
Method Blank	RQ2211635-03	58	60	67
Lab Control Sample	RQ2211635-04	69	61	72
Duplicate Lab Control Sample	RQ2211635-05	52	51	71
IWS-SD1-092022 MS	RQ2211635-01	70	59	62
IWS-SD1-092022 DMS	RQ2211635-02	85	73	76

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Collected: 09/20/22
Date Received: 09/21/22
Date Analyzed: 09/29/22
Date Extracted: 09/26/22

Duplicate Matrix Spike Summary
Semivolatile Organic Compounds by GC/MS

Sample Name: IWS-SD1-092022
Lab Code: R2208946-001
Analysis Method: 8270D
Prep Method: EPA 3510C

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike RQ2211635-01			Duplicate Matrix Spike RQ2211635-02			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
2-Methylnaphthalene	9.1 U	48.6	72.7	67	49.1	72.7	68	34-102	1	30
Acenaphthene	9.1 U	51.8	72.7	71	52.7	72.7	72	43-117	1	30
Acenaphthylene	9.1 U	58.3	72.7	80	59.4	72.7	82	45-119	2	30
Anthracene	9.1 U	51.9	72.7	71	52.9	72.7	73	45-127	3	30
Benz(a)anthracene	9.1 U	52.5	72.7	72	55.0	72.7	76	46-126	5	30
Benzo(a)pyrene	9.1 U	67.1	72.7	92	70.9	72.7	97	44-114	5	30
Benzo(b)fluoranthene	9.1 U	54.5	72.7	75	56.5	72.7	78	41-127	4	30
Benzo(g,h,i)perylene	9.1 U	53.2	72.7	73	56.4	72.7	78	50-143	7	30
Benzo(k)fluoranthene	9.1 U	56.3	72.7	77	59.9	72.7	82	46-139	6	30
Chrysene	9.1 U	52.4	72.7	72	54.4	72.7	75	47-126	4	30
Dibenz(a,h)anthracene	9.1 U	43.1	72.7	59	46.7	72.7	64	43-136	8	30
Fluoranthene	9.1 U	52.4	72.7	72	53.8	72.7	74	43-135	3	30
Fluorene	9.1 U	55.0	72.7	76	56.3	72.7	77	43-113	1	30
Indeno(1,2,3-cd)pyrene	9.1 U	51.9	72.7	71	54.8	72.7	75	49-140	5	30
Naphthalene	9.1 U	46.1	72.7	63	47.4	72.7	65	37-108	3	30
Phenanthrene	9.1 U	50.7	72.7	70	51.3	72.7	71	46-123	1	30
Pyrene	9.1 U	51.5	72.7	71	54.3	72.7	75	44-129	5	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2211635-03

Units: ug/L
Basis: NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	10 U	10	1.3	1	09/29/22 09:43	9/26/22	
Acenaphthene	10 U	10	1.4	1	09/29/22 09:43	9/26/22	
Acenaphthylene	10 U	10	1.4	1	09/29/22 09:43	9/26/22	
Anthracene	10 U	10	1.3	1	09/29/22 09:43	9/26/22	
Benz(a)anthracene	10 U	10	1.6	1	09/29/22 09:43	9/26/22	
Benzo(a)pyrene	10 U	10	1.2	1	09/29/22 09:43	9/26/22	
Benzo(b)fluoranthene	10 U	10	1.2	1	09/29/22 09:43	9/26/22	
Benzo(g,h,i)perylene	10 U	10	1.0	1	09/29/22 09:43	9/26/22	
Benzo(k)fluoranthene	10 U	10	1.3	1	09/29/22 09:43	9/26/22	
Chrysene	10 U	10	1.2	1	09/29/22 09:43	9/26/22	
Dibenz(a,h)anthracene	10 U	10	1.1	1	09/29/22 09:43	9/26/22	
Fluoranthene	10 U	10	1.5	1	09/29/22 09:43	9/26/22	
Fluorene	10 U	10	1.3	1	09/29/22 09:43	9/26/22	
Indeno(1,2,3-cd)pyrene	10 U	10	1.8	1	09/29/22 09:43	9/26/22	
Naphthalene	10 U	10	1.2	1	09/29/22 09:43	9/26/22	
Phenanthrene	10 U	10	1.4	1	09/29/22 09:43	9/26/22	
Pyrene	10 U	10	1.5	1	09/29/22 09:43	9/26/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	58	31 - 118	09/29/22 09:43	
Nitrobenzene-d5	60	31 - 110	09/29/22 09:43	
p-Terphenyl-d14	67	10 - 165	09/29/22 09:43	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Analyzed: 09/29/22

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample RQ2211635-04					Duplicate Lab Control Sample RQ2211635-05					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
2-Methylnaphthalene	8270D	48.3	80.0	60	48.8	80.0	61	34-102	2	30
Acenaphthene	8270D	55.1	80.0	69	54.7	80.0	68	52-107	1	30
Acenaphthylene	8270D	62.0	80.0	78	61.2	80.0	77	55-109	1	30
Anthracene	8270D	62.2	80.0	78	60.4	80.0	76	55-116	3	30
Benz(a)anthracene	8270D	62.1	80.0	78	61.2	80.0	77	61-121	1	30
Benzo(a)pyrene	8270D	80.9	80.0	101	78.8	80.0	99	68-144	2	30
Benzo(b)fluoranthene	8270D	66.0	80.0	83	62.8	80.0	79	62-115	5	30
Benzo(g,h,i)perylene	8270D	65.1	80.0	81	62.4	80.0	78	63-136	4	30
Benzo(k)fluoranthene	8270D	67.8	80.0	85	66.2	80.0	83	49-133	2	30
Chrysene	8270D	62.0	80.0	78	61.0	80.0	76	57-118	3	30
Dibenz(a,h)anthracene	8270D	51.9	80.0	65	51.7	80.0	65	54-135	<1	30
Fluoranthene	8270D	62.0	80.0	78	60.6	80.0	76	66-127	3	30
Fluorene	8270D	61.6	80.0	77	60.8	80.0	76	54-106	1	30
Indeno(1,2,3-cd)pyrene	8270D	63.1	80.0	79	60.2	80.0	75	62-137	5	30
Naphthalene	8270D	46.2	80.0	58	47.9	80.0	60	38-99	3	30
Phenanthrene	8270D	59.7	80.0	75	57.9	80.0	72	58-118	4	30
Pyrene	8270D	61.9	80.0	77	60.3	80.0	75	61-122	3	30



Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Extraction Method: EPA 3510C

Sample Name	Lab Code	Decachlorobiphenyl	Tetrachloro-m-xylene
		10-164	10-147
IWS-SD1-092022	R2208946-001	16	81
IWS-MW1-092022	R2208946-002	31	60
IWS-MW2-092022	R2208946-003	29	58
IWS-SD1-092022 MS	RQ2211660-06	13	73
IWS-SD1-092022 DMS	RQ2211660-07	13	74
Method Blank	RQ2211660-01	12	54
Lab Control Sample	RQ2211660-02	17	36
Duplicate Lab Control Sample	RQ2211660-03	24	54

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Collected: 09/20/22
Date Received: 09/21/22
Date Analyzed: 09/27/22
Date Extracted: 09/27/22

Duplicate Matrix Spike Summary
Organochlorine Pesticides by Gas Chromatography

Sample Name: IWS-SD1-092022
Lab Code: R2208946-001
Analysis Method: 8081B
Prep Method: EPA 3510C

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike				Duplicate Matrix Spike				RPD Limit
		Result	RQ2211660-06		Result	RQ2211660-07		% Rec Limits		
			Spike Amount	% Rec		Spike Amount	% Rec			
alpha-BHC	0.045 U	0.225	0.357	63	0.240	0.370	65	27-154	6	
beta-BHC	0.045 U	0.263	0.357	74	0.261	0.370	70	32-184	<1	
delta-BHC	0.045 U	0.212	0.357	59	0.222	0.370	60	10-182	4	
gamma-BHC (Lindane)	0.045 U	0.244	0.357	68	0.258	0.370	70	43-164	6	

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2211660-01

Units: ug/L
Basis: NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: Method

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.050 U	0.050	1	09/27/22 18:34	9/27/22	
beta-BHC	0.050 U	0.050	1	09/27/22 18:34	9/27/22	
delta-BHC	0.050 U	0.050	1	09/27/22 18:34	9/27/22	
gamma-BHC (Lindane)	0.050 U	0.050	1	09/27/22 18:34	9/27/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	12	10 - 164	09/27/22 18:34	
Tetrachloro-m-xylene	54	10 - 147	09/27/22 18:34	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Industrial Welding/1283
Sample Matrix: Water

Service Request: R2208946
Date Analyzed: 09/27/22

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Units:ug/L
Basis:NA

Lab Control Sample					Duplicate Lab Control Sample					
RQ2211660-02					RQ2211660-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
alpha-BHC	8081B	0.180	0.400	45	0.269	0.400	67	36-151	40*	30
beta-BHC	8081B	0.314	0.400	78	0.311	0.400	78	55-149	<1	30
delta-BHC	8081B	0.271	0.400	68	0.306	0.400	76	29-159	12	30
gamma-BHC (Lindane)	8081B	0.215	0.400	54	0.294	0.400	73	41-149	31*	30



Metals

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



right solutions.
right partner.

Form 3

Blanks

Mercury by EPA 7470A

Workorder

R2208946

Client

Olin Corporation

Project

Industrial Welding

10/06/2022

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 3 - Blanks

Client Olin Corporation
Project Industrial Welding

Workorder
R2208946

Mercury by EPA 7470A

RCVAA02_779231			ICB		CCB		MB407154		CCB		CCB		CCB	
Units			Run Date		09/28/22		09/28/22		09/28/22		09/28/22		09/28/22	
ug/L			Run Time		16:06		16:13		16:15		16:33		16:56	
Analyte	DL	LOQ	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Mercury	0.08	0.20	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U



Form 3 - Blanks

Client Olin Corporation
Project Industrial Welding

Workorder
R2208946

Mercury by EPA 7470A

RCVAA02_779671			ICB		CCB		CCB		MB407334		CCB		CCB	
Units			Run Date		09/30/22		09/30/22		09/30/22		09/30/22		09/30/22	
ug/L			Run Time		11:14		11:42		12:01		12:03		12:23	
Analyte	DL	LOQ	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Mercury	0.08	0.20	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U



right solutions.
right partner.

Form 5A

Matrix Spike Sample Recovery

Mercury by EPA 7470A

Workorder

R2208946

Client

Olin Corporation

Project

Industrial Welding

10/06/2022

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 5A - Matrix Spike Sample Recovery

Client Olin Corporation
Project Industrial Welding

Workorder
R2208946

Mercury by EPA 7470A

IWS-SD1-092022			R2208946-001			R2208946-001MS			R2208946-001DMS					
Samp Matrix Water			Run Date 09/28/22			09/28/22			09/28/22					
Prep Method Method			Units Run Time 16:50			16:52			16:58					
Prep Batch 407154 09/27/22			ug/L Prep Amt 25 mL			25 mL			25 mL					
Analyte	%R Limits	Spike Added	DF	Sample Result	Q	MS Result	%R	Q	MSD Result	%R	Q	RPD Limit	RPD	Q
Mercury, Total	75-125	1.00	1	0.20	U	0.71	71	*	0.72	72	*	20	2	

Q - %Recovery / RPD Flag

* - %Recovery / RPD Outside Limits



right solutions.
right partner.

Form 7

Laboratory Control Sample

Mercury by EPA 7470A

Workorder

R2208946

Client

Olin Corporation

Project

Industrial Welding

10/06/2022

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 7 - Laboratory Control Sample

Client Olin Corporation
Project Industrial Welding

Workorder
R2208946

Mercury by EPA 7470A

RCVAA02_779231				R2208946-LCS1					
QC Matrix	Water		Run Date	09/28/22					
Prep Method	Method	Units	Run Time	16:17					
Prep Batch	407154 09/27/22	ug/L	Prep Amt	25 mL					
Analyte		%R Limits	Spike Added	LCS Result	%R	Q			
Mercury		80-120	1.00	1.05	105				

- %Recovery / RPD Flag

* - %Recovery / RPD Outside Limits



Form 7 - Laboratory Control Sample

Client Olin Corporation
Project Industrial Welding

Workorder
R2208946

Mercury by EPA 7470A

RCVAA02_779671				R2208946-LCS2					
QC Matrix	Water		Run Date	09/30/22					
Prep Method	Method	Units	Run Time	12:05					
Prep Batch	407334 09/29/22	ug/L	Prep Amt	25 mL					
Analyte		%R Limits	Spike Added	LCS Result	%R	Q			
Mercury		80-120	1.00	1.01	101				

- %Recovery / RPD Flag

* - %Recovery / RPD Outside Limits

Industrial Welding Site
Data Evaluation Narrative
September 2022 Groundwater/Storm Drain Sampling Event

SDG R2208946: ALS Environmental, Rochester, NY

Deliverables

The data package as submitted to Olin Corporation is complete as stipulated under the Industrial Welding Site Quality Assurance Project Plan (QAPP) as approved by the New York State Department of Environmental Conservation. United States Environmental Protection Agency (USEPA) Methods 8270D, 8081B, and 7470A were utilized in the laboratory testing.

Samples submitted within this sample delivery group (SDG) were submitted to the ALS Environmental laboratory in Rochester, NY for analysis of select semi-volatile organic compounds, organochlorine pesticides, and total mercury. The laboratory subsequently applied login numbers to the SDG. The SDG number for this sampling event is R2208946. This evaluation narrative follows the listing of groundwater and storm drain sample field identifications. The topics are ordered to first assess issues affecting the entire data set.

Sample Integrity

Information provided on the Chain of Custody and Cooler Receipt Form provided by the laboratory confirmed the samples arrived at the laboratory intact. The cooler temperature as received by the laboratory was within the temperature control limits of $4.0^{\circ}\text{C} \pm 2.0^{\circ}\text{C}$. The proper bottles and preservatives were used, and the correct analytical methods were employed.

Sample Identification

This SDG contains the following samples collected on September 20, 2022:

SAMPLE

IWS-SD1-092022

SAMPLE

IWS-MW1-092022

SAMPLE

IWS-MW2-092022

Semi-Volatile Organic Compounds (EPA Method 8270D)

The samples in this SDG were submitted for analysis of select semi-volatile organic compounds—polyaromatic hydrocarbons (PAHs), by USEPA Method 8270D.

Holding Times:

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for PAH analysis. The holding times of 7 days for extraction and 40 days for analysis were met.

GC/MS Instrument Performance Check:

The GC/MS tuning and mass calibration checks were performed with decafluorotriphenylphosphine (DFTPP) and met the performance criteria as established by the method.

Calibration:

The initial calibration and continuing calibration data (ICV and CCV respectively) indicate that applicable calibration criteria were met for samples submitted for PAH analysis. The RSDs for each calibration check were within the applicable criteria except for one recovery which was biased high; since all samples were non-detect, no data qualification is required.

Blank Summary:

The analytical results of the laboratory method blank indicated no PAHs were detected.

Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

The LCS/LCSD spike recoveries were within the applicable QC advisory limits, as were the relative percent differences (RPDs).

Matrix Spike/Matrix Spike Duplicate:

Sufficient sample volumes of IWS-SD1-092022 were submitted to the laboratory for MS/MSD analysis. The MS/MSD recoveries and RPDs were within laboratory control limits.

Internal Standards and Surrogates:

The internal standard area counts/retention times and the surrogate recoveries were within applicable QC advisory limits.

Organochlorine Pesticides (EPA Method 8081B)

The samples in this SDG were submitted for total HCCH (hexachlorocyclohexanes) analysis by USEPA Method 8081B.

Holding Times:

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for HCCH analyses. The holding times of 7 days for extraction and 40 days for analysis were met.

Calibration:

The initial and continuing calibration data met method and QAPP criteria. The injection port inertness checks (column breakdown) for DDT and Endrin were within QC limits each day that samples associated with this SDG were analyzed.

Surrogates:

The surrogate recoveries were within applicable QC advisory limits.

Blank Summary:

The analytical results of the laboratory method blank indicated no HCCHs were detected.

Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

The LCS/LCSD spike recoveries were within the applicable QC advisory limits as were the RPDs.

Matrix Spike/Matrix Spike Duplicate:

Sufficient sample volumes of IWS-SD1-092022 were submitted to the laboratory for MS/MSD analysis. The MS/MSD recoveries and RPDs were within laboratory control limits.

Dual Column Confirmation:

The RPDs between the primary and confirmation results were within laboratory QC guidelines.

Total Mercury Analyses (EPA Method 7470A)

The samples in this SDG were submitted for total mercury analysis by USEPA Method 7470A.

Holding Times:

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for total mercury analysis.

Calibration:

The initial and continuing calibration data for this SDG indicate that applicable calibration criteria were met for samples submitted for total mercury analysis. The low-level check standard recoveries were within QC advisory limits.

Blank Summary:

The analytical results of the initial and continuing laboratory method blanks indicated that total mercury was not detected.

Laboratory Control Sample:

The laboratory control sample (LCS) spike recovery was within the applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate:

Sample IWS-SD1-092022 was submitted to the laboratory for MS/MSD analysis. The percent recoveries were slightly below the lower control limit; the RPD was fine. The parent sample was non-detect for total mercury; the reporting limit was qualified as estimated (UJ) by professional judgment.

Overall Site Evaluation and Professional Judgment Flagging Changes

The data within this SDG were compared to site data and one edit to the DQE flags was required based on professional judgment. Monitoring period completeness, which is the percentage of analytical results judged valid, including estimated values, was 100 percent for the March 2022 sampling event.

Prepared by: Randy T. Morris

Date: January 26, 2023

Sample	Date Collected	Date Analyzed	Analysis Method	Matrix	Units	Component	Dilution Factor	Reporting Limit	Detection Limit	Result	Result Notes
IWS-SD1-092022	9/20/2022	9/28/2022	7470A	Water	UG/L	Mercury, Total	1	0.2	0.08	0.2	U
IWS-MW1-092022	9/20/2022	9/30/2022	7470A	Water	UG/L	Mercury, Total	1	0.2	0.08	0.2	U
IWS-MW2-092022	9/20/2022	9/30/2022	7470A	Water	UG/L	Mercury, Total	1	0.2	0.08	5.42	=
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	2-Methylnaphthalene	1	9.1	1.3	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Acenaphthene	1	9.1	1.4	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Acenaphthylene	1	9.1	1.4	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Anthracene	1	9.1	1.3	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benz(a)anthracene	1	9.1	1.6	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(a)pyrene	1	9.1	1.2	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(b)fluoranthene	1	9.1	1.2	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(g,h,i)perylene	1	9.1	1	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(k)fluoranthene	1	9.1	1.3	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Chrysene	1	9.1	1.2	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Dibenz(a,h)anthracene	1	9.1	1.1	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Fluoranthene	1	9.1	1.5	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Fluorene	1	9.1	1.3	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Indeno(1,2,3-cd)pyrene	1	9.1	1.8	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Naphthalene	1	9.1	1.2	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Phenanthrene	1	9.1	1.4	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Pyrene	1	9.1	1.5	9.1	U
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	%	2-Fluorobiphenyl	1			67	SUR
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	%	Nitrobenzene-d5	1			63	SUR
IWS-SD1-092022	9/20/2022	9/29/2022	8270D	Water	%	p-Terphenyl-d14	1			69	SUR
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	2-Methylnaphthalene	1	8.8	1.3	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Acenaphthene	1	8.8	1.4	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Acenaphthylene	1	8.8	1.4	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Anthracene	1	8.8	1.3	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benz(a)anthracene	1	8.8	1.6	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(a)pyrene	1	8.8	1.2	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(b)fluoranthene	1	8.8	1.2	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(g,h,i)perylene	1	8.8	1	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(k)fluoranthene	1	8.8	1.3	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Chrysene	1	8.8	1.2	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Dibenz(a,h)anthracene	1	8.8	1.1	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Fluoranthene	1	8.8	1.5	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Fluorene	1	8.8	1.3	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Indeno(1,2,3-cd)pyrene	1	8.8	1.8	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Naphthalene	1	8.8	1.2	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Phenanthrene	1	8.8	1.4	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Pyrene	1	8.8	1.5	8.8	U
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	%	2-Fluorobiphenyl	1			64	SUR
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	%	Nitrobenzene-d5	1			61	SUR
IWS-MW1-092022	9/20/2022	9/29/2022	8270D	Water	%	p-Terphenyl-d14	1			56	SUR
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	2-Methylnaphthalene	1	8.8	1.3	8.8	U

IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Acenaphthene	1	8.8	1.4	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Acenaphthylene	1	8.8	1.4	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Anthracene	1	8.8	1.3	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benz(a)anthracene	1	8.8	1.6	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(a)pyrene	1	8.8	1.2	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(b)fluoranthene	1	8.8	1.2	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(g,h,i)perylene	1	8.8	1	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Benzo(k)fluoranthene	1	8.8	1.3	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Chrysene	1	8.8	1.2	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Dibenz(a,h)anthracene	1	8.8	1.1	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Fluoranthene	1	8.8	1.5	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Fluorene	1	8.8	1.3	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Indeno(1,2,3-cd)pyrene	1	8.8	1.8	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Naphthalene	1	8.8	1.2	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Phenanthrene	1	8.8	1.4	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	UG/L	Pyrene	1	8.8	1.5	8.8	U
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	%	2-Fluorobiphenyl	1			63	SUR
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	%	Nitrobenzene-d5	1			58	SUR
IWS-MW2-092022	9/20/2022	9/29/2022	8270D	Water	%	p-Terphenyl-d14	1			57	SUR
IWS-SD1-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	alpha-BHC	1	0.045	0.02	0.045	U
IWS-SD1-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	beta-BHC	1	0.045	0.02	0.045	U
IWS-SD1-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	delta-BHC	1	0.045	0.02	0.045	U
IWS-SD1-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	gamma-BHC (Lindane)	1	0.045	0.02	0.045	U
IWS-SD1-092022	9/20/2022	9/27/2022	8081B	Water	%	Decachlorobiphenyl	1			16	SUR
IWS-SD1-092022	9/20/2022	9/27/2022	8081B	Water	%	Tetrachloro-m-xylene	1			81	SUR
IWS-MW1-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	alpha-BHC	1	0.044	0.02	0.044	U
IWS-MW1-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	beta-BHC	1	0.044	0.02	0.044	U
IWS-MW1-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	delta-BHC	1	0.044	0.02	0.044	U
IWS-MW1-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	gamma-BHC (Lindane)	1	0.044	0.02	0.044	U
IWS-MW1-092022	9/20/2022	9/27/2022	8081B	Water	%	Decachlorobiphenyl	1			31	SUR
IWS-MW1-092022	9/20/2022	9/27/2022	8081B	Water	%	Tetrachloro-m-xylene	1			60	SUR
IWS-MW2-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	alpha-BHC	1	0.044	0.02	0.044	U
IWS-MW2-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	beta-BHC	1	0.044	0.02	0.044	U
IWS-MW2-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	delta-BHC	1	0.044	0.02	0.044	U
IWS-MW2-092022	9/20/2022	9/27/2022	8081B	Water	UG/L	gamma-BHC (Lindane)	1	0.044	0.02	0.044	U
IWS-MW2-092022	9/20/2022	9/27/2022	8081B	Water	%	Decachlorobiphenyl	1			29	SUR
IWS-MW2-092022	9/20/2022	9/27/2022	8081B	Water	%	Tetrachloro-m-xylene	1			58	SUR



November 30, 2022

Service Request No:R2210795

Adam Carringer
Olin Corporation
490 Stuart Road
Cleveland, TN 37312

Laboratory Results for: Olin Industrial Welding Site

Dear Adam,

Enclosed are the results of the sample(s) submitted to our laboratory November 09, 2022
For your reference, these analyses have been assigned our service request number **R2210795**.

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at Meghan.Pedro@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Meghan Pedro
Project Manager

CC: Randy Morris

ADDRESS

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

PHONE +1 585 288 5380 | **FAX** +1 585 288 8475

ALS Group USA, Corp.
dba ALS Environmental



Narrative Documents

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Client: Olin Corporation
Project: Olin Industrial Welding Site
Sample Matrix: Water

Service Request: R2210795
Date Received: 11/09/2022

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Two water samples were received for analysis at ALS Environmental on 11/09/2022. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatile GC:

Method 608 Modified, 11/18/2022: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by Meghan Pedro

Date 11/30/2022



Sample Receipt Information

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845

Service Request:R2210795

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R2210795-001	1WS-MS1-110822	11/8/2022	1040
R2210795-002	Trip Blank-110822	11/8/2022	1040

[illegible]



Cooler Receipt and Preservation Check Form

R2210795

5

Oil Corporation
Oil Industrial Welding Site



Project/Client Sevenson Folder Number _____

Cooler received on 11/9/22 by: JE COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	Y <u>(N)</u>
2	Custody papers properly completed (ink, signed)?	Y <u>(N)</u>
3	Did all bottles arrive in good condition (unbroken)?	Y <u>(N)</u>
4	Circle: <u>Wet Ice</u> Dry Ice Gel packs present?	Y <u>(N)</u>
5a	Perchlorate samples have required headspace?	Y <u>(N)</u> <u>NA</u>
5b	Did VOA vials, Alk, or Sulfide have sig* bubbles?	Y <u>(N)</u> <u>NA</u>
6	Where did the bottles originate?	<u>ALS/ROC</u> CLIENT
7	Soil VOA received as: Bulk Encore 5035set	<u>NA</u>

8. Temperature Readings Date: 11/9/22 Time: 10:07 ID: IR#7 IR#11 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>3.4</u>						
Within 0-6°C?	<u>(Y)</u> N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

& Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: ROCZ by JE on 11/9/22 at ID15
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 11/9/22 Time: 15:10 by: MM

9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
10. Did all bottle labels and tags agree with custody papers? YES NO
11. Were correct containers used for the tests indicated? YES NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved?	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
			Yes No						
>12		NaOH							
<u>2</u>	<u>206722</u>	HNO ₃	✓	<u>2022012457</u>	<u>9/23</u>				
<u>2</u>		H ₂ SO ₄							
<4		NaHSO ₄							
5-9	<u>206722</u>	For 608pest	✓	No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522	✓	If +, contact PM to add Na ₂ S ₂ O ₃ (625, 608, CN), ascorbic (phenol).					
		Na ₂ S ₂ O ₃							
		ZnAcetate	- -						
		HCl	** **						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 22-09-19, 060622-165, 080822-3AWA, 092622-2EFQ

Explain all Discrepancies/ Other Comments:

* IWS-MS1-110822: 1 of 3 vials for 624 broken

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: MM

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



Cooler Receipt and Preservation Check Form

Project/Client Sevenson Folder Number _____

Cooler received on 11/9/22 by: JE

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	Y <u>N</u>
2	Custody papers properly completed (ink, signed)?	Y <u>N</u>
3	Did all bottles arrive in good condition (unbroken)?	Y <u>N</u>
4	Circle: <u>Wet Ice</u> Dry Ice Gel packs present?	Y <u>N</u>

5a	Perchlorate samples have required headspace?	Y N <u>NA</u>
5b	Did VOA vials, Alk, or Sulfide have sig* bubbles?	Y N <u>NA</u>
6	Where did the bottles originate?	ALS/ROC CLIENT
7	Soil VOA received as:	Bulk Encore 5035set NA

8. Temperature Readings Date: 11/9/22 Time: 10:07 ID: IR#7 IR#11 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>3.4</u>						
Within 0-6°C?	<u>Y</u> N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule
& Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: _____ by _____ on _____ at _____
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: _____ Time: _____ by: _____

9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
10. Did all bottle labels and tags agree with custody papers? YES NO
11. Were correct containers used for the tests indicated? YES NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO N/A
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved?		Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≥2		HNO ₃								
≥2		H ₂ SO ₄								
<4		NaHSO ₄								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add Na ₂ S ₂ O ₃ (625, 608, CN), ascorbic (phenol).					
		Na ₂ S ₂ O ₃								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: _____
Explain all Discrepancies/ Other Comments: _____

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: _____
PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation

Service Request: R2210795

Project: Olin Industrial Welding Site/release order ERRE9845

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2210795-001.01	624	11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
		11/10/2022	1128	In Lab / FNAEGLER	
		11/10/2022	1135	R-001-S08 / FNAEGLER	
R2210795-001.02		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.03		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.04	SM 5310 B-2014	11/9/2022	1510	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.05	SM 2540 D-2015	11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
R2210795-001.06	245.1	11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
		11/10/2022	1453	In Lab / CWOODS	
R2210795-001.07	608 Modified	11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
R2210795-001.08		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
R2210795-001.09		11/9/2022	1513	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation

Service Request: R2210795

Project: Olin Industrial Welding Site/release order ERRE9845

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2210795-001.10					
		11/9/2022	1513	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.11					
		11/9/2022	1513	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.12					
		11/9/2022	1513	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.13					
		11/9/2022	1513	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.15					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.16					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.17					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.18					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation

Service Request: R2210795

Project: Olin Industrial Welding Site/release order ERRE9845

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2210795-001.19					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.20					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.21					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.22					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.23					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.24					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.25					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation

Service Request: R2210795

Project: Olin Industrial Welding Site/release order ERRE9845

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2210795-001.30		11/23/2022	1455	R-002 / GESMERIAN	
		11/9/2022	1514	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
		11/11/2022	1159	R-Dumpster / HCASTROVINCI	
R2210795-001.31		11/9/2022	1514	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
		11/11/2022	1159	R-Dumpster / HCASTROVINCI	
		11/9/2022	1514	SMO / MMARLEY	
R2210795-001.34		11/9/2022	1515	R-002 / MMARLEY	
		11/11/2022	1159	R-Dumpster / HCASTROVINCI	
		11/9/2022	1514	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
R2210795-001.35		11/9/2022	1514	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
		11/9/2022	1514	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
R2210795-002.01	624	11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
		11/10/2022	1128	In Lab / FNAEGLER	
		11/10/2022	1135	R-001-S08 / FNAEGLER	
		11/9/2022	1510	SMO / MMARLEY	
R2210795-002.02		11/9/2022	1514	R-001 / MMARLEY	
		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
		11/9/2022	1510	SMO / MMARLEY	
R2210795-002.03		11/9/2022	1514	R-001 / MMARLEY	
		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
		11/9/2022	1510	SMO / MMARLEY	



Miscellaneous Forms

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Accreditations¹



NELAP States
Florida ID # E87674
New Hampshire ID # 2941
New York ID # 10145
Pennsylvania ID# 68-786
Virginia #460167

Non-NELAP States
Connecticut ID #PH0556
Delaware Approved
Maine ID #NY01587
North Carolina #36701
North Carolina #676
Rhode Island LAO00333

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental>

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.

dba ALS Environmental

Analyst Summary report

Client: Olin Corporation**Service Request:** R2210795**Project:** Olin Industrial Welding Site/release order ERRE9845**Sample Name:** 1WS-MS1-110822**Date Collected:** 11/8/22**Lab Code:** R2210795-001**Date Received:** 11/9/22**Sample Matrix:** Water**Analysis Method**

245.1

608 Modified

624

SM 2540 D-2015

SM 5310 B-2014

Extracted/Digested By

CWOODS

JVANHEYNINGEN

Analyzed By

CWOODS

AFELSER

FNAEGLER

HCASTROVINCI

KWONG

Sample Name: Trip Blank-110822**Date Collected:** 11/8/22**Lab Code:** R2210795-002**Date Received:** 11/9/22**Sample Matrix:** Water**Analysis Method**

624

Extracted/Digested By**Analyzed By**

FNAEGLER



INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	



Sample Results

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water
Sample Name: 1WS-MS1-110822
Lab Code: R2210795-001

Service Request: R2210795
Date Collected: 11/08/22 10:40
Date Received: 11/09/22 09:35

Units: ug/L

Basis: NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1-Dichloroethane (1,1-DCA)	1.00 U	1.00	0.200	1	11/11/22 01:34	
1,2-Dichloroethane	0.216 J	1.00	0.200	1	11/11/22 01:34	
Acetone	5.00 U	5.00	2.10	1	11/11/22 01:34	
Trichloroethene (TCE)	3.52	1.00	0.200	1	11/11/22 01:34	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	108	73 - 125	11/11/22 01:34	
4-Bromofluorobenzene	105	85 - 122	11/11/22 01:34	
Toluene-d8	101	87 - 121	11/11/22 01:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water
Sample Name: Trip Blank-110822
Lab Code: R2210795-002

Service Request: R2210795
Date Collected: 11/08/22 10:40
Date Received: 11/09/22 09:35
Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1-Dichloroethane (1,1-DCA)	1.00 U	1.00	0.200	1	11/11/22 01:12	
1,2-Dichloroethane	1.00 U	1.00	0.200	1	11/11/22 01:12	
Acetone	5.00 U	5.00	2.10	1	11/11/22 01:12	
Trichloroethene (TCE)	1.00 U	1.00	0.200	1	11/11/22 01:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	107	73 - 125	11/11/22 01:12	
4-Bromofluorobenzene	100	85 - 122	11/11/22 01:12	
Toluene-d8	99	87 - 121	11/11/22 01:12	



Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Sample Name: 1WS-MS1-110822
Lab Code: R2210795-001

Service Request: R2210795
Date Collected: 11/08/22 10:40
Date Received: 11/09/22 09:35

Units: ug/L
Basis: NA

Organochlorine Pesticides by GC/ECD

Analysis Method: 608.3
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.0446 U	0.0446	0.0200	1	11/18/22 17:18	11/10/22	
beta-BHC	0.0518	0.0446	0.0200	1	11/18/22 17:18	11/10/22	
delta-BHC	0.0446 U	0.0446	0.0200	1	11/18/22 17:18	11/10/22	
gamma-BHC (Lindane)	0.0446 U	0.0446	0.0200	1	11/18/22 17:18	11/10/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tetrachloro-m-xylene	60	13 - 131	11/18/22 17:18	
Decachlorobiphenyl	35	10 - 156	11/18/22 17:18	



Metals

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Form 1

Inorganic Analysis Data Sheet

Mercury by EPA 245.1

Workorder

R2210795

Client

Olin Corporation

Project

Olin Industrial Welding Site

11/29/2022

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Olin Industrial Welding Site

Workorder
R2210795

Mercury by EPA 245.1

R2210795-001	Collected	Received	Matrix
1WS-MS1-110822	11/08/22 1040	11/09/22 0935	Water

Analyte	Units	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepBatch
Mercury, Total	ug/L	CV	0.20	U	0.08	0.20	1	11/11/22 15:47	RCVAA02_785009	409805

MC - Method Class CV - Cold Vapor/AA P - ICP/AES MS - ICP/MS



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Olin Industrial Welding Site

Workorder
R2210795

Mercury by EPA 245.1

R2210795-MB	Matrix
Method Blank	Water

Analyte	Units	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepBatch
Mercury, Total	ug/L	CV	0.20	U	0.08	0.20	1	11/11/22 14:53	RCVAA02_785009	409805

MC - Method Class CV - Cold Vapor/AA P - ICP/AES MS - ICP/MS



General Chemistry

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water
Sample Name: 1WS-MS1-110822
Lab Code: R2210795-001

Service Request: R2210795
Date Collected: 11/08/22 10:40
Date Received: 11/09/22 09:35
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Carbon, Dissolved Organic (DOC)	SM 5310 B-2014	3.2	mg/L	1.0	1	11/11/22 16:52	
Solids, Total Suspended (TSS)	SM 2540 D-2015	3.9	mg/L	1.0	1	11/11/22 09:00	



QC Summary Forms

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation

Service Request: R2210795

Project: Olin Industrial Welding Site/release order ERRE9845

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1

Extraction Method:

Sample Name	Lab Code	1,2-Dichloroethane-d4	4-Bromofluorobenzene	Toluene-d8
		73-125	85-122	87-121
1WS-MS1-110822	R2210795-001	108	105	101
Trip Blank-110822	R2210795-002	107	100	99
Method Blank	RQ2214165-04	108	105	101
Lab Control Sample	RQ2214165-03	105	103	99
1WS-MS1-110822 MS	RQ2214165-05	106	98	97
1WS-MS1-110822 DMS	RQ2214165-06	107	104	100

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795
Date Collected: 11/08/22
Date Received: 11/09/22
Date Analyzed: 11/11/22

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS, Unpreserved

Sample Name: 1WS-MS1-110822
Lab Code: R2210795-001
Analysis Method: 624.1

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike RQ2214165-05			Duplicate Matrix Spike RQ2214165-06			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1-Dichloroethane (1,1-DCA)	1.00 U	46.4	50.0	93	49.6	50.0	99	59-155	7	40
1,2-Dichloroethane	0.216 J	51.9	50.0	103	55.5	50.0	111	49-155	7	49
Acetone	5.00 U	45.3	50.0	91	48.2	50.0	96	35-183	6	30
Trichloroethene (TCE)	3.52	54.9	50.0	103	58.1	50.0	109	70-157	6	48

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: RQ2214165-04

Service Request: R2210795
Date Collected: NA
Date Received: NA

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1-Dichloroethane (1,1-DCA)	1.00 U	1.00	0.200	1	11/10/22 22:59	
1,2-Dichloroethane	1.00 U	1.00	0.200	1	11/10/22 22:59	
Acetone	5.00 U	5.00	2.10	1	11/10/22 22:59	
Trichloroethene (TCE)	1.00 U	1.00	0.200	1	11/10/22 22:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	108	73 - 125	11/10/22 22:59	
4-Bromofluorobenzene	105	85 - 122	11/10/22 22:59	
Toluene-d8	101	87 - 121	11/10/22 22:59	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795
Date Analyzed: 11/10/22

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unpreserved

Units:ug/L
Basis:NA

Lab Control Sample
RQ2214165-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1-Dichloroethane (1,1-DCA)	624.1	20.5	20.0	102	70-130
1,2-Dichloroethane	624.1	23.8	20.0	119	70-130
Acetone	624.1	20.1	20.0	101	40-161
Trichloroethene (TCE)	624.1	22.7	20.0	113	65-135



Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by GC/ECD

Analysis Method: 608.3
Extraction Method: Method

Sample Name	Lab Code	Tetrachloro-m-xylene	Decachlorobiphenyl
		13-131	10-156
1WS-MS1-110822	R2210795-001	60	35
Method Blank	RQ2214114-01	58	39
Lab Control Sample	RQ2214114-02	69	46
Duplicate Lab Control Sample	RQ2214114-03	65	33

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: RQ2214114-01

Service Request: R2210795
Date Collected: NA
Date Received: NA

Units: ug/L
Basis: NA

Organochlorine Pesticides by GC/ECD

Analysis Method: 608.3
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.0500 U	0.0500	0.0200	1	11/11/22 18:20	11/10/22	
beta-BHC	0.0500 U	0.0500	0.0200	1	11/11/22 18:20	11/10/22	
delta-BHC	0.0500 U	0.0500	0.0200	1	11/11/22 18:20	11/10/22	
gamma-BHC (Lindane)	0.0500 U	0.0500	0.0200	1	11/11/22 18:20	11/10/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tetrachloro-m-xylene	58	13 - 131	11/11/22 18:20	
Decachlorobiphenyl	39	10 - 156	11/11/22 18:20	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795
Date Analyzed: 11/11/22

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by GC/ECD

Units:ug/L
Basis:NA

Analyte Name	Analytical Method	Result	Lab Control Sample		Duplicate Lab Control Sample		% Rec Limits	RPD	RPD Limit
			Spike Amount	% Rec	Result	Spike Amount			
alpha-BHC	608.3	0.250	0.400	63	0.246	0.400	37-140	2	36
beta-BHC	608.3	0.295	0.400	74	0.275	0.400	17-147	7	44
delta-BHC	608.3	0.277	0.400	69	0.252	0.400	19-140	10	52
gamma-BHC (Lindane)	608.3	0.275	0.400	69	0.262	0.400	32-140	4	39



Metals

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Form 3

Blanks

Mercury by EPA 245.1

Workorder
R2210795

Client
Olin Corporation

Project
Olin Industrial Welding Site

11/29/2022

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 3 - Blanks

Client Olin Corporation
Project Olin Industrial Welding Site

Workorder
R2210795

Mercury by EPA 245.1

RCVAA02_785009			ICB		CCB		CCB		CCB		MB785009		CCB	
Units		Run Date	11/11/22		11/11/22		11/11/22		11/11/22		11/11/22		11/11/22	
~		Run Time	12:38		13:28		13:50		14:35		14:53		15:07	
Analyte	DL	LOQ	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Mercury	0.08	0.20	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U

RCVAA02_785009			CCB		CCB		CCB		CCB			
Units		Run Date	11/11/22		11/11/22		11/11/22		11/11/22			
~		Run Time	15:29		15:45		15:55		16:10			
Analyte	DL	LOQ	Result	Q	Result	Q	Result	Q	Result	Q		
Mercury	0.08	0.20	0.20	U	0.20	U	0.20	U	0.20	U		

Form 5A

Matrix Spike Sample Recovery

Mercury by EPA 245.1

Workorder

R2210795

Client

Olin Corporation

Project

Olin Industrial Welding Site

11/29/2022

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 5A - Matrix Spike Sample Recovery

Client Olin Corporation
Project Olin Industrial Welding Site

Workorder
R2210795

Mercury by EPA 245.1

1WS-MS1-110822			R2210795-001			R2210795-001MS			R2210795-001DMS					
Samp Matrix Water			Run Date 11/11/22			11/11/22			11/11/22					
Prep Method Method			Units			Run Time 15:47			15:49			15:58		
Prep Batch 409805 11/10/22			ug/L			Prep Amt 25 mL			25 mL			25 mL		
Analyte	%R Limits	Spike Added	DF	Sample Result	Q	MS Result	%R	Q	MSD Result	%R	Q	RPD Limit	RPD	Q
Mercury	70-130	1.00	1	0.20	U	1.16	116		1.16	116		20	<1	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

Form 7

Laboratory Control Sample

Mercury by EPA 245.1

Workorder
R2210795

Client
Olin Corporation

Project
Olin Industrial Welding Site

11/29/2022

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 7 - Laboratory Control Sample

Client Olin Corporation
Project Olin Industrial Welding Site

Workorder
R2210795

Mercury by EPA 245.1

RCVAA02_785009	QC ID		R2210795-LCS			
QC Matrix Water	Units ug/L	Run Date	11/11/22			
Prep Method Method		Run Time	14:55			
Prep Batch 409805 11/10/22		Prep Amt	25 mL			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
Mercury	85-115	1.00	1.02	102		

- %Recovery / RPD Flag

* - %Recovery / RPD Outside Limits



General Chemistry

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R2210795-MB

Service Request: R2210795
Date Collected: NA
Date Received: NA
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Carbon, Dissolved Organic (DOC)	SM 5310 B-2014	1.0 U	mg/L	1.0	1	11/11/22 15:12	
Solids, Total Suspended (TSS)	SM 2540 D-2015	1.0 U	mg/L	1.0	1	11/11/22 09:00	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795
Date Collected: 11/08/22
Date Received: 11/09/22
Date Analyzed: 11/11/22

Duplicate Matrix Spike Summary
Carbon, Dissolved Organic (DOC)

Sample Name: 1WS-MS1-110822
Lab Code: R2210795-001
Analysis Method: SM 5310 B-2014

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike R2210795-001MS			Duplicate Matrix Spike R2210795-001DMS			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Carbon, Dissolved Organic (DOC)	3.2	27.3	25.0	96	27.6	25.0	98	48-135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795**Date Collected:** 11/08/22**Date Received:** 11/09/22**Date Analyzed:** 11/11/22

Replicate Sample Summary
General Chemistry Parameters

Sample Name: 1WS-MS1-110822**Units:** mg/L**Lab Code:** R2210795-001**Basis:** NA

				Duplicate Sample R2210795- 001DUP			
Analyte Name	Analysis Method	MRL	Sample Result	Result	Average	RPD	RPD Limit
Solids, Total Suspended (TSS)	SM 2540 D-2015	1.0	3.9	3.8	3.85	3	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795
Date Analyzed: 11/11/22

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R2210795-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 B-2014	24.6	25.0	98	80-121
Solids, Total Suspended (TSS)	SM 2540 D-2015	197	214	92	80-120

Industrial Welding Site
Data Evaluation Narrative
November 2022 Discharge Sampling Event

SDG R2210795: ALS Environmental, Rochester, NY

Deliverables

The data package as submitted to Olin Corporation is complete as stipulated under the Industrial Welding Site Quality Assurance Project Plan (QAPP) as approved by the New York State Department of Environmental Protection. United States Environmental Protection Agency (USEPA) Methods 624, 608, 245.1, SM 2540D and SM 5310B were utilized in the laboratory testing.

Samples submitted within this sample delivery group (SDG) were submitted to the ALS Environmental laboratory in Rochester, NY for select volatile organic compounds and organochlorine pesticides, total mercury, total suspended solids, and dissolved organic carbon analyses. The laboratory subsequently applied login numbers to the SDG. The SDG number for this sampling event is R2210795. This evaluation narrative for the SDG follows the listing of discharge sample field identifications. The topics of each narrative are ordered to first assess issues affecting the entire data set.

Sample Integrity

Information provided on the Chain of Custody and Login Sample Receipt Checklist provided by the laboratory confirmed that the samples arrived at the laboratory intact and within the recommended temperature limits. The proper bottles and preservatives were used, and the correct analytical methods were employed.

Sample Identification

This SDG contains the following water samples collected on November 8, 2022:

SAMPLE ID
IWS-MS1-110822*

SAMPLE ID
Trip Blank-110822 (Analyzed for VOCs only)

*Lab read "I" in IWS on the COC as a "1" and named sample as IWS-MS1-110822

Volatile Organic Compounds (EPA Method 624)

The samples in this SDG were submitted for select volatile organic compounds (VOCs) by USEPA Method 624.

Holding Times:

The analytical logs indicate that applicable holding times were met.

Practical Quantitation Limits:

The practical quantitation limits (PQLs) were met for the analysis of VOCs by USEPA Method 624.

GC/MS Instrument Performance Check:

The GC/MS tuning and mass calibration checks were performed with bromofluorobenzene (BFB) and met the performance criteria as established by the method.

Calibration:

The initial calibration data for this SDG indicate that applicable criteria were met for samples submitted for VOC analysis. The RSDs for each calibration check were within the applicable criteria.

Blank Summary:

The analytical results of the laboratory method blank and the trip blank indicated no target VOCs were detected above the reporting limit (RL).

Laboratory Control Sample (LCS):

The LCS spike recoveries were within the applicable QC advisory limits.

Surrogates:

The surrogate recoveries were within applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate:

Sample IWS-MS1-110822 was submitted for matrix spike and matrix spike duplicate (MS/MSD) analysis. The percent recoveries and relative percent differences (RPDs) were within applicable QC advisory limits.

Organochlorine Pesticides (EPA Method 608)

The sample in this SDG was submitted for HCCH (hexachlorocyclohexanes) analysis by USEPA Method 608.

Holding Times:

The extraction and analytical logs indicate that applicable holding times were met for HCCH analyses. The holding times of 7 days for extraction and 40 days for analysis were met.

Practical Quantitation Limits:

The practical quantitation limits (PQLs) were met for the analysis of HCCHs by USEPA Method 608.

Calibration:

The initial calibration data for this SDG indicate that applicable calibration criteria were met. All continuing calibration verification samples (CCVs) associated with project samples were also within applicable control criteria.

Surrogates:

Surrogate recoveries for all project related samples were within laboratory control limits.

Blank Summary:

The analytical results of the laboratory method blank indicated no HCCHs were detected.

Laboratory Control Sample (LCS) and LCS Duplicate (LCSD):

The LCS/LCSD recoveries were within laboratory control limits for all four BHC compounds.

Matrix Spike/Matrix Spike Duplicate:

No MS/MSD of the project sample was completed due to a laboratory error.

Total Mercury Analyses (EPA Method 245.1)

The sample in this SDG was submitted for total mercury analysis by USEPA Method 245.1.

Holding Times:

The extraction and analytical logs indicate that applicable holding times were met.

Practical Quantitation Limits:

The practical quantitation limit (PQL) was met for the analysis of total mercury by USEPA Method 245.1.

Calibration:

The initial and continuing calibration data for this SDG indicate that applicable calibration criteria were met. The low-level check standard recoveries were within QC advisory limits.

Blank Summary:

The analytical results of the method blank and the initial/continuing calibration blanks indicated that total mercury was not detected.

Laboratory Control Sample:

The laboratory control sample (LCS) spike recovery was within the applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate:

Sample IWS-MS1-110822 was submitted for MS/MSD analysis. The percent recoveries and RPD were within laboratory control limits.

Total Suspended Solids (SM 2540D)

The sample in this SDG was submitted for total suspended solids (TSS) analysis by SM 2540D.

Holding Times:

The holding time of 7 days was met as the sample was analyzed within this holding period.

Practical Quantitation Limits:

The practical quantitation limit (PQL) was met for the analysis of TSS.

Blank Summary:

The analytical results of the laboratory method blank indicated that no TSS were detected.

Laboratory Control Sample:

The laboratory control sample (LCS) recovery was within the applicable QC advisory limits.

Duplicate Sample:

The laboratory performed a duplicate analysis on IWS-MS1-110822. The RPD was within control limits.

Soluble Organic Carbon (SM 5310B)

The sample in this SDG was submitted for soluble (dissolved) organic carbon (DOC) analysis by SM 5310C.

Holding Times:

The holding time of 28 days was met.

Practical Quantitation Limits:

The practical quantitation limit (PQL) was met for the analysis of DOC.

Calibration Summary:

The initial and continuing calibration data for this SDG indicates that applicable calibration criteria were met.

Blank Summary:

The analytical results of the laboratory method blank and continuing calibration blanks (CCBs) indicated that no DOC was detected.

Laboratory Control Sample:

The laboratory control sample (LCS) recovery was within the applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate:

Sample IWS-MS1-110822 was submitted for MS/MSD analysis. The percent recoveries and RPD were within applicable QC advisory limits.

Overall Site Evaluation and Professional Judgment Flagging Changes

The data within this SDG were compared to site data and edits to the DQE flags were not required based on professional judgment. Monitoring period completeness, which is the percentage of analytical results judged valid, including estimated values, was 100 percent for the November 2022 sampling event. Typically, project objectives are met when completeness is 90 percent or better.

Prepared by: Randy T. Morris

Date: January 25, 2023

Sample	Date Collected	Date Analyzed	Analysis Method	Matrix	Units	Component	Dilution Factor	Reporting Limit	Detection Limit	Result	Result Notes
1WS-MS1-110822	11/8/2022	11/11/2022	SM 5310 B-2014	Water	mg/L	Carbon, Dissolved Organic (DOC)	1	1	0.5	3.2	=
1WS-MS1-110822	11/8/2022	11/11/2022	SM 2540 D-2015	Water	mg/L	Solids, Total Suspended (TSS)	1	1	1	3.9	=
1WS-MS1-110822	11/8/2022	11/11/2022	245.1	Water	UG/L	Mercury, Total	1	0.2	0.08	0.2	U
1WS-MS1-110822	11/8/2022	11/11/2022	624.1	Water	UG/L	1,1-Dichloroethane (1,1-DCA)	1	1	0.2	1	U
1WS-MS1-110822	11/8/2022	11/11/2022	624.1	Water	UG/L	1,2-Dichloroethane	1	1	0.2	0.216	=,J
1WS-MS1-110822	11/8/2022	11/11/2022	624.1	Water	UG/L	Acetone	1	5	2.1	5	U
1WS-MS1-110822	11/8/2022	11/11/2022	624.1	Water	UG/L	Trichloroethene (TCE)	1	1	0.2	3.52	=
1WS-MS1-110822	11/8/2022	11/11/2022	624.1	Water	%	1,2-Dichloroethane-d4	1			108	SUR
1WS-MS1-110822	11/8/2022	11/11/2022	624.1	Water	%	4-Bromofluorobenzene	1			105	SUR
1WS-MS1-110822	11/8/2022	11/11/2022	624.1	Water	%	Toluene-d8	1			101	SUR
Trip Blank-110822	11/8/2022	11/11/2022	624.1	Water	UG/L	1,1-Dichloroethane (1,1-DCA)	1	1	0.2	1	U
Trip Blank-110822	11/8/2022	11/11/2022	624.1	Water	UG/L	1,2-Dichloroethane	1	1	0.2	1	U
Trip Blank-110822	11/8/2022	11/11/2022	624.1	Water	UG/L	Acetone	1	5	2.1	5	U
Trip Blank-110822	11/8/2022	11/11/2022	624.1	Water	UG/L	Trichloroethene (TCE)	1	1	0.2	1	U
Trip Blank-110822	11/8/2022	11/11/2022	624.1	Water	%	1,2-Dichloroethane-d4	1			107	SUR
Trip Blank-110822	11/8/2022	11/11/2022	624.1	Water	%	4-Bromofluorobenzene	1			100	SUR
Trip Blank-110822	11/8/2022	11/11/2022	624.1	Water	%	Toluene-d8	1			99	SUR
1WS-MS1-110822	11/8/2022	11/18/2022	608.3	Water	UG/L	alpha-BHC	1	0.0446	0.02	0.0446	U
1WS-MS1-110822	11/8/2022	11/18/2022	608.3	Water	UG/L	beta-BHC	1	0.0446	0.02	0.0518	=
1WS-MS1-110822	11/8/2022	11/18/2022	608.3	Water	UG/L	delta-BHC	1	0.0446	0.02	0.0446	U
1WS-MS1-110822	11/8/2022	11/18/2022	608.3	Water	UG/L	gamma-BHC (Lindane)	1	0.0446	0.02	0.0446	U
1WS-MS1-110822	11/8/2022	11/18/2022	608.3	Water	%	Tetrachloro-m-xylene	1			60	SUR
1WS-MS1-110822	11/8/2022	11/18/2022	608.3	Water	%	Decachlorobiphenyl	1			35	SUR



March 28, 2023

Service Request No:R2302167

Adam Carringer
Olin Corporation
490 Stuart Road
Cleveland, TN 37312

Laboratory Results for: Industrial Welding

Dear Adam,

Enclosed are the results of the sample(s) submitted to our laboratory March 15, 2023
For your reference, these analyses have been assigned our service request number **R2302167**.

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at Meghan.Pedro@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Meghan Pedro
Project Manager

CC: Randy Morris

ADDRESS

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

PHONE +1 585 288 5380 | **FAX** +1 585 288 8475

ALS Group USA, Corp.
dba ALS Environmental



Narrative Documents

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Client: Olin Corporation
Project: Industrial Welding
Sample Matrix: Water

Service Request: R2302167
Date Received: 03/15/2023

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Three water samples were received for analysis at ALS Environmental on 03/15/2023. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

No significant anomalies were noted with this analysis.

Semivolatile GC:

Method 8081B, 03/23/2023: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8081B, 03/23/2023: The upper control criterion was exceeded for one or more analytes in the Duplicate Laboratory Control Sample (DLCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Metals:

No significant anomalies were noted with this analysis.

Approved by Meghan Pedro

Date 03/28/2023



Sample Receipt Information

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Client: Olin Corporation
Project: Industrial Welding/1305

Service Request:R2302167

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R2302167-001	IWS-SD1-031423	3/14/2023	1000
R2302167-002	IWS-MW1-031423	3/14/2023	1129
R2302167-003	IWS-MW2-031423	3/14/2023	1050

[illegible]



Cooler Receipt and Preservation Check Form

R2302167

Olin Corporation
Industrial Welding

5

Project/Client Olin Corporation Folder Number _____Cooler received on 3/15/23 by: KECOURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	<u>Y</u> N
2	Custody papers properly completed (ink, signed)?	<u>Y</u> N
3	Did all bottles arrive in good condition (unbroken)?	<u>Y</u> N
4	Circle: <u>Wet Ice</u> Dry Ice Gel packs present?	<u>Y</u> N

5a	Perchlorate samples have required headspace?	Y N <u>NA</u>
5b	Did VOA vials, Alk, or Sulfide have sig* bubbles?	Y N <u>NA</u>
6	Where did the bottles originate?	<u>ALS/ROC</u> CLIENT
7	Soil VOA received as: Bulk Encore 5035set	<u>NA</u>

8. Temperature Readings Date: 3/15/23 Time: 09:47 ID: IR#7 IR#11 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>3.3</u>							
Within 0-6°C?	<u>Y</u> N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

& Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by KE on 3/15/23 at 09153
 5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 3/15/23 Time: 10:15 by: KE

9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
 10. Did all bottle labels and tags agree with custody papers? YES NO
 11. Were correct containers used for the tests indicated? YES NO
 12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO N/A
 13. Were dissolved metals filtered in the field? YES NO N/A
 14. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved?		Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2	<u>206722</u>	HNO ₃	<u>X</u>		<u>2022091201</u>	<u>11/23</u>				
≤2		H ₂ SO ₄								
<4		NaHSO ₄								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add Na ₂ S ₂ O ₃ (625, 608, CN), ascorbic (phenol).					
		Na ₂ S ₂ O ₃								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis.
 Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 22-1116, 81001-C2781, 060622-2ANK
 Explain all Discrepancies/ Other Comments: _____

Labels secondary reviewed by: KE
 PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

ALS Group USA, Corp.
dba ALS Environmental
Internal Chain of Custody Report

Client: Olin Corporation
Project: Industrial Welding/1305

Service Request: R2302167

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2302167-001.01	7470A	3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-001.02		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-001.03		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-001.04		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-001.05		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-001.06		3/15/2023	1022	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-001.07	8081B	3/15/2023	1022	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-001.08		3/15/2023	1022	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-001.09		3/15/2023	1022	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-001.10		3/15/2023	1022	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	

ALS Group USA, Corp.
dba ALS Environmental
Internal Chain of Custody Report

Client: Olin Corporation
Project: Industrial Welding/1305

Service Request: R2302167

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2302167-001.11					
		3/15/2023	1022	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-001.12					
		3/15/2023	1022	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-001.13					
	8270D				
		3/15/2023	1022	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-002.01					
	7470A				
		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-002.02					
	8081B				
		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-002.03					
		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-002.04					
		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-002.05					
	8270D				
		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-003.01					
	7470A				
		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-003.02					
	8081B				
		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	

ALS Group USA, Corp.
dba ALS Environmental
Internal Chain of Custody Report

Client: Olin Corporation
Project: Industrial Welding/1305

Service Request: R2302167

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2302167-003.03					
		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-003.04					
	8270D				
		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	
R2302167-003.05					
		3/15/2023	1019	SMO / GESMERIAN	
		3/15/2023	1022	R-002 / GESMERIAN	



Miscellaneous Forms

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Accreditations¹



NELAP States
Florida ID # E87674
New Hampshire ID # 2941
New York ID # 10145
Pennsylvania ID# 68-786
Virginia #460167

Non-NELAP States
Connecticut ID #PH0556
Delaware Approved
Maine ID #NY01587
North Carolina #36701
North Carolina #676
Rhode Island LAO00333

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental>

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: Olin Corporation
Project: Industrial Welding/1305

Service Request: R2302167

Sample Name: IWS-SD1-031423
Lab Code: R2302167-001
Sample Matrix: Water

Date Collected: 03/14/23
Date Received: 03/15/23

Analysis Method

7470A
8081B
8270D

Extracted/Digested By

NMANSEN
JVANHEYNINGEN
JVANHEYNINGEN

Analyzed By

NMANSEN
AFELSER
AMOSEs

Sample Name: IWS-MW1-031423
Lab Code: R2302167-002
Sample Matrix: Water

Date Collected: 03/14/23
Date Received: 03/15/23

Analysis Method

7470A
8081B
8270D

Extracted/Digested By

NMANSEN
JVANHEYNINGEN
JVANHEYNINGEN

Analyzed By

NMANSEN
AFELSER
AMOSEs

Sample Name: IWS-MW2-031423
Lab Code: R2302167-003
Sample Matrix: Water

Date Collected: 03/14/23
Date Received: 03/15/23

Analysis Method

7470A
8081B
8270D

Extracted/Digested By

NMANSEN
JVANHEYNINGEN
JVANHEYNINGEN

Analyzed By

NMANSEN
AFELSER
AMOSEs



INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	



Sample Results

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167
Date Collected: 03/14/23 10:00
Date Received: 03/15/23 09:40

Sample Name: IWS-SD1-031423
Lab Code: R2302167-001

Units: ug/L
Basis: NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	10 U	10	1.3	1	03/21/23 20:52	3/21/23	
Acenaphthene	10 U	10	1.4	1	03/21/23 20:52	3/21/23	
Acenaphthylene	10 U	10	1.4	1	03/21/23 20:52	3/21/23	
Anthracene	10 U	10	1.3	1	03/21/23 20:52	3/21/23	
Benz(a)anthracene	10 U	10	1.6	1	03/21/23 20:52	3/21/23	
Benzo(a)pyrene	10 U	10	1.2	1	03/21/23 20:52	3/21/23	
Benzo(b)fluoranthene	10 U	10	1.2	1	03/21/23 20:52	3/21/23	
Benzo(g,h,i)perylene	10 U	10	1.0	1	03/21/23 20:52	3/21/23	
Benzo(k)fluoranthene	10 U	10	1.3	1	03/21/23 20:52	3/21/23	
Chrysene	10 U	10	1.2	1	03/21/23 20:52	3/21/23	
Dibenz(a,h)anthracene	10 U	10	1.1	1	03/21/23 20:52	3/21/23	
Fluoranthene	10 U	10	1.5	1	03/21/23 20:52	3/21/23	
Fluorene	10 U	10	1.3	1	03/21/23 20:52	3/21/23	
Indeno(1,2,3-cd)pyrene	10 U	10	1.8	1	03/21/23 20:52	3/21/23	
Naphthalene	10 U	10	1.2	1	03/21/23 20:52	3/21/23	
Phenanthrene	10 U	10	1.4	1	03/21/23 20:52	3/21/23	
Pyrene	10 U	10	1.5	1	03/21/23 20:52	3/21/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	71	25 - 99	03/21/23 20:52	
Nitrobenzene-d5	65	22 - 104	03/21/23 20:52	
p-Terphenyl-d14	63	10 - 143	03/21/23 20:52	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167
Date Collected: 03/14/23 11:29
Date Received: 03/15/23 09:40

Sample Name: IWS-MW1-031423
Lab Code: R2302167-002

Units: ug/L
Basis: NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	8.9 U	8.9	1.3	1	03/21/23 22:02	3/21/23	
Acenaphthene	8.9 U	8.9	1.4	1	03/21/23 22:02	3/21/23	
Acenaphthylene	8.9 U	8.9	1.4	1	03/21/23 22:02	3/21/23	
Anthracene	8.9 U	8.9	1.3	1	03/21/23 22:02	3/21/23	
Benz(a)anthracene	8.9 U	8.9	1.6	1	03/21/23 22:02	3/21/23	
Benzo(a)pyrene	8.9 U	8.9	1.2	1	03/21/23 22:02	3/21/23	
Benzo(b)fluoranthene	8.9 U	8.9	1.2	1	03/21/23 22:02	3/21/23	
Benzo(g,h,i)perylene	8.9 U	8.9	1.0	1	03/21/23 22:02	3/21/23	
Benzo(k)fluoranthene	8.9 U	8.9	1.3	1	03/21/23 22:02	3/21/23	
Chrysene	8.9 U	8.9	1.2	1	03/21/23 22:02	3/21/23	
Dibenz(a,h)anthracene	8.9 U	8.9	1.1	1	03/21/23 22:02	3/21/23	
Fluoranthene	8.9 U	8.9	1.5	1	03/21/23 22:02	3/21/23	
Fluorene	8.9 U	8.9	1.3	1	03/21/23 22:02	3/21/23	
Indeno(1,2,3-cd)pyrene	8.9 U	8.9	1.8	1	03/21/23 22:02	3/21/23	
Naphthalene	8.9 U	8.9	1.2	1	03/21/23 22:02	3/21/23	
Phenanthrene	8.9 U	8.9	1.4	1	03/21/23 22:02	3/21/23	
Pyrene	8.9 U	8.9	1.5	1	03/21/23 22:02	3/21/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	50	25 - 99	03/21/23 22:02	
Nitrobenzene-d5	39	22 - 104	03/21/23 22:02	
p-Terphenyl-d14	57	10 - 143	03/21/23 22:02	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167
Date Collected: 03/14/23 10:50
Date Received: 03/15/23 09:40

Sample Name: IWS-MW2-031423
Lab Code: R2302167-003

Units: ug/L
Basis: NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	8.9 U	8.9	1.3	1	03/21/23 22:25	3/21/23	
Acenaphthene	8.9 U	8.9	1.4	1	03/21/23 22:25	3/21/23	
Acenaphthylene	8.9 U	8.9	1.4	1	03/21/23 22:25	3/21/23	
Anthracene	8.9 U	8.9	1.3	1	03/21/23 22:25	3/21/23	
Benz(a)anthracene	8.9 U	8.9	1.6	1	03/21/23 22:25	3/21/23	
Benzo(a)pyrene	8.9 U	8.9	1.2	1	03/21/23 22:25	3/21/23	
Benzo(b)fluoranthene	8.9 U	8.9	1.2	1	03/21/23 22:25	3/21/23	
Benzo(g,h,i)perylene	8.9 U	8.9	1.0	1	03/21/23 22:25	3/21/23	
Benzo(k)fluoranthene	8.9 U	8.9	1.3	1	03/21/23 22:25	3/21/23	
Chrysene	8.9 U	8.9	1.2	1	03/21/23 22:25	3/21/23	
Dibenz(a,h)anthracene	8.9 U	8.9	1.1	1	03/21/23 22:25	3/21/23	
Fluoranthene	8.9 U	8.9	1.5	1	03/21/23 22:25	3/21/23	
Fluorene	8.9 U	8.9	1.3	1	03/21/23 22:25	3/21/23	
Indeno(1,2,3-cd)pyrene	8.9 U	8.9	1.8	1	03/21/23 22:25	3/21/23	
Naphthalene	8.9 U	8.9	1.2	1	03/21/23 22:25	3/21/23	
Phenanthrene	8.9 U	8.9	1.4	1	03/21/23 22:25	3/21/23	
Pyrene	8.9 U	8.9	1.5	1	03/21/23 22:25	3/21/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	64	25 - 99	03/21/23 22:25	
Nitrobenzene-d5	58	22 - 104	03/21/23 22:25	
p-Terphenyl-d14	62	10 - 143	03/21/23 22:25	



Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167
Date Collected: 03/14/23 10:00
Date Received: 03/15/23 09:40

Sample Name: IWS-SD1-031423
Lab Code: R2302167-001

Units: ug/L
Basis: NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.045 U	0.045	1	03/23/23 23:23	3/21/23	
beta-BHC	0.045 U	0.045	1	03/23/23 23:23	3/21/23	
delta-BHC	0.045 U	0.045	1	03/23/23 23:23	3/21/23	
gamma-BHC (Lindane)	0.045 U	0.045	1	03/23/23 23:23	3/21/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	53	10 - 111	03/23/23 23:23	
Tetrachloro-m-xylene	81	10 - 101	03/23/23 23:23	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167
Date Collected: 03/14/23 11:29
Date Received: 03/15/23 09:40

Sample Name: IWS-MW1-031423
Lab Code: R2302167-002

Units: ug/L
Basis: NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.045 U	0.045	1	03/23/23 23:43	3/21/23	
beta-BHC	0.045 U	0.045	1	03/23/23 23:43	3/21/23	
delta-BHC	0.045 U	0.045	1	03/23/23 23:43	3/21/23	
gamma-BHC (Lindane)	0.045 U	0.045	1	03/23/23 23:43	3/21/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	106	10 - 111	03/23/23 23:43	
Tetrachloro-m-xylene	74	10 - 101	03/23/23 23:43	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167
Date Collected: 03/14/23 10:50
Date Received: 03/15/23 09:40

Sample Name: IWS-MW2-031423
Lab Code: R2302167-003

Units: ug/L
Basis: NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.045 U	0.045	1	03/24/23 00:02	3/21/23	
beta-BHC	0.048	0.045	1	03/24/23 00:02	3/21/23	
delta-BHC	0.045 U	0.045	1	03/24/23 00:02	3/21/23	
gamma-BHC (Lindane)	0.045 U	0.045	1	03/24/23 00:02	3/21/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	89	10 - 111	03/24/23 00:02	
Tetrachloro-m-xylene	71	10 - 101	03/24/23 00:02	



Metals

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Form 1

Inorganic Analysis Data Sheet

Mercury by EPA 7470A

Workorder

R2302167

Client

Olin Corporation

Project

Industrial Welding

03/28/2023

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Industrial Welding

Workorder
R2302167

Mercury by EPA 7470A (CV)

R2302167-001				Collected		Received		Matrix		
IWS-SD1-031423				03/14/23 1000		03/15/23 0940		Water		
Analyte	Units	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepBatch
Mercury, Total	ug/L	CV	0.20	U	0.08	0.20	1	03/17/23 13:07	RCVAA02_798048	416603

MC - Method Class CV - Cold Vapor/AA P - ICP/AES MS - ICP/MS



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Industrial Welding

Workorder
R2302167

Mercury by EPA 7470A (CV)

R2302167-002				Collected		Received		Matrix		
IWS-MW1-031423				03/14/23 1129		03/15/23 0940		Water		
Analyte	Units	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepBatch
Mercury, Total	ug/L	CV	0.20	U	0.08	0.20	1	03/17/23 13:13	RCVAA02_798048	416603

MC - Method Class CV - Cold Vapor/AA P - ICP/AES MS - ICP/MS



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Industrial Welding

Workorder
R2302167

Mercury by EPA 7470A (CV)

R2302167-003	Collected	Received	Matrix
IWS-MW2-031423	03/14/23 1050	03/15/23 0940	Water

Analyte	Units	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepBatch
Mercury, Total	ug/L	CV	6.81		0.08	0.20	1	03/17/23 13:15	RCVAA02_798048	416603

MC - Method Class CV - Cold Vapor/AA P - ICP/AES MS - ICP/MS



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Industrial Welding

Workorder
R2302167

Mercury by EPA 7470A (CV)

R2302167-MB	Matrix
Method Blank	Water

Analyte	Units	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepBatch
Mercury	ug/L	CV	0.20	U	0.08	0.20	1	03/17/23 12:15	RCVAA02_798048	416603

MC - Method Class CV - Cold Vapor/AA P - ICP/AES MS - ICP/MS



QC Summary Forms

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

Sample Name	Lab Code	2-Fluorobiphenyl	Nitrobenzene-d5	p-Terphenyl-d14
		25-99	22-104	10-143
IWS-SD1-031423	R2302167-001	71	65	63
IWS-MW1-031423	R2302167-002	50	39	57
IWS-MW2-031423	R2302167-003	64	58	62
Method Blank	RQ2303232-03	66	62	90
Lab Control Sample	RQ2303232-04	78	75	87
Duplicate Lab Control Sample	RQ2303232-05	70	68	82
IWS-SD1-031423 MS	RQ2303232-01	86	78	69
IWS-SD1-031423 DMS	RQ2303232-02	82	76	64

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167
Date Collected: 03/14/23
Date Received: 03/15/23
Date Analyzed: 03/21/23
Date Extracted: 03/21/23

Duplicate Matrix Spike Summary
Semivolatile Organic Compounds by GC/MS

Sample Name: IWS-SD1-031423
Lab Code: R2302167-001
Analysis Method: 8270D
Prep Method: EPA 3510C

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike RQ2303232-01			Duplicate Matrix Spike RQ2303232-02			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
2-Methylnaphthalene	8.9 U	48.9	71.4	69	48.0	71.4	67	34-102	3	30
Acenaphthene	8.9 U	56.8	71.4	80	55.0	71.4	77	43-117	4	30
Acenaphthylene	8.9 U	59.4	71.4	83	58.3	71.4	82	45-119	1	30
Anthracene	8.9 U	58.0	71.4	81	57.5	71.4	81	45-127	<1	30
Benz(a)anthracene	8.9 U	59.1	71.4	83	56.9	71.4	80	46-126	4	30
Benzo(a)pyrene	8.9 U	62.9	71.4	88	59.9	71.4	84	44-114	5	30
Benzo(b)fluoranthene	8.9 U	61.4	71.4	86	57.9	71.4	81	41-127	6	30
Benzo(g,h,i)perylene	8.9 U	61.9	71.4	87	58.4	71.4	82	50-143	6	30
Benzo(k)fluoranthene	8.9 U	63.7	71.4	89	61.3	71.4	86	46-139	3	30
Chrysene	8.9 U	60.4	71.4	85	57.3	71.4	80	47-126	6	30
Dibenz(a,h)anthracene	8.9 U	55.0	71.4	77	53.8	71.4	75	43-136	3	30
Fluoranthene	8.9 U	61.9	71.4	87	58.2	71.4	81	43-135	7	30
Fluorene	8.9 U	59.9	71.4	84	58.9	71.4	83	43-113	1	30
Indeno(1,2,3-cd)pyrene	8.9 U	60.1	71.4	84	56.3	71.4	79	49-140	6	30
Naphthalene	8.9 U	47.1	71.4	66	46.2	71.4	65	37-108	2	30
Phenanthrene	8.9 U	59.8	71.4	84	57.7	71.4	81	46-123	4	30
Pyrene	8.9 U	63.1	71.4	88	58.9	71.4	83	44-129	6	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2303232-03

Units: ug/L
Basis: NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2-Methylnaphthalene	10 U	10	1.3	1	03/21/23 19:18	3/21/23	
Acenaphthene	10 U	10	1.4	1	03/21/23 19:18	3/21/23	
Acenaphthylene	10 U	10	1.4	1	03/21/23 19:18	3/21/23	
Anthracene	10 U	10	1.3	1	03/21/23 19:18	3/21/23	
Benz(a)anthracene	10 U	10	1.6	1	03/21/23 19:18	3/21/23	
Benzo(a)pyrene	10 U	10	1.2	1	03/21/23 19:18	3/21/23	
Benzo(b)fluoranthene	10 U	10	1.2	1	03/21/23 19:18	3/21/23	
Benzo(g,h,i)perylene	10 U	10	1.0	1	03/21/23 19:18	3/21/23	
Benzo(k)fluoranthene	10 U	10	1.3	1	03/21/23 19:18	3/21/23	
Chrysene	10 U	10	1.2	1	03/21/23 19:18	3/21/23	
Dibenz(a,h)anthracene	10 U	10	1.1	1	03/21/23 19:18	3/21/23	
Fluoranthene	10 U	10	1.5	1	03/21/23 19:18	3/21/23	
Fluorene	10 U	10	1.3	1	03/21/23 19:18	3/21/23	
Indeno(1,2,3-cd)pyrene	10 U	10	1.8	1	03/21/23 19:18	3/21/23	
Naphthalene	10 U	10	1.2	1	03/21/23 19:18	3/21/23	
Phenanthrene	10 U	10	1.4	1	03/21/23 19:18	3/21/23	
Pyrene	10 U	10	1.5	1	03/21/23 19:18	3/21/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2-Fluorobiphenyl	66	25 - 99	03/21/23 19:18	
Nitrobenzene-d5	62	22 - 104	03/21/23 19:18	
p-Terphenyl-d14	90	10 - 143	03/21/23 19:18	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167
Date Analyzed: 03/21/23

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample RQ2303232-04					Duplicate Lab Control Sample RQ2303232-05					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
2-Methylnaphthalene	8270D	52.0	80.0	65	48.8	80.0	61	35-94	6	30
Acenaphthene	8270D	63.8	80.0	80	60.1	80.0	75	46-103	6	30
Acenaphthylene	8270D	66.5	80.0	83	63.2	80.0	79	51-114	5	30
Anthracene	8270D	70.8	80.0	88	68.0	80.0	85	61-115	3	30
Benz(a)anthracene	8270D	71.0	80.0	89	67.6	80.0	84	60-110	6	30
Benzo(a)pyrene	8270D	76.1	80.0	95	72.0	80.0	90	68-137	5	30
Benzo(b)fluoranthene	8270D	72.7	80.0	91	68.6	80.0	86	59-114	6	30
Benzo(g,h,i)perylene	8270D	73.1	80.0	91	69.0	80.0	86	60-123	6	30
Benzo(k)fluoranthene	8270D	76.3	80.0	95	74.6	80.0	93	62-122	2	30
Chrysene	8270D	71.5	80.0	89	68.0	80.0	85	64-116	5	30
Dibenz(a,h)anthracene	8270D	67.4	80.0	84	65.4	80.0	82	34-140	2	30
Fluoranthene	8270D	71.7	80.0	90	68.6	80.0	86	58-129	5	30
Fluorene	8270D	70.1	80.0	88	66.2	80.0	83	54-111	6	30
Indeno(1,2,3-cd)pyrene	8270D	73.3	80.0	92	66.6	80.0	83	54-119	10	30
Naphthalene	8270D	52.0	80.0	65	48.0	80.0	60	32-91	8	30
Phenanthrene	8270D	71.2	80.0	89	67.0	80.0	84	60-111	6	30
Pyrene	8270D	72.6	80.0	91	68.5	80.0	86	62-111	6	30



Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Extraction Method: EPA 3510C

Sample Name	Lab Code	Decachlorobiphenyl	Tetrachloro-m-xylene
		10-111	10-101
IWS-SD1-031423	R2302167-001	53	81
IWS-MW1-031423	R2302167-002	106	74
IWS-MW2-031423	R2302167-003	89	71
Method Blank	RQ2303229-01	63	70
Lab Control Sample	RQ2303229-02	82	74
Duplicate Lab Control Sample	RQ2303229-03	72	88

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: RQ2303229-01

Units: ug/L
Basis: NA

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.050 U	0.050	1	03/23/23 21:29	3/21/23	
beta-BHC	0.050 U	0.050	1	03/23/23 21:29	3/21/23	
delta-BHC	0.050 U	0.050	1	03/23/23 21:29	3/21/23	
gamma-BHC (Lindane)	0.050 U	0.050	1	03/23/23 21:29	3/21/23	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	63	10 - 111	03/23/23 21:29	
Tetrachloro-m-xylene	70	10 - 101	03/23/23 21:29	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Industrial Welding/1305
Sample Matrix: Water

Service Request: R2302167
Date Analyzed: 03/23/23

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Units:ug/L
Basis:NA

Lab Control Sample					Duplicate Lab Control Sample					
RQ2303229-02					RQ2303229-03					
Analyte Name	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
alpha-BHC	8081B	0.382	0.400	96	0.444	0.400	111 *	39-107	15	30
beta-BHC	8081B	0.372	0.400	93	0.426	0.400	107	47-110	13	30
delta-BHC	8081B	0.363	0.400	91	0.421	0.400	105	43-109	15	30
gamma-BHC (Lindane)	8081B	0.367	0.400	92	0.430	0.400	107 *	41-105	16	30



Metals

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Form 3

Blanks

Mercury by EPA 7470A

Workorder
R2302167

Client
Olin Corporation

Project
Industrial Welding

03/28/2023

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 3 - Blanks

Client Olin Corporation
Project Industrial Welding

Workorder
R2302167

Mercury by EPA 7470A (CV)

RCVAA02_798048			ICB		CCB		MB798048		CCB		CCB		CCB	
Units		Run Date	03/17/23		03/17/23		03/17/23		03/17/23		03/17/23		03/17/23	
ug/L		Run Time	12:07		12:13		12:15		12:35		12:57		13:21	
Analyte	DL	LOQ	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Mercury	0.08	0.20	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U

Form 5A

Matrix Spike Sample Recovery

Mercury by EPA 7470A

Workorder
R2302167

Client
Olin Corporation

Project
Industrial Welding

03/28/2023

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 5A - Matrix Spike Sample Recovery

Client Olin Corporation
Project Industrial Welding

Workorder
R2302167

Mercury by EPA 7470A (CV)

IWS-SD1-031423			R2302167-001			R2302167-001MS			R2302167-001DMS					
Samp Matrix Water			Run Date 03/17/23			03/17/23			03/17/23					
Prep Method Method			Run Time 13:07			13:09			13:11					
Prep Batch 416603 03/16/23			Prep Amt 25 mL			25 mL			25 mL					
Analyte	%R Limits	Spike Added	DF	Sample Result	Q	MS Result	%R	Q	MSD Result	%R	Q	RPD Limit	RPD	Q
Mercury	75-125	1.00	1	0.20	U	1.09	109		1.08	108		20	<1	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

Form 7

Laboratory Control Sample

Mercury by EPA 7470A

Workorder
R2302167

Client
Olin Corporation

Project
Industrial Welding

03/28/2023

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 7 - Laboratory Control Sample

Client Olin Corporation
Project Industrial Welding

Workorder
R2302167

Mercury by EPA 7470A (CV)

RCVAA02_798048	QC ID		LCS-416603			
QC Matrix Water	Run Date		03/17/23			
Prep Method Method	Run Time		12:19			
Prep Batch 416603 03/16/23	Prep Amt		25 mL			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
Mercury	80-120	1.00	1.00	100		

- %Recovery / RPD Flag

* - %Recovery / RPD Outside Limits

Industrial Welding Site
Data Evaluation Narrative
March 2023 Groundwater/Storm Drain Sampling Event

SDG R2302167: ALS Environmental, Rochester, NY

Deliverables

The data package as submitted to Olin Corporation is complete as stipulated under the Industrial Welding Site Quality Assurance Project Plan (QAPP) as approved by the New York State Department of Environmental Conservation. United States Environmental Protection Agency (USEPA) Methods 8270D, 8081B, and 7470A were utilized in the laboratory testing.

Samples submitted within this sample delivery group (SDG) were submitted to the ALS Environmental laboratory in Rochester, NY for analysis of select semi-volatile organic compounds, organochlorine pesticides, and total mercury. The laboratory subsequently applied login numbers to the SDG. The SDG number for this sampling event is R2302167. This evaluation narrative follows the listing of groundwater and storm drain sample field identifications. The topics are ordered to first assess issues affecting the entire data set.

Sample Integrity

Information provided on the Chain of Custody and Cooler Receipt Form provided by the laboratory confirmed the samples arrived at the laboratory intact. The cooler temperature as received by the laboratory was within the temperature control limits of $4.0^{\circ}\text{C} \pm 2.0^{\circ}\text{C}$. The proper bottles and preservatives were used, and the correct analytical methods were employed.

Sample Identification

This SDG contains the following samples collected on March 14, 2023:

SAMPLE

IWS-SD1-031423

SAMPLE

IWS-MW1-031423

SAMPLE

IWS-MW2-031423

Semi-Volatile Organic Compounds (EPA Method 8270D)

The samples in this SDG were submitted for analysis of select semi-volatile organic compounds—polyaromatic hydrocarbons (PAHs), by USEPA Method 8270D.

Holding Times:

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for PAH analysis. The holding times of 7 days for extraction and 40 days for analysis were met.

GC/MS Instrument Performance Check:

The GC/MS tuning and mass calibration checks were performed with decafluorotriphenylphosphine (DFTPP) and met the performance criteria as established by the method.

Calibration:

The initial calibration and continuing calibration data (ICV and CCV respectively) indicate that applicable calibration criteria were met for samples submitted for PAH analysis. The RSDs for each calibration check were within the applicable criteria.

Blank Summary:

The analytical results of the laboratory method blank indicated no PAHs were detected.

Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

The LCS/LCSD spike recoveries were within the applicable QC advisory limits, as were the relative percent differences (RPDs).

Matrix Spike/Matrix Spike Duplicate:

Sufficient sample volumes of IWS-SD1-031423 were submitted to the laboratory for MS/MSD analysis. The MS/MSD recoveries and RPDs were within laboratory control limits.

Internal Standards and Surrogates:

The internal standard area counts/retention times and the surrogate recoveries were within applicable QC advisory limits.

Organochlorine Pesticides (EPA Method 8081B)

The samples in this SDG were submitted for total HCCH (hexachlorocyclohexanes) analysis by USEPA Method 8081B.

Holding Times:

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for HCCH analyses. The holding times of 7 days for extraction and 40 days for analysis were met.

Calibration:

The initial calibration data met method and QAPP criteria. The injection port inertness checks (column breakdown) for DDT and Endrin were within QC limits each day that samples associated with this SDG were analyzed. The continuing calibration data were within lab control limits except for one compound which had a potential high bias; since all project samples were non-detect for this compound no data qualifiers were necessary.

Surrogates:

The surrogate recoveries were within applicable QC advisory limits.

Blank Summary:

The analytical results of the laboratory method blank indicated no HCCHs were detected.

Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

The LCS/LCSD spike recoveries were within the applicable QC advisory limits as were the RPDs with the exception of two compounds in the LCSD which had recoveries just above the upper control limits; since all project samples were non-detect for these compounds no data qualifiers were necessary.

Matrix Spike/Matrix Spike Duplicate:

The lab did not analyze MS/MSD project samples for this sampling event.

Dual Column Confirmation:

The RPDs between the primary and confirmation results were within laboratory QC guidelines.

Total Mercury Analyses (EPA Method 7470A)

The samples in this SDG were submitted for total mercury analysis by USEPA Method 7470A.

Holding Times:

The extraction and analytical logs indicate that applicable holding times were met for samples submitted for total mercury analysis.

Calibration:

The initial and continuing calibration data for this SDG indicate that applicable calibration criteria were met for samples submitted for total mercury analysis. The low-level check standard recoveries were within QC advisory limits.

Blank Summary:

The analytical results of the initial and continuing laboratory method blanks indicated that total mercury was not detected.

Laboratory Control Sample:

The laboratory control sample (LCS) spike recovery was within the applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate:

Sample IWS-SD1-031423 was submitted to the laboratory for MS/MSD analysis. The percent recoveries and RPD were within lab control limits.

Overall Site Evaluation and Professional Judgment Flagging Changes

The data within this SDG were compared to site data and edits to the to the DQE flags were not required based on professional judgment. Monitoring period completeness, which is the percentage of analytical results judged valid, including estimated values, was 100 percent for the March 2023 sampling event.

Prepared by: *Randy T. Morris*

Date: *April 27, 2023*

Sample	Date Collected	Date Analyzed	Analysis Method	Matrix	Units	Component	Dilution Factor	Reporting Limit	Detection Limit	Result	Result Notes
IWS-SD1-031423	3/14/2023	3/17/2023	7470A	Water	UG/L	Mercury, Total	1	0.2	0.08	0.2	U
IWS-MW1-031423	3/14/2023	3/17/2023	7470A	Water	UG/L	Mercury, Total	1	0.2	0.08	0.2	U
IWS-MW2-031423	3/14/2023	3/17/2023	7470A	Water	UG/L	Mercury, Total	1	0.2	0.08	6.81	
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	2-Methylnaphthalene	1	10	1.3	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Acenaphthene	1	10	1.4	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Acenaphthylene	1	10	1.4	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Anthracene	1	10	1.3	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benz(a)anthracene	1	10	1.6	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(a)pyrene	1	10	1.2	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(b)fluoranthene	1	10	1.2	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(g,h,i)perylene	1	10	1	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(k)fluoranthene	1	10	1.3	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Chrysene	1	10	1.2	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Dibenz(a,h)anthracene	1	10	1.1	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Fluoranthene	1	10	1.5	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Fluorene	1	10	1.3	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Indeno(1,2,3-cd)pyrene	1	10	1.8	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Naphthalene	1	10	1.2	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Phenanthrene	1	10	1.4	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Pyrene	1	10	1.5	10	U
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	%	2-Fluorobiphenyl	1			71	SUR
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	%	Nitrobenzene-d5	1			65	SUR
IWS-SD1-031423	3/14/2023	3/21/2023	8270D	Water	%	p-Terphenyl-d14	1			63	SUR
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	2-Methylnaphthalene	1	8.9	1.3	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Acenaphthene	1	8.9	1.4	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Acenaphthylene	1	8.9	1.4	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Anthracene	1	8.9	1.3	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benz(a)anthracene	1	8.9	1.6	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(a)pyrene	1	8.9	1.2	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(b)fluoranthene	1	8.9	1.2	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(g,h,i)perylene	1	8.9	1	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(k)fluoranthene	1	8.9	1.3	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Chrysene	1	8.9	1.2	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Dibenz(a,h)anthracene	1	8.9	1.1	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Fluoranthene	1	8.9	1.5	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Fluorene	1	8.9	1.3	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Indeno(1,2,3-cd)pyrene	1	8.9	1.8	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Naphthalene	1	8.9	1.2	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Phenanthrene	1	8.9	1.4	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Pyrene	1	8.9	1.5	8.9	U
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	%	2-Fluorobiphenyl	1			50	SUR
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	%	Nitrobenzene-d5	1			39	SUR
IWS-MW1-031423	3/14/2023	3/21/2023	8270D	Water	%	p-Terphenyl-d14	1			57	SUR
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	2-Methylnaphthalene	1	8.9	1.3	8.9	U

IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Acenaphthene	1	8.9	1.4	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Acenaphthylene	1	8.9	1.4	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Anthracene	1	8.9	1.3	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benz(a)anthracene	1	8.9	1.6	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(a)pyrene	1	8.9	1.2	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(b)fluoranthene	1	8.9	1.2	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(g,h,i)perylene	1	8.9	1	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Benzo(k)fluoranthene	1	8.9	1.3	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Chrysene	1	8.9	1.2	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Dibenz(a,h)anthracene	1	8.9	1.1	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Fluoranthene	1	8.9	1.5	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Fluorene	1	8.9	1.3	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Indeno(1,2,3-cd)pyrene	1	8.9	1.8	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Naphthalene	1	8.9	1.2	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Phenanthrene	1	8.9	1.4	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	UG/L	Pyrene	1	8.9	1.5	8.9	U
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	%	2-Fluorobiphenyl	1			64	SUR
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	%	Nitrobenzene-d5	1			58	SUR
IWS-MW2-031423	3/14/2023	3/21/2023	8270D	Water	%	p-Terphenyl-d14	1			62	SUR
IWS-SD1-031423	3/14/2023	3/23/2023	8081B	Water	UG/L	alpha-BHC	1	0.045	0.02	0.045	U
IWS-SD1-031423	3/14/2023	3/23/2023	8081B	Water	UG/L	beta-BHC	1	0.045	0.02	0.045	U
IWS-SD1-031423	3/14/2023	3/23/2023	8081B	Water	UG/L	delta-BHC	1	0.045	0.02	0.045	U
IWS-SD1-031423	3/14/2023	3/23/2023	8081B	Water	UG/L	gamma-BHC (Lindane)	1	0.045	0.02	0.045	U
IWS-SD1-031423	3/14/2023	3/23/2023	8081B	Water	%	Decachlorobiphenyl	1			53	SUR
IWS-SD1-031423	3/14/2023	3/23/2023	8081B	Water	%	Tetrachloro-m-xylene	1			81	SUR
IWS-MW1-031423	3/14/2023	3/23/2023	8081B	Water	UG/L	alpha-BHC	1	0.045	0.02	0.045	U
IWS-MW1-031423	3/14/2023	3/23/2023	8081B	Water	UG/L	beta-BHC	1	0.045	0.02	0.045	U
IWS-MW1-031423	3/14/2023	3/23/2023	8081B	Water	UG/L	delta-BHC	1	0.045	0.02	0.045	U
IWS-MW1-031423	3/14/2023	3/23/2023	8081B	Water	UG/L	gamma-BHC (Lindane)	1	0.045	0.02	0.045	U
IWS-MW1-031423	3/14/2023	3/23/2023	8081B	Water	%	Decachlorobiphenyl	1			106	SUR
IWS-MW1-031423	3/14/2023	3/23/2023	8081B	Water	%	Tetrachloro-m-xylene	1			74	SUR
IWS-MW2-031423	3/14/2023	3/24/2023	8081B	Water	UG/L	alpha-BHC	1	0.045	0.02	0.045	U
IWS-MW2-031423	3/14/2023	3/24/2023	8081B	Water	UG/L	beta-BHC	1	0.045	0.02	0.048	
IWS-MW2-031423	3/14/2023	3/24/2023	8081B	Water	UG/L	delta-BHC	1	0.045	0.02	0.045	U
IWS-MW2-031423	3/14/2023	3/24/2023	8081B	Water	UG/L	gamma-BHC (Lindane)	1	0.045	0.02	0.045	U
IWS-MW2-031423	3/14/2023	3/24/2023	8081B	Water	%	Decachlorobiphenyl	1			89	SUR
IWS-MW2-031423	3/14/2023	3/24/2023	8081B	Water	%	Tetrachloro-m-xylene	1			71	SUR

ATTACHMENT C



490 Stuart Road NE
Cleveland, TN. 37312
(423) 508-2768
abcarringer@olin.com

SENT VIA EMAIL

February 28, 2023

Industrial Monitoring Coordinator
City of Niagara Falls
Department of Wastewater Facilities
Enforcement Division
1200 Buffalo Avenue
PO Box 69
Niagara Falls, NY 14302-0069

**Re: Olin Industrial Welding Site – No Violations
Niagara Falls, New York
Wastewater Discharge Permit No. ICU-23
Periodic Self-Monitoring Report**

Dear Industrial Monitoring Coordinator:

Please find enclosed the annual Periodic Self-Monitoring Report in accordance with the reporting requirements of the Wastewater Discharge Permit for the Olin Industrial Welding Site. The site is in compliance for all monitored parameters; there are no violations.

Discharge during this monitoring period (January-2022 through December-2022) totaled 127,048 gallons. Daily flow documentation is included in Attachment 1. The annual monitoring samples were taken on November 9, 2022. The laboratory analytical report for compliance monitoring is included on CD, along with a printed summary sheet, in Attachment 2. The analytical results and loading data are tabulated in Part I of the report. There were no exceedances.

Please direct any questions or comments to me at 423/508-2768.

Sincerely,
OLIN CORPORATION

A handwritten signature in black ink, appearing to read 'Adam B. Carringer', is written over a light blue horizontal line.

Adam Carringer
Senior Environmental Specialist

Attachments

PERIODIC SELF MONITORING REPORT INDUSTRIAL COMMERCIAL USER

PART II of the report is the Compliance Monitoring section. The user is obligated to determine if the analysis results indicate compliance or noncompliance. All violations noted should be brought to the City's attention immediately upon noting and should also be reported in this section. The analysis result should be compared against all applicable federal, state and local standards and limitations. If no violations are noted then "NO VIOLATIONS" should appear on the report.

Pursuant to 40 CFR Part 403.12 g of the federal standards, all violations noted must be followed up by a sample recollect/analysis and the results submitted to the City within thirty (30) days of first becoming aware of the violation.

Pursuant to 40 CFR Part 403.12 g, all Periodic self Monitoring Reports must be signed by a 'responsible company official' certifying the following statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: 

Date: 2/28/2023

**PART 1
ANALYTICAL RESULTS**

ICU PERMIT NAME Olin Corporation - Industrial Welding Site

ICU PERMIT NUMBER ICU - 23

SAMPLE LOCATION MS#1

DATE SAMPLED 11/8/2021

ANALYSIS DATES Nov 11-19, 2021

ANALYTICAL LABORATORY ALS Environmental

Parameter	Method	Results (mg/l)	Flag	Results (lb/day)	Daily Max Discharge Limits (lb/day)
Total Suspended Solids	SM 2540 D	4.4		0.006	15
Soluble Organic Carbon	SM 5310 C	4.4		0.006	10
Acetone	EPA 624.1	0.00500	U	0.000007	0.01
Dichloroethanes	EPA 624.1	0.00200	U	0.000003	0.01
Trichloroethylenes	EPA 624.1	0.000814	J	0.000001	0.01
BHCs total	EPA 608.3	0.000182	U	0.0000002	0.001
Mercury	EPA 245.1	0.000956		0.0000013	0.008

Parameter	Value
Avg. Daily Flow (gal/day) for 2021	157
Avg. Daily Flow (Mgal/day) for 2021	0.000157
Discharge Limitations (Annual Avg. MGD)	0.005
Discharge Limitations (Daily Max MGD)	0.008

Note:

U = Analyte was analyzed for but not detected

J = Estimated value

Results (lb/day) = Results (mg/l) X Flow (Gal/Day) X .00000834

Flows calculated based on avg daily flow for year rather than for sampling month, due to flow variability and sampling month dry weather conditions.

PART II

COMPLIANCE MONITORING

INDUSTRY NAME Olin Corporation - Industrial Welding Site

PERMIT NO. ICU - 23

			SAMPLE			TYPE **
VIOLATION		FLOW	POINT	ACTUAL *	PERMIT	LIMIT
PARAMETER	DATE	(MGD)	LOCATION	DISCHARGE	LIMIT	VIOLATED
through	Dec. 1999	NO VIOLATIONS				
through	Dec. 2000	NO VIOLATIONS				
through	Dec. 2001	NO VIOLATIONS				
through	Dec. 2002	NO VIOLATIONS				
through	Dec. 2003	NO VIOLATIONS				
through	Dec. 2004	NO VIOLATIONS				
through	Dec. 2005	NO VIOLATIONS				
through	Dec. 2006	NO VIOLATIONS				
through	Dec. 2007	NO VIOLATIONS				
through	Dec. 2008	NO VIOLATIONS				
through	Dec. 2009	NO VIOLATIONS				
through	Dec. 2010	NO VIOLATIONS				
through	Dec. 2011	NO VIOLATIONS				
through	Dec. 2012	NO VIOLATIONS				
through	Dec. 2013	NO VIOLATIONS				
through	Dec. 2014	NO VIOLATIONS				
through	Dec. 2015	NO VIOLATIONS				
through	Dec. 2016	NO VIOLATIONS				
through	Dec. 2017	NO VIOLATIONS				
through	Dec. 2018	NO VIOLATIONS				
through	Dec. 2019	NO VIOLATIONS				
through	Dec. 2020	NO VIOLATIONS				
through	Dec. 2021	NO VIOLATIONS				
through	Dec. 2022	NO VIOLATIONS				

NOTE: * - Actual Discharge - List actual analytical results and appropriate units
 ** - Type Limit violated
 A.A. = Annual Average
 D.M = Daily Maximum
 L.L. Local Limits (Ordinance 250.5.1)

ATTACHMENT 1

Industrial Welding Site - Discharge Flows: 2022

Month	Monthly Flow (gal)	gal/day
Jan	5,266	170
Feb	46,341	1,655
Mar	30,508	984
Apr	15,724	524
May	8,846	285
Jun	2,234	74
Jul	856	28
Aug	0	0
Sep	1,119	37
Oct	0	0
Nov	5,011	167
Dec	11,143	359
Total	127,048	
MONTHLY AVERAGE	10,587	
daily average	348	
daily avg Mgal	0.000348	

Daily Avg. Limit = 0.005 Mgal

Industrial Welding Site Flows
Jan-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter **5,266**

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
1/1/2022	3:57:56	2.1	715
1/2/2022	3:57:53	0.3	129
1/3/2022	3:57:53	2.2	748
1/4/2022	3:57:53	0	0
1/5/2022	3:57:52	2.3	800
1/6/2022	3:57:54	0	0
1/7/2022	3:57:54	2.1	736
1/8/2022	3:57:53	0	0
1/9/2022	3:57:55	2.1	722
1/10/2022	3:57:53	0	0
1/11/2022	3:57:52	0	0
1/12/2022	3:57:53	0.4	161
1/13/2022	3:57:56	1.6	550
1/14/2022	3:57:59	0	0
1/15/2022	3:57:53	0	0
1/16/2022	3:57:52	0	0
1/17/2022	3:57:53	0	0
1/18/2022	3:57:58	0	0
1/19/2022	3:57:55	2.2	705
1/20/2022	3:57:56	0	0
1/21/2022	3:57:59	0	0
1/22/2022	3:57:53	0	0
1/23/2022	3:57:57	0	0
1/24/2022	3:57:53	0	0
1/25/2022	3:57:57	0	0
1/26/2022	3:57:52	0	0
1/27/2022	3:57:56	0	0
1/28/2022	3:57:54	0	0
1/29/2022	3:57:53	0	0
1/30/2022	3:57:58	0	0
1/31/2022	3:57:56	0	0

January Total Discharge **15.3** **5,266**

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows
Feb-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter		46,341	
<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
2/1/2022	3:58:01	0	0
2/2/2022	3:57:55	0	0
2/3/2022	3:57:54	2.2	727
2/4/2022	3:57:58	0	0
2/5/2022	3:57:57	0	0
2/6/2022	3:57:58	0	0
2/7/2022	3:57:57	0	0
2/8/2022	3:57:55	0	0
2/9/2022	3:57:56	0	0
2/10/2022	3:57:54	0	0
2/11/2022	3:57:54	4	1303
2/12/2022	3:57:58	8.3	2730
2/13/2022	3:57:55	2.1	718
2/14/2022	3:57:58	0	0
2/15/2022	3:57:57	2.2	732
2/16/2022	3:57:54	6.4	2110
2/17/2022	3:57:56	17	5543
2/18/2022	3:57:53	20.6	6928
2/19/2022	3:57:52	8.5	2898
2/20/2022	3:58:00	8.1	2706
2/21/2022	3:57:54	5.4	1751
2/22/2022	3:57:53	8.4	2710
2/23/2022	3:57:52	15.7	5212
2/24/2022	3:57:58	9.7	3272
2/25/2022	3:57:54	8.4	2786
2/26/2022	3:57:56	5.3	1749
2/27/2022	3:57:55	5	1666
2/28/2022	3:57:57	2.4	800
February Total Discharge		139.7	46,341

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows
Mar-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter **30,508**

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
3/1/2022	15:57:45	2.4	800
3/2/2022	3:57:45	4.8	1,603
3/3/2022	3:57:57	2.3	781
3/4/2022	3:57:52	2.3	778
3/5/2022	3:57:53	2.3	763
3/6/2022	3:57:56	4.2	1404
3/7/2022	3:57:55	5.1	1725
3/8/2022	3:57:57	5.4	1831
3/9/2022	3:57:53	3.1	1056
3/10/2022	3:57:53	4.7	1623
3/11/2022	3:57:54	3.2	1098
3/12/2022	3:57:54	4.7	1613
3/13/2022	5:00:01	6.3	1660
3/14/2022	1:28:01	2.3	773
3/15/2022	3:57:58	2.3	771
3/16/2022	3:57:58	2.2	755
3/17/2022	3:57:52	1.3	437
3/18/2022	3:57:56	0.9	314
3/19/2022	3:57:57	2.5	848
3/20/2022	3:57:53	2.3	764
3/21/2022	3:57:53	2.4	763
3/22/2022	3:57:59	2.2	745
3/23/2022	3:57:58	2.5	852
3/24/2022	3:57:56	5.1	1706
3/25/2022	3:57:52	2.3	771
3/26/2022	3:57:53	2.2	747
3/27/2022	3:57:56	2.3	773
3/28/2022	3:57:54	10.1	0
3/29/2022	3:57:59	18.6	1230
3/30/2022	3:57:54	2.3	772
3/31/2022	3:57:53	2.3	752

March Total Discharge **116.9** **30,508**

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows
Apr-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter **15,724**

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
4/1/2022	3:57:56	2.2	767
4/2/2022	3:57:58	0	0
4/3/2022	3:57:55	2.3	767
4/4/2022	3:57:52	2.3	735
4/5/2022	3:57:53	0	0
4/6/2022	3:57:56	2.3	750
4/7/2022	3:57:51	2.3	750
4/8/2022	3:57:58	0	0
4/9/2022	3:57:56	2.3	763
4/10/2022	3:57:57	2.2	741
4/11/2022	3:57:54	0	0
4/12/2022	3:57:53	2.1	722
4/13/2022	3:57:55	0	0
4/14/2022	3:57:54	2.2	726
4/15/2022	3:57:58	0	0
4/16/2022	3:57:59	2.4	794
4/17/2022	3:57:55	0	0
4/18/2022	3:58:02	4.7	1559
4/19/2022	3:57:54	2.4	795
4/20/2022	3:57:55	2.2	737
4/21/2022	3:57:55	2.2	728
4/22/2022	3:57:56	0	0
4/23/2022	3:57:56	2.2	722
4/24/2022	3:57:57	0	0
4/25/2022	3:57:53	2.2	723
4/26/2022	3:58:08	2.2	721
4/27/2022	3:57:56	2.3	765
4/28/2022	3:57:55	2.2	734
4/29/2022	3:57:58	0	0
4/30/2022	3:57:58	2.2	725

April Total Discharge **47.4** **15,724**

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows

May-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter		8,846	
<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
5/1/2022	3:57:59	0	0
5/2/2022	3:57:56	2.2	728
5/3/2022	3:57:53	2.5	807
5/4/2022	3:57:55	2.5	832
5/5/2022	3:57:58	2.2	731
5/6/2022	3:57:56	0	0
5/7/2022	3:57:58	2.2	739
5/8/2022	3:57:58	0	0
5/9/2022	3:57:53	2.2	734
5/10/2022	3:57:57	0	0
5/11/2022	3:57:56	2.1	719
5/12/2022	3:57:54	0	0
5/13/2022	3:57:57	0	0
5/14/2022	3:57:55	2.2	714
5/15/2022	3:57:53	0	0
5/16/2022	3:57:55	2.2	708
5/17/2022	3:57:55	0	0
5/18/2022	3:57:54	0	0
5/19/2022	3:57:59	0	0
5/20/2022	3:57:54	2.1	693
5/21/2022	3:57:55	0	0
5/22/2022	3:57:54	2.1	697
5/23/2022	3:57:55	0	0
5/24/2022	3:57:54	0	0
5/25/2022	3:57:55	0	0
5/26/2022	3:57:58	0	0
5/27/2022	3:57:53	2.3	744
5/28/2022	3:57:57	0	0
5/29/2022	3:57:52	0	0
5/30/2022	3:57:56	0	0
5/31/2022	3:57:55	0	0
May Total Discharge		26.8	8,846

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows

Jun-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter		2,234	
<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
6/1/2022	3:57:56	2.3	751
6/2/2022	3:57:54	0	0
6/3/2022	3:57:54	0	0
6/4/2022	3:57:53	0	0
6/5/2022	3:57:57	0	0
6/6/2022	3:57:59	0	0
6/7/2022	3:57:55	2.3	767
6/8/2022	3:58:00	0	0
6/9/2022	3:57:58	0	0
6/10/2022	3:57:55	2.1	716
6/11/2022	3:57:56	0	0
6/12/2022	3:57:55	0	0
6/13/2022	3:57:55	0	0
6/14/2022	3:57:55	0	0
6/15/2022	3:57:56	0	0
6/16/2022	3:57:53	0	0
6/17/2022	3:57:52	0	0
6/18/2022	3:57:53	0	0
6/19/2022	3:57:55	0	0
6/20/2022	3:57:53	0	0
6/21/2022	3:57:55	0	0
6/22/2022	3:57:55	0	0
6/23/2022	3:57:54	0	0
6/24/2022	3:58:00	0	0
6/25/2022	3:57:55	0	0
6/26/2022	3:57:58	0	0
6/27/2022	3:57:51	0	0
6/28/2022	3:57:55	0	0
6/29/2022	3:57:53	0	0
6/30/2022	3:57:56	0	0
June Total Discharge		6.7	2,234

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows

Jul-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

856

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
7/1/2022	3:57:58	0	0
7/2/2022	3:57:55	0	0
7/3/2022	3:57:58	0	0
7/4/2022	3:57:58	0	0
7/5/2022	3:57:56	0	0
7/6/2022	3:57:55	0	0
7/7/2022	3:57:54	0	0
7/8/2022	3:58:48	0	0
7/9/2022	3:58:04	0	0
7/10/2022	3:57:56	0	0
7/11/2022	3:57:56	0	0
7/12/2022	3:57:53	0	0
7/13/2022	3:58:01	0	0
7/14/2022	3:58:01	0	0
7/15/2022	3:57:57	0	0
7/16/2022	3:57:58	0	0
7/17/2022	3:57:55	0	0
7/18/2022	3:57:56	2.6	856
7/19/2022	3:57:54	0	0
7/20/2022	3:57:52	0	0
7/21/2022	3:57:53	0	0
7/22/2022	3:57:54	0	0
7/23/2022	3:57:53	0	0
7/24/2022	3:57:54	0	0
7/25/2022	3:57:55	0	0
7/26/2022	3:57:53	0	0
7/27/2022	3:57:55	0	0
7/28/2022	3:57:57	0	0
7/29/2022	3:57:59	0	0
7/30/2022	3:57:55	0	0
7/31/2022	3:57:57	0	0
July Total Discharge		2.6	856

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows
Aug-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

0

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
8/1/2022	3:57:53	0	0
8/2/2022	3:57:58	0	0
8/3/2022	3:57:58	0	0
8/4/2022	3:57:53	0	0
8/5/2022	3:57:59	0	0
8/6/2022	3:57:54	0	0
8/7/2022	3:57:53	0	0
8/8/2022	3:57:53	0	0
8/9/2022	3:57:52	0	0
8/10/2022	3:57:55	0	0
8/11/2022	3:57:55	0	0
8/12/2022	3:57:54	0	0
8/13/2022	3:57:54	0	0
8/14/2022	3:57:59	0	0
8/15/2022	3:57:56	0	0
8/16/2022	3:57:55	0	0
8/17/2022	3:57:56	0	0
8/18/2022	3:57:58	0	0
8/19/2022	3:57:59	0	0
8/20/2022	3:57:54	0	0
8/21/2022	3:57:58	0	0
8/22/2022	3:57:57	0	0
8/23/2022	3:57:55	0	0
8/24/2022	3:57:59	0	0
8/25/2022	3:58:22	0	0
8/26/2022	3:58:14	0	0
8/27/2022	3:58:13	0	0
8/28/2022	3:58:14	0	0
8/29/2022	3:58:11	0	0
8/30/2022	3:58:14	0	0
8/31/2022	3:58:11	0	0

August Total Discharge

0

0

Daily Discharge Lir Max = 8,000 gal

Industrial Welding Site Flows
Sep-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter **1,119**

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
9/1/2022	3:58:12	0	0
9/2/2022	3:58:13	0	0
9/3/2022	3:58:11	0	0
9/4/2022	3:58:15	0	0
9/5/2022	3:58:12	2.4	774
9/6/2022	3:58:13	0	0
9/7/2022	3:58:12	0	0
9/8/2022	3:58:14	0	0
9/9/2022	3:58:12	0	0
9/10/2022	3:58:14	0	0
9/11/2022	3:58:13	0	0
9/12/2022	3:58:11	0	0
9/13/2022	3:58:12	0	0
9/14/2022	3:58:12	0	0
9/15/2022	3:58:12	0	0
9/16/2022	3:57:53	0	0
9/17/2022	3:58:11	0	0
9/18/2022	3:58:12	0	0
9/19/2022	3:58:11	0	0
9/20/2022	3:58:14	1.1	345
9/21/2022	3:58:13	0	0
9/22/2022	3:58:11	0	0
9/23/2022	3:58:12	0	0
9/24/2022	3:58:12	0	0
9/25/2022	3:58:14	0	0
9/26/2022	3:58:12	0	0
9/27/2022	3:58:13	0	0
9/28/2022	3:58:12	0	0
9/29/2022	3:58:13	0	0
9/30/2022	3:58:12	0	0

September Total Discharge **3.5** **1,119**

Daily Discharge Limit: Max = 8,000 gal

Industrial Welding Site Flows

Oct-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

0

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
10/1/2022	3:58:12	0	0
10/2/2022	3:58:13	0	0
10/3/2022	3:58:14	0	0
10/4/2022	3:58:16	0	0
10/5/2022	3:58:12	0	0
10/6/2022	3:58:11	0	0
10/7/2022	3:58:13	0	0
10/8/2022	3:58:11	0	0
10/9/2022	3:58:24	0	0
10/10/2022	3:58:11	0	0
10/11/2022	3:58:15	0	0
10/12/2022	3:58:12	0	0
10/13/2022	3:58:12	0	0
10/14/2022	3:58:12	0	0
10/15/2022	3:58:12	0	0
10/16/2022	3:58:13	0	0
10/17/2022	3:58:11	0	0
10/18/2022	3:58:12	0	0
10/19/2022	3:58:12	0	0
10/20/2022	3:58:13	0	0
10/21/2022	3:58:12	0	0
10/22/2022	3:58:11	0	0
10/23/2022	3:58:12	0	0
10/24/2022	3:58:14	0	0
10/25/2022	3:58:13	0	0
10/26/2022	3:58:11	0	0
10/27/2022	3:58:11	0	0
10/28/2022	3:58:12	0	0
10/29/2022	3:58:12	0	0
10/30/2022	3:58:12	0	0
10/31/2022	3:58:11	0	0

October Total Discharge

0

0

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows

Nov-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

5,011

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
11/1/2022	3:58:14	0	0
11/2/2022	3:58:13	0	0
11/3/2022	3:59:37	0	0
11/4/2022	3:58:13	0	0
11/5/2022	3:58:12	0	0
11/6/2022	2:57:46	0	0
11/7/2022	3:58:13	0	0
11/8/2022	3:59:07	0.6	192
11/9/2022	3:58:18	0	0
11/10/2022	3:58:15	0	0
11/11/2022	3:58:12	0	0
11/12/2022	3:58:14	0	0
11/13/2022	3:58:14	0	0
11/14/2022	3:58:12	0	0
11/15/2022	3:58:14	0	0
11/16/2022	3:58:13	0	0
11/17/2022	3:58:13	0	0
11/18/2022	3:58:12	0	0
11/19/2022	3:58:13	0	0
11/20/2022	3:58:13	0	0
11/21/2022	3:58:13	2.6	881
11/22/2022	3:58:13	2.3	820
11/23/2022	3:58:14	2.4	832
11/24/2022	3:58:12	2.2	753
11/25/2022	3:58:12	0	0
11/26/2022	3:58:13	0	0
11/27/2022	3:58:11	2.2	761
11/28/2022	3:58:14	0	0
11/29/2022	3:58:14	0	0
11/30/2022	3:58:14	2.2	772

November Total Discharge

14.5

5,011

Daily Discharge Limits:

Max = 8,000 gal

Industrial Welding Site Flows

Dec-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

11,143

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
12/1/2022	3:58:14	0	0
12/2/2022	3:58:12	2.2	752
12/3/2022	3:58:11	0	0
12/4/2022	3:58:13	0	0
12/5/2022	3:58:14	2.1	740
12/6/2022	3:58:13	0	0
12/7/2022	3:58:12	0	0
12/8/2022	3:58:13	0	0
12/9/2022	3:58:19	0	0
12/10/2022	3:58:11	0	0
12/11/2022	3:58:11	2.1	727
12/12/2022	3:58:13	0	0
12/13/2022	3:58:13	0	0
12/14/2022	3:58:14	0	0
12/15/2022	3:58:14	2.8	956
12/16/2022	3:58:14	4.3	1488
12/17/2022	3:58:11	0.4	140
12/18/2022	3:58:13	2.2	744
12/19/2022	3:58:13	0	0
12/20/2022	3:58:13	0	0
12/21/2022	3:58:11	0	0
12/22/2022	3:58:13	2	732
12/23/2022	3:58:14	2.2	761
12/24/2022	3:58:14	0	0
12/25/2022	3:58:12	2.2	737
12/26/2022	3:58:13	0	0
12/27/2022	3:58:12	0	0
12/28/2022	3:58:12	0	0
12/29/2022	3:58:12	2.4	830
12/30/2022	3:58:14	2.3	803
12/31/2022	3:58:13	5.1	1733

December Total Discharge

32

11,143

Daily Discharge Limits:

Max = 8,000 gal

ATTACHMENT 2

Olin Corporation Industrial Welding Site

November-22

SDG-R2210795

Sample	Date Collected	Date Received	Date Analyzed	Component	MRL	Result	Flag	Units
IWS-MS-110821	11/8/2022	11/9/2022	11/11/2022	Carbon, Dissolved Organic (DOC)	1.0	3.2		mg/L
IWS-MS-110821	11/8/2022	11/9/2022	11/11/2022	Solids, Total Suspended (TSS)	1.0	3.9		mg/L
IWS-MS-110821	11/8/2022	11/9/2022	11/11/2022	Mercury, Total	0.20	0.20	U	ug/L
IWS-MS-110821	11/8/2022	11/9/2022	11/11/2022	Acetone	5.00	5.00	U	ug/L
IWS-MS-110821	11/8/2022	11/9/2022	11/11/2022	1,1-Dichloroethane (1,1-DCA)	1.00	1.00	U	ug/L
IWS-MS-110821	11/8/2022	11/9/2022	11/11/2022	1,2-Dichloroethane	1.00	0.216	J	ug/L
IWS-MS-110821	11/8/2022	11/9/2022	11/11/2022	Trichloroethene (TCE)	1.00	3.52		ug/L
IWS-MS-110821	11/8/2022	11/9/2022	11/18/2022	alpha-BHC	0.0446	0.0446	U	ug/L
IWS-MS-110821	11/8/2022	11/9/2022	11/18/2022	beta-BHC	0.0446	0.0518		ug/L
IWS-MS-110821	11/8/2022	11/9/2022	11/18/2022	delta-BHC	0.0446	0.0446	U	ug/L
IWS-MS-110821	11/8/2022	11/9/2022	11/18/2022	gamma-BHC (Lindane)	0.0446	0.0446	U	ug/L

Notes:

U = Analyte was analyzed for but not detected

J = Estimated value

MRL = Method Reporting Limit

Values in the "Results" column that are in bold font represent values above the the MRL



November 30, 2022

Service Request No:R2210795

Adam Carringer
Olin Corporation
490 Stuart Road
Cleveland, TN 37312

Laboratory Results for: Olin Industrial Welding Site

Dear Adam,

Enclosed are the results of the sample(s) submitted to our laboratory November 09, 2022
For your reference, these analyses have been assigned our service request number **R2210795**.

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at Meghan.Pedro@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Meghan Pedro
Project Manager

CC: Randy Morris

ADDRESS

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

PHONE

+1 585 288 5380

FAX

+1 585 288 8475

ALS Group USA, Corp.
dba ALS Environmental



Narrative Documents

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Client: Olin Corporation
Project: Olin Industrial Welding Site
Sample Matrix: Water

Service Request: R2210795
Date Received: 11/09/2022

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Two water samples were received for analysis at ALS Environmental on 11/09/2022. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatile GC:

Method 608 Modified, 11/18/2022: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by Meghan Pedro

Date 11/30/2022



Sample Receipt Information

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845

Service Request:R2210795

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R2210795-001	1WS-MS1-110822	11/8/2022	1040
R2210795-002	Trip Blank-110822	11/8/2022	1040

[illegible]



Cooler Receipt and Preservation Check Form

R2210795

5

Oil Corporation
Oil Industrial Welding Site



Project/Client Sevenson Folder Number _____

Cooler received on 11/9/22 by: JE

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	Y <u>(N)</u>
2	Custody papers properly completed (ink, signed)?	<u>(Y)</u> N
3	Did all bottles arrive in good condition (unbroken)?	Y <u>(N)</u>
4	Circle: <u>Wet Ice</u> Dry Ice Gel packs present?	<u>(Y)</u> N

5a	Perchlorate samples have required headspace?	Y N <u>(NA)</u>
5b	Did VOA vials, Alk, or Sulfide have sig* bubbles?	Y <u>(N)</u> NA
6	Where did the bottles originate?	<u>ALS/ROC</u> CLIENT
7	Soil VOA received as: Bulk Encore 5035set	<u>(NA)</u>

8. Temperature Readings Date: 11/9/22 Time: 10:07 ID: IR#7 IR#11 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>3.4</u>						
Within 0-6°C?	<u>(Y)</u> N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

& Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: ROCZ by JE on 11/9/22 at ID15
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 11/9/22 Time: 15:10 by: MM

9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved?	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
			Yes No						
>12		NaOH							
<u>2</u>	<u>206722</u>	HNO ₃	✓	<u>2022012457</u>	<u>9/23</u>				
<u>2</u>		H ₂ SO ₄							
<4		NaHSO ₄							
5-9	<u>206722</u>	For 608pest	✓	No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522	✓	If +, contact PM to add Na ₂ S ₂ O ₃ (625, 608, CN), ascorbic (phenol).					
		Na ₂ S ₂ O ₃							
		ZnAcetate	- -						
		HCl	** **						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 22-09-19, 060622-165, 080822-3AWA, 092622-2EFQ
Explain all Discrepancies/ Other Comments:

* IWS-MS1-110822: 1 of 3 vials for 624 broken

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: MM
PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



Cooler Receipt and Preservation Check Form

Project/Client Sevenson Folder Number _____

Cooler received on 11/9/22 by: JE

COURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	Y <u>N</u>
2	Custody papers properly completed (ink, signed)?	Y <u>N</u>
3	Did all bottles arrive in good condition (unbroken)?	Y <u>N</u>
4	Circle: <u>Wet Ice</u> Dry Ice Gel packs present?	Y <u>N</u>

5a	Perchlorate samples have required headspace?	Y N <u>NA</u>
5b	Did VOA vials, Alk, or Sulfide have sig* bubbles?	Y N <u>NA</u>
6	Where did the bottles originate?	ALS/ROC CLIENT
7	Soil VOA received as:	Bulk Encore 5035set NA

8. Temperature Readings Date: 11/9/22 Time: 10:07 ID: IR#7 IR#11 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>3.4</u>						
Within 0-6°C?	<u>Y</u> N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule
& Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: _____ by _____ on _____ at _____
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: _____ Time: _____ by: _____

9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
10. Did all bottle labels and tags agree with custody papers? YES NO
11. Were correct containers used for the tests indicated? YES NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO N/A
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved?		Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≥2		HNO ₃								
≥2		H ₂ SO ₄								
<4		NaHSO ₄								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add Na ₂ S ₂ O ₃ (625, 608, CN), ascorbic (phenol).					
		Na ₂ S ₂ O ₃								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: _____
Explain all Discrepancies/ Other Comments: _____

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: _____
PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation

Service Request: R2210795

Project: Olin Industrial Welding Site/release order ERRE9845

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2210795-001.01	624				
		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
		11/10/2022	1128	In Lab / FNAEGLER	
		11/10/2022	1135	R-001-S08 / FNAEGLER	
R2210795-001.02					
		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.03					
		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.04	SM 5310 B-2014				
		11/9/2022	1510	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.05	SM 2540 D-2015				
		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
R2210795-001.06	245.1				
		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
		11/10/2022	1453	In Lab / CWOODS	
R2210795-001.07	608 Modified				
		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
R2210795-001.08					
		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
R2210795-001.09					
		11/9/2022	1513	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation

Service Request: R2210795

Project: Olin Industrial Welding Site/release order ERRE9845

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2210795-001.10					
		11/9/2022	1513	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.11					
		11/9/2022	1513	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.12					
		11/9/2022	1513	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.13					
		11/9/2022	1513	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-001.15					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.16					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.17					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.18					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation

Service Request: R2210795

Project: Olin Industrial Welding Site/release order ERRE9845

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2210795-001.19					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.20					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.21					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.22					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.23					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.24					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	
		11/23/2022	1455	R-002 / GESMERIAN	
R2210795-001.25					
		11/9/2022	1514	SMO / MMARLEY	
		11/10/2022	1413	R-022 / GESMERIAN	
		11/10/2022	1414	RT000334 / GESMERIAN	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation

Service Request: R2210795

Project: Olin Industrial Welding Site/release order ERRE9845

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2210795-001.30		11/23/2022	1455	R-002 / GESMERIAN	
		11/9/2022	1514	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
		11/11/2022	1159	R-Dumpster / HCASTROVINCI	
R2210795-001.31		11/9/2022	1514	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
		11/11/2022	1159	R-Dumpster / HCASTROVINCI	
		11/9/2022	1514	SMO / MMARLEY	
R2210795-001.34		11/9/2022	1515	R-002 / MMARLEY	
		11/11/2022	1159	R-Dumpster / HCASTROVINCI	
		11/9/2022	1514	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
R2210795-001.35		11/9/2022	1514	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
		11/9/2022	1514	SMO / MMARLEY	
		11/9/2022	1515	R-002 / MMARLEY	
R2210795-002.01	624	11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
		11/10/2022	1128	In Lab / FNAEGLER	
		11/10/2022	1135	R-001-S08 / FNAEGLER	
R2210795-002.02		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	
R2210795-002.03		11/9/2022	1510	SMO / MMARLEY	
		11/9/2022	1514	R-001 / MMARLEY	



Miscellaneous Forms

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed ($\geq 100\%$ Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Accreditations¹



NELAP States
Florida ID # E87674
New Hampshire ID # 2941
New York ID # 10145
Pennsylvania ID# 68-786
Virginia #460167

Non-NELAP States
Connecticut ID #PH0556
Delaware Approved
Maine ID #NY01587
North Carolina #36701
North Carolina #676
Rhode Island LAO00333

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental>

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

ALS Group USA, Corp.

dba ALS Environmental

Analyst Summary report

Client: Olin Corporation**Service Request:** R2210795**Project:** Olin Industrial Welding Site/release order ERRE9845**Sample Name:** 1WS-MS1-110822**Date Collected:** 11/8/22**Lab Code:** R2210795-001**Date Received:** 11/9/22**Sample Matrix:** Water**Analysis Method**

245.1

608 Modified

624

SM 2540 D-2015

SM 5310 B-2014

Extracted/Digested By

CWOODS

JVANHEYNINGEN

Analyzed By

CWOODS

AFELSER

FNAEGLER

HCASTROVINCI

KWONG

Sample Name: Trip Blank-110822**Date Collected:** 11/8/22**Lab Code:** R2210795-002**Date Received:** 11/9/22**Sample Matrix:** Water**Analysis Method**

624

Extracted/Digested By**Analyzed By**

FNAEGLER



INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	



Sample Results

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water
Sample Name: 1WS-MS1-110822
Lab Code: R2210795-001

Service Request: R2210795
Date Collected: 11/08/22 10:40
Date Received: 11/09/22 09:35

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1-Dichloroethane (1,1-DCA)	1.00 U	1.00	0.200	1	11/11/22 01:34	
1,2-Dichloroethane	0.216 J	1.00	0.200	1	11/11/22 01:34	
Acetone	5.00 U	5.00	2.10	1	11/11/22 01:34	
Trichloroethene (TCE)	3.52	1.00	0.200	1	11/11/22 01:34	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	108	73 - 125	11/11/22 01:34	
4-Bromofluorobenzene	105	85 - 122	11/11/22 01:34	
Toluene-d8	101	87 - 121	11/11/22 01:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water
Sample Name: Trip Blank-110822
Lab Code: R2210795-002

Service Request: R2210795
Date Collected: 11/08/22 10:40
Date Received: 11/09/22 09:35
Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1-Dichloroethane (1,1-DCA)	1.00 U	1.00	0.200	1	11/11/22 01:12	
1,2-Dichloroethane	1.00 U	1.00	0.200	1	11/11/22 01:12	
Acetone	5.00 U	5.00	2.10	1	11/11/22 01:12	
Trichloroethene (TCE)	1.00 U	1.00	0.200	1	11/11/22 01:12	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	107	73 - 125	11/11/22 01:12	
4-Bromofluorobenzene	100	85 - 122	11/11/22 01:12	
Toluene-d8	99	87 - 121	11/11/22 01:12	



Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water
Sample Name: 1WS-MS1-110822
Lab Code: R2210795-001

Service Request: R2210795
Date Collected: 11/08/22 10:40
Date Received: 11/09/22 09:35
Units: ug/L
Basis: NA

Organochlorine Pesticides by GC/ECD

Analysis Method: 608.3
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.0446 U	0.0446	0.0200	1	11/18/22 17:18	11/10/22	
beta-BHC	0.0518	0.0446	0.0200	1	11/18/22 17:18	11/10/22	
delta-BHC	0.0446 U	0.0446	0.0200	1	11/18/22 17:18	11/10/22	
gamma-BHC (Lindane)	0.0446 U	0.0446	0.0200	1	11/18/22 17:18	11/10/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tetrachloro-m-xylene	60	13 - 131	11/18/22 17:18	
Decachlorobiphenyl	35	10 - 156	11/18/22 17:18	



Metals

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Form 1

Inorganic Analysis Data Sheet

Mercury by EPA 245.1

Workorder
R2210795

Client
Olin Corporation

Project
Olin Industrial Welding Site

11/29/2022

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Olin Industrial Welding Site

Workorder
R2210795

Mercury by EPA 245.1

R2210795-001				Collected		Received		Matrix		
1WS-MS1-110822				11/08/22 1040		11/09/22 0935		Water		
Analyte	Units	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepBatch
Mercury, Total	ug/L	CV	0.20	U	0.08	0.20	1	11/11/22 15:47	RCVAA02_785009	409805

MC - Method Class CV - Cold Vapor/AA P - ICP/AES MS - ICP/MS



Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation
Project Olin Industrial Welding Site

Workorder
R2210795

Mercury by EPA 245.1

R2210795-MB	Matrix
Method Blank	Water

Analyte	Units	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	PrepBatch
Mercury, Total	ug/L	CV	0.20	U	0.08	0.20	1	11/11/22 14:53	RCVAA02_785009	409805

MC - Method Class CV - Cold Vapor/AA P - ICP/AES MS - ICP/MS



General Chemistry

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water
Sample Name: 1WS-MS1-110822
Lab Code: R2210795-001

Service Request: R2210795
Date Collected: 11/08/22 10:40
Date Received: 11/09/22 09:35
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Carbon, Dissolved Organic (DOC)	SM 5310 B-2014	3.2	mg/L	1.0	1	11/11/22 16:52	
Solids, Total Suspended (TSS)	SM 2540 D-2015	3.9	mg/L	1.0	1	11/11/22 09:00	



QC Summary Forms

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1

Extraction Method:

Sample Name	Lab Code	1,2-Dichloroethane-d4	4-Bromofluorobenzene	Toluene-d8
		73-125	85-122	87-121
1WS-MS1-110822	R2210795-001	108	105	101
Trip Blank-110822	R2210795-002	107	100	99
Method Blank	RQ2214165-04	108	105	101
Lab Control Sample	RQ2214165-03	105	103	99
1WS-MS1-110822 MS	RQ2214165-05	106	98	97
1WS-MS1-110822 DMS	RQ2214165-06	107	104	100

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795
Date Collected: 11/08/22
Date Received: 11/09/22
Date Analyzed: 11/11/22

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS, Unpreserved

Sample Name: 1WS-MS1-110822
Lab Code: R2210795-001
Analysis Method: 624.1

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike RQ2214165-05			Duplicate Matrix Spike RQ2214165-06			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1,1-Dichloroethane (1,1-DCA)	1.00 U	46.4	50.0	93	49.6	50.0	99	59-155	7	40
1,2-Dichloroethane	0.216 J	51.9	50.0	103	55.5	50.0	111	49-155	7	49
Acetone	5.00 U	45.3	50.0	91	48.2	50.0	96	35-183	6	30
Trichloroethene (TCE)	3.52	54.9	50.0	103	58.1	50.0	109	70-157	6	48

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: RQ2214165-04

Service Request: R2210795
Date Collected: NA
Date Received: NA

Units: ug/L
Basis: NA

Volatile Organic Compounds by GC/MS, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1-Dichloroethane (1,1-DCA)	1.00 U	1.00	0.200	1	11/10/22 22:59	
1,2-Dichloroethane	1.00 U	1.00	0.200	1	11/10/22 22:59	
Acetone	5.00 U	5.00	2.10	1	11/10/22 22:59	
Trichloroethene (TCE)	1.00 U	1.00	0.200	1	11/10/22 22:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	108	73 - 125	11/10/22 22:59	
4-Bromofluorobenzene	105	85 - 122	11/10/22 22:59	
Toluene-d8	101	87 - 121	11/10/22 22:59	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795
Date Analyzed: 11/10/22

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unpreserved

Units:ug/L
Basis:NA

Lab Control Sample
RQ2214165-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1-Dichloroethane (1,1-DCA)	624.1	20.5	20.0	102	70-130
1,2-Dichloroethane	624.1	23.8	20.0	119	70-130
Acetone	624.1	20.1	20.0	101	40-161
Trichloroethene (TCE)	624.1	22.7	20.0	113	65-135



Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by GC/ECD

Analysis Method: 608.3
Extraction Method: Method

Sample Name	Lab Code	Tetrachloro-m-xylene	Decachlorobiphenyl
		13-131	10-156
1WS-MS1-110822	R2210795-001	60	35
Method Blank	RQ2214114-01	58	39
Lab Control Sample	RQ2214114-02	69	46
Duplicate Lab Control Sample	RQ2214114-03	65	33

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: RQ2214114-01

Service Request: R2210795
Date Collected: NA
Date Received: NA

Units: ug/L
Basis: NA

Organochlorine Pesticides by GC/ECD

Analysis Method: 608.3
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
alpha-BHC	0.0500 U	0.0500	0.0200	1	11/11/22 18:20	11/10/22	
beta-BHC	0.0500 U	0.0500	0.0200	1	11/11/22 18:20	11/10/22	
delta-BHC	0.0500 U	0.0500	0.0200	1	11/11/22 18:20	11/10/22	
gamma-BHC (Lindane)	0.0500 U	0.0500	0.0200	1	11/11/22 18:20	11/10/22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Tetrachloro-m-xylene	58	13 - 131	11/11/22 18:20	
Decachlorobiphenyl	39	10 - 156	11/11/22 18:20	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795
Date Analyzed: 11/11/22

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by GC/ECD

Units:ug/L
Basis:NA

Analyte Name	Lab Control Sample				Duplicate Lab Control Sample					
	Analytical Method	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
alpha-BHC	608.3	0.250	0.400	63	0.246	0.400	62	37-140	2	36
beta-BHC	608.3	0.295	0.400	74	0.275	0.400	69	17-147	7	44
delta-BHC	608.3	0.277	0.400	69	0.252	0.400	63	19-140	10	52
gamma-BHC (Lindane)	608.3	0.275	0.400	69	0.262	0.400	66	32-140	4	39



Metals

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Form 3

Blanks

Mercury by EPA 245.1

Workorder
R2210795

Client
Olin Corporation

Project
Olin Industrial Welding Site

11/29/2022

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 3 - Blanks

Client Olin Corporation
Project Olin Industrial Welding Site

Workorder
R2210795

Mercury by EPA 245.1

RCVAA02_785009			ICB		CCB		CCB		CCB		MB785009		CCB	
Units		Run Date	11/11/22		11/11/22		11/11/22		11/11/22		11/11/22		11/11/22	
~		Run Time	12:38		13:28		13:50		14:35		14:53		15:07	
Analyte	DL	LOQ	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Mercury	0.08	0.20	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U

RCVAA02_785009			CCB		CCB		CCB		CCB			
Units		Run Date	11/11/22		11/11/22		11/11/22		11/11/22			
~		Run Time	15:29		15:45		15:55		16:10			
Analyte	DL	LOQ	Result	Q	Result	Q	Result	Q	Result	Q		
Mercury	0.08	0.20	0.20	U	0.20	U	0.20	U	0.20	U		

Form 5A

Matrix Spike Sample Recovery

Mercury by EPA 245.1

Workorder
R2210795

Client
Olin Corporation

Project
Olin Industrial Welding Site

11/29/2022

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 5A - Matrix Spike Sample Recovery

Client Olin Corporation
Project Olin Industrial Welding Site

Workorder
R2210795

Mercury by EPA 245.1

1WS-MS1-110822			R2210795-001			R2210795-001MS			R2210795-001DMS					
Samp Matrix Water			Run Date 11/11/22			11/11/22			11/11/22					
Prep Method Method			Units Run Time 15:47			15:49			15:58					
Prep Batch 409805 11/10/22			ug/L Prep Amt 25 mL			25 mL			25 mL					
Analyte	%R Limits	Spike Added	DF	Sample Result	Q	MS Result	%R	Q	MSD Result	%R	Q	RPD Limit	RPD	Q
Mercury	70-130	1.00	1	0.20	U	1.16	116		1.16	116		20	<1	

Q - %Recovery / RPD Flag * - %Recovery / RPD Outside Limits

Form 7

Laboratory Control Sample

Mercury by EPA 245.1

Workorder
R2210795

Client
Olin Corporation

Project
Olin Industrial Welding Site

11/29/2022

ALS Environmental–Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Form 7 - Laboratory Control Sample

Client Olin Corporation
Project Olin Industrial Welding Site

Workorder
R2210795

Mercury by EPA 245.1

RCVAA02_785009	QC ID		R2210795-LCS			
QC Matrix Water	Units ug/L	Run Date	11/11/22			
Prep Method Method		Run Time	14:55			
Prep Batch 409805 11/10/22		Prep Amt	25 mL			
Analyte	%R Limits	Spike Added	LCS Result	%R	Q	
Mercury	85-115	1.00	1.02	102		

- %Recovery / RPD Flag

* - %Recovery / RPD Outside Limits



General Chemistry

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R2210795-MB

Service Request: R2210795
Date Collected: NA
Date Received: NA
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Carbon, Dissolved Organic (DOC)	SM 5310 B-2014	1.0 U	mg/L	1.0	1	11/11/22 15:12	
Solids, Total Suspended (TSS)	SM 2540 D-2015	1.0 U	mg/L	1.0	1	11/11/22 09:00	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795
Date Collected: 11/08/22
Date Received: 11/09/22
Date Analyzed: 11/11/22

Duplicate Matrix Spike Summary
Carbon, Dissolved Organic (DOC)

Sample Name: 1WS-MS1-110822
Lab Code: R2210795-001
Analysis Method: SM 5310 B-2014

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike R2210795-001MS			Duplicate Matrix Spike R2210795-001DMS			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Carbon, Dissolved Organic (DOC)	3.2	27.3	25.0	96	27.6	25.0	98	48-135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795**Date Collected:** 11/08/22**Date Received:** 11/09/22**Date Analyzed:** 11/11/22

Replicate Sample Summary
General Chemistry Parameters

Sample Name: 1WS-MS1-110822**Units:** mg/L**Lab Code:** R2210795-001**Basis:** NA

				Duplicate Sample R2210795- 001DUP			
Analyte Name	Analysis Method	MRL	Sample Result	Result	Average	RPD	RPD Limit
Solids, Total Suspended (TSS)	SM 2540 D-2015	1.0	3.9	3.8	3.85	3	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Olin Industrial Welding Site/release order ERRE9845
Sample Matrix: Water

Service Request: R2210795
Date Analyzed: 11/11/22

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R2210795-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Dissolved Organic (DOC)	SM 5310 B-2014	24.6	25.0	98	80-121
Solids, Total Suspended (TSS)	SM 2540 D-2015	197	214	92	80-120

Industrial Welding Site
Data Evaluation Narrative
November 2022 Discharge Sampling Event

SDG R2210795: ALS Environmental, Rochester, NY

Deliverables

The data package as submitted to Olin Corporation is complete as stipulated under the Industrial Welding Site Quality Assurance Project Plan (QAPP) as approved by the New York State Department of Environmental Protection. United States Environmental Protection Agency (USEPA) Methods 624, 608, 245.1, SM 2540D and SM 5310B were utilized in the laboratory testing.

Samples submitted within this sample delivery group (SDG) were submitted to the ALS Environmental laboratory in Rochester, NY for select volatile organic compounds and organochlorine pesticides, total mercury, total suspended solids, and dissolved organic carbon analyses. The laboratory subsequently applied login numbers to the SDG. The SDG number for this sampling event is R2210795. This evaluation narrative for the SDG follows the listing of discharge sample field identifications. The topics of each narrative are ordered to first assess issues affecting the entire data set.

Sample Integrity

Information provided on the Chain of Custody and Login Sample Receipt Checklist provided by the laboratory confirmed that the samples arrived at the laboratory intact and within the recommended temperature limits. The proper bottles and preservatives were used, and the correct analytical methods were employed.

Sample Identification

This SDG contains the following water samples collected on November 8, 2022:

SAMPLE ID
IWS-MS1-110822*

SAMPLE ID
Trip Blank-110822 (Analyzed for VOCs only)

*Lab read "I" in IWS on the COC as a "1" and named sample as IWS-MS1-110822

Volatile Organic Compounds (EPA Method 624)

The samples in this SDG were submitted for select volatile organic compounds (VOCs) by USEPA Method 624.

Holding Times:

The analytical logs indicate that applicable holding times were met.

Practical Quantitation Limits:

The practical quantitation limits (PQLs) were met for the analysis of VOCs by USEPA Method 624.

GC/MS Instrument Performance Check:

The GC/MS tuning and mass calibration checks were performed with bromofluorobenzene (BFB) and met the performance criteria as established by the method.

Calibration:

The initial calibration data for this SDG indicate that applicable criteria were met for samples submitted for VOC analysis. The RSDs for each calibration check were within the applicable criteria.

Blank Summary:

The analytical results of the laboratory method blank and the trip blank indicated no target VOCs were detected above the reporting limit (RL).

Laboratory Control Sample (LCS):

The LCS spike recoveries were within the applicable QC advisory limits.

Surrogates:

The surrogate recoveries were within applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate:

Sample IWS-MS1-110822 was submitted for matrix spike and matrix spike duplicate (MS/MSD) analysis. The percent recoveries and relative percent differences (RPDs) were within applicable QC advisory limits.

Organochlorine Pesticides (EPA Method 608)

The sample in this SDG was submitted for HCCH (hexachlorocyclohexanes) analysis by USEPA Method 608.

Holding Times:

The extraction and analytical logs indicate that applicable holding times were met for HCCH analyses. The holding times of 7 days for extraction and 40 days for analysis were met.

Practical Quantitation Limits:

The practical quantitation limits (PQLs) were met for the analysis of HCCHs by USEPA Method 608.

Calibration:

The initial calibration data for this SDG indicate that applicable calibration criteria were met. All continuing calibration verification samples (CCVs) associated with project samples were also within applicable control criteria.

Surrogates:

Surrogate recoveries for all project related samples were within laboratory control limits.

Blank Summary:

The analytical results of the laboratory method blank indicated no HCCHs were detected.

Laboratory Control Sample (LCS) and LCS Duplicate (LCSD):

The LCS/LCSD recoveries were within laboratory control limits for all four BHC compounds.

Matrix Spike/Matrix Spike Duplicate:

No MS/MSD of the project sample was completed due to a laboratory error.

Total Mercury Analyses (EPA Method 245.1)

The sample in this SDG was submitted for total mercury analysis by USEPA Method 245.1.

Holding Times:

The extraction and analytical logs indicate that applicable holding times were met.

Practical Quantitation Limits:

The practical quantitation limit (PQL) was met for the analysis of total mercury by USEPA Method 245.1.

Calibration:

The initial and continuing calibration data for this SDG indicate that applicable calibration criteria were met. The low-level check standard recoveries were within QC advisory limits.

Blank Summary:

The analytical results of the method blank and the initial/continuing calibration blanks indicated that total mercury was not detected.

Laboratory Control Sample:

The laboratory control sample (LCS) spike recovery was within the applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate:

Sample IWS-MS1-110822 was submitted for MS/MSD analysis. The percent recoveries and RPD were within laboratory control limits.

Total Suspended Solids (SM 2540D)

The sample in this SDG was submitted for total suspended solids (TSS) analysis by SM 2540D.

Holding Times:

The holding time of 7 days was met as the sample was analyzed within this holding period.

Practical Quantitation Limits:

The practical quantitation limit (PQL) was met for the analysis of TSS.

Blank Summary:

The analytical results of the laboratory method blank indicated that no TSS were detected.

Laboratory Control Sample:

The laboratory control sample (LCS) recovery was within the applicable QC advisory limits.

Duplicate Sample:

The laboratory performed a duplicate analysis on IWS-MS1-110822. The RPD was within control limits.

Soluble Organic Carbon (SM 5310B)

The sample in this SDG was submitted for soluble (dissolved) organic carbon (DOC) analysis by SM 5310C.

Holding Times:

The holding time of 28 days was met.

Practical Quantitation Limits:

The practical quantitation limit (PQL) was met for the analysis of DOC.

Calibration Summary:

The initial and continuing calibration data for this SDG indicates that applicable calibration criteria were met.

Blank Summary:

The analytical results of the laboratory method blank and continuing calibration blanks (CCBs) indicated that no DOC was detected.

Laboratory Control Sample:

The laboratory control sample (LCS) recovery was within the applicable QC advisory limits.

Matrix Spike/Matrix Spike Duplicate:

Sample IWS-MS1-110822 was submitted for MS/MSD analysis. The percent recoveries and RPD were within applicable QC advisory limits.

Overall Site Evaluation and Professional Judgment Flagging Changes

The data within this SDG were compared to site data and edits to the DQE flags were not required based on professional judgment. Monitoring period completeness, which is the percentage of analytical results judged valid, including estimated values, was 100 percent for the November 2022 sampling event. Typically, project objectives are met when completeness is 90 percent or better.

Prepared by: Randy T. Morris

Date: January 25, 2023

ATTACHMENT D

Industrial Welding Site Flows
Jan-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter **5,266**

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
1/1/2022	3:57:56	2.1	715
1/2/2022	3:57:53	0.3	129
1/3/2022	3:57:53	2.2	748
1/4/2022	3:57:53	0	0
1/5/2022	3:57:52	2.3	800
1/6/2022	3:57:54	0	0
1/7/2022	3:57:54	2.1	736
1/8/2022	3:57:53	0	0
1/9/2022	3:57:55	2.1	722
1/10/2022	3:57:53	0	0
1/11/2022	3:57:52	0	0
1/12/2022	3:57:53	0.4	161
1/13/2022	3:57:56	1.6	550
1/14/2022	3:57:59	0	0
1/15/2022	3:57:53	0	0
1/16/2022	3:57:52	0	0
1/17/2022	3:57:53	0	0
1/18/2022	3:57:58	0	0
1/19/2022	3:57:55	2.2	705
1/20/2022	3:57:56	0	0
1/21/2022	3:57:59	0	0
1/22/2022	3:57:53	0	0
1/23/2022	3:57:57	0	0
1/24/2022	3:57:53	0	0
1/25/2022	3:57:57	0	0
1/26/2022	3:57:52	0	0
1/27/2022	3:57:56	0	0
1/28/2022	3:57:54	0	0
1/29/2022	3:57:53	0	0
1/30/2022	3:57:58	0	0
1/31/2022	3:57:56	0	0

January Total Discharge **15.3** **5,266**

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows
Feb-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter		46,341	
<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
2/1/2022	3:58:01	0	0
2/2/2022	3:57:55	0	0
2/3/2022	3:57:54	2.2	727
2/4/2022	3:57:58	0	0
2/5/2022	3:57:57	0	0
2/6/2022	3:57:58	0	0
2/7/2022	3:57:57	0	0
2/8/2022	3:57:55	0	0
2/9/2022	3:57:56	0	0
2/10/2022	3:57:54	0	0
2/11/2022	3:57:54	4	1303
2/12/2022	3:57:58	8.3	2730
2/13/2022	3:57:55	2.1	718
2/14/2022	3:57:58	0	0
2/15/2022	3:57:57	2.2	732
2/16/2022	3:57:54	6.4	2110
2/17/2022	3:57:56	17	5543
2/18/2022	3:57:53	20.6	6928
2/19/2022	3:57:52	8.5	2898
2/20/2022	3:58:00	8.1	2706
2/21/2022	3:57:54	5.4	1751
2/22/2022	3:57:53	8.4	2710
2/23/2022	3:57:52	15.7	5212
2/24/2022	3:57:58	9.7	3272
2/25/2022	3:57:54	8.4	2786
2/26/2022	3:57:56	5.3	1749
2/27/2022	3:57:55	5	1666
2/28/2022	3:57:57	2.4	800
February Total Discharge		139.7	46,341

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows
Mar-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter **30,508**

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
3/1/2022	15:57:45	2.4	800
3/2/2022	3:57:45	4.8	1,603
3/3/2022	3:57:57	2.3	781
3/4/2022	3:57:52	2.3	778
3/5/2022	3:57:53	2.3	763
3/6/2022	3:57:56	4.2	1404
3/7/2022	3:57:55	5.1	1725
3/8/2022	3:57:57	5.4	1831
3/9/2022	3:57:53	3.1	1056
3/10/2022	3:57:53	4.7	1623
3/11/2022	3:57:54	3.2	1098
3/12/2022	3:57:54	4.7	1613
3/13/2022	5:00:01	6.3	1660
3/14/2022	1:28:01	2.3	773
3/15/2022	3:57:58	2.3	771
3/16/2022	3:57:58	2.2	755
3/17/2022	3:57:52	1.3	437
3/18/2022	3:57:56	0.9	314
3/19/2022	3:57:57	2.5	848
3/20/2022	3:57:53	2.3	764
3/21/2022	3:57:53	2.4	763
3/22/2022	3:57:59	2.2	745
3/23/2022	3:57:58	2.5	852
3/24/2022	3:57:56	5.1	1706
3/25/2022	3:57:52	2.3	771
3/26/2022	3:57:53	2.2	747
3/27/2022	3:57:56	2.3	773
3/28/2022	3:57:54	10.1	0
3/29/2022	3:57:59	18.6	1230
3/30/2022	3:57:54	2.3	772
3/31/2022	3:57:53	2.3	752

March Total Discharge **116.9** **30,508**

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows
Apr-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter **15,724**

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
4/1/2022	3:57:56	2.2	767
4/2/2022	3:57:58	0	0
4/3/2022	3:57:55	2.3	767
4/4/2022	3:57:52	2.3	735
4/5/2022	3:57:53	0	0
4/6/2022	3:57:56	2.3	750
4/7/2022	3:57:51	2.3	750
4/8/2022	3:57:58	0	0
4/9/2022	3:57:56	2.3	763
4/10/2022	3:57:57	2.2	741
4/11/2022	3:57:54	0	0
4/12/2022	3:57:53	2.1	722
4/13/2022	3:57:55	0	0
4/14/2022	3:57:54	2.2	726
4/15/2022	3:57:58	0	0
4/16/2022	3:57:59	2.4	794
4/17/2022	3:57:55	0	0
4/18/2022	3:58:02	4.7	1559
4/19/2022	3:57:54	2.4	795
4/20/2022	3:57:55	2.2	737
4/21/2022	3:57:55	2.2	728
4/22/2022	3:57:56	0	0
4/23/2022	3:57:56	2.2	722
4/24/2022	3:57:57	0	0
4/25/2022	3:57:53	2.2	723
4/26/2022	3:58:08	2.2	721
4/27/2022	3:57:56	2.3	765
4/28/2022	3:57:55	2.2	734
4/29/2022	3:57:58	0	0
4/30/2022	3:57:58	2.2	725

April Total Discharge **47.4** **15,724**

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows

May-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

8,846

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
5/1/2022	3:57:59	0	0
5/2/2022	3:57:56	2.2	728
5/3/2022	3:57:53	2.5	807
5/4/2022	3:57:55	2.5	832
5/5/2022	3:57:58	2.2	731
5/6/2022	3:57:56	0	0
5/7/2022	3:57:58	2.2	739
5/8/2022	3:57:58	0	0
5/9/2022	3:57:53	2.2	734
5/10/2022	3:57:57	0	0
5/11/2022	3:57:56	2.1	719
5/12/2022	3:57:54	0	0
5/13/2022	3:57:57	0	0
5/14/2022	3:57:55	2.2	714
5/15/2022	3:57:53	0	0
5/16/2022	3:57:55	2.2	708
5/17/2022	3:57:55	0	0
5/18/2022	3:57:54	0	0
5/19/2022	3:57:59	0	0
5/20/2022	3:57:54	2.1	693
5/21/2022	3:57:55	0	0
5/22/2022	3:57:54	2.1	697
5/23/2022	3:57:55	0	0
5/24/2022	3:57:54	0	0
5/25/2022	3:57:55	0	0
5/26/2022	3:57:58	0	0
5/27/2022	3:57:53	2.3	744
5/28/2022	3:57:57	0	0
5/29/2022	3:57:52	0	0
5/30/2022	3:57:56	0	0
5/31/2022	3:57:55	0	0

May Total Discharge

26.8

8,846

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows

Jun-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter		2,234	
<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
6/1/2022	3:57:56	2.3	751
6/2/2022	3:57:54	0	0
6/3/2022	3:57:54	0	0
6/4/2022	3:57:53	0	0
6/5/2022	3:57:57	0	0
6/6/2022	3:57:59	0	0
6/7/2022	3:57:55	2.3	767
6/8/2022	3:58:00	0	0
6/9/2022	3:57:58	0	0
6/10/2022	3:57:55	2.1	716
6/11/2022	3:57:56	0	0
6/12/2022	3:57:55	0	0
6/13/2022	3:57:55	0	0
6/14/2022	3:57:55	0	0
6/15/2022	3:57:56	0	0
6/16/2022	3:57:53	0	0
6/17/2022	3:57:52	0	0
6/18/2022	3:57:53	0	0
6/19/2022	3:57:55	0	0
6/20/2022	3:57:53	0	0
6/21/2022	3:57:55	0	0
6/22/2022	3:57:55	0	0
6/23/2022	3:57:54	0	0
6/24/2022	3:58:00	0	0
6/25/2022	3:57:55	0	0
6/26/2022	3:57:58	0	0
6/27/2022	3:57:51	0	0
6/28/2022	3:57:55	0	0
6/29/2022	3:57:53	0	0
6/30/2022	3:57:56	0	0
June Total Discharge		6.7	2,234

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows

Jul-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

856

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
7/1/2022	3:57:58	0	0
7/2/2022	3:57:55	0	0
7/3/2022	3:57:58	0	0
7/4/2022	3:57:58	0	0
7/5/2022	3:57:56	0	0
7/6/2022	3:57:55	0	0
7/7/2022	3:57:54	0	0
7/8/2022	3:58:48	0	0
7/9/2022	3:58:04	0	0
7/10/2022	3:57:56	0	0
7/11/2022	3:57:56	0	0
7/12/2022	3:57:53	0	0
7/13/2022	3:58:01	0	0
7/14/2022	3:58:01	0	0
7/15/2022	3:57:57	0	0
7/16/2022	3:57:58	0	0
7/17/2022	3:57:55	0	0
7/18/2022	3:57:56	2.6	856
7/19/2022	3:57:54	0	0
7/20/2022	3:57:52	0	0
7/21/2022	3:57:53	0	0
7/22/2022	3:57:54	0	0
7/23/2022	3:57:53	0	0
7/24/2022	3:57:54	0	0
7/25/2022	3:57:55	0	0
7/26/2022	3:57:53	0	0
7/27/2022	3:57:55	0	0
7/28/2022	3:57:57	0	0
7/29/2022	3:57:59	0	0
7/30/2022	3:57:55	0	0
7/31/2022	3:57:57	0	0

July Total Discharge

2.6

856

Daily Discharge Limits:

Max = 8,000 gal

Industrial Welding Site Flows
Aug-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

0

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
8/1/2022	3:57:53	0	0
8/2/2022	3:57:58	0	0
8/3/2022	3:57:58	0	0
8/4/2022	3:57:53	0	0
8/5/2022	3:57:59	0	0
8/6/2022	3:57:54	0	0
8/7/2022	3:57:53	0	0
8/8/2022	3:57:53	0	0
8/9/2022	3:57:52	0	0
8/10/2022	3:57:55	0	0
8/11/2022	3:57:55	0	0
8/12/2022	3:57:54	0	0
8/13/2022	3:57:54	0	0
8/14/2022	3:57:59	0	0
8/15/2022	3:57:56	0	0
8/16/2022	3:57:55	0	0
8/17/2022	3:57:56	0	0
8/18/2022	3:57:58	0	0
8/19/2022	3:57:59	0	0
8/20/2022	3:57:54	0	0
8/21/2022	3:57:58	0	0
8/22/2022	3:57:57	0	0
8/23/2022	3:57:55	0	0
8/24/2022	3:57:59	0	0
8/25/2022	3:58:22	0	0
8/26/2022	3:58:14	0	0
8/27/2022	3:58:13	0	0
8/28/2022	3:58:14	0	0
8/29/2022	3:58:11	0	0
8/30/2022	3:58:14	0	0
8/31/2022	3:58:11	0	0

August Total Discharge

0

0

Daily Discharge Lir Max = 8,000 gal

Industrial Welding Site Flows
Sep-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

1,119

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
9/1/2022	3:58:12	0	0
9/2/2022	3:58:13	0	0
9/3/2022	3:58:11	0	0
9/4/2022	3:58:15	0	0
9/5/2022	3:58:12	2.4	774
9/6/2022	3:58:13	0	0
9/7/2022	3:58:12	0	0
9/8/2022	3:58:14	0	0
9/9/2022	3:58:12	0	0
9/10/2022	3:58:14	0	0
9/11/2022	3:58:13	0	0
9/12/2022	3:58:11	0	0
9/13/2022	3:58:12	0	0
9/14/2022	3:58:12	0	0
9/15/2022	3:58:12	0	0
9/16/2022	3:57:53	0	0
9/17/2022	3:58:11	0	0
9/18/2022	3:58:12	0	0
9/19/2022	3:58:11	0	0
9/20/2022	3:58:14	1.1	345
9/21/2022	3:58:13	0	0
9/22/2022	3:58:11	0	0
9/23/2022	3:58:12	0	0
9/24/2022	3:58:12	0	0
9/25/2022	3:58:14	0	0
9/26/2022	3:58:12	0	0
9/27/2022	3:58:13	0	0
9/28/2022	3:58:12	0	0
9/29/2022	3:58:13	0	0
9/30/2022	3:58:12	0	0

September Total Discharge

3.5

1,119

Daily Discharge Limit: Max = 8,000 gal

Industrial Welding Site Flows

Oct-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

0

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
10/1/2022	3:58:12	0	0
10/2/2022	3:58:13	0	0
10/3/2022	3:58:14	0	0
10/4/2022	3:58:16	0	0
10/5/2022	3:58:12	0	0
10/6/2022	3:58:11	0	0
10/7/2022	3:58:13	0	0
10/8/2022	3:58:11	0	0
10/9/2022	3:58:24	0	0
10/10/2022	3:58:11	0	0
10/11/2022	3:58:15	0	0
10/12/2022	3:58:12	0	0
10/13/2022	3:58:12	0	0
10/14/2022	3:58:12	0	0
10/15/2022	3:58:12	0	0
10/16/2022	3:58:13	0	0
10/17/2022	3:58:11	0	0
10/18/2022	3:58:12	0	0
10/19/2022	3:58:12	0	0
10/20/2022	3:58:13	0	0
10/21/2022	3:58:12	0	0
10/22/2022	3:58:11	0	0
10/23/2022	3:58:12	0	0
10/24/2022	3:58:14	0	0
10/25/2022	3:58:13	0	0
10/26/2022	3:58:11	0	0
10/27/2022	3:58:11	0	0
10/28/2022	3:58:12	0	0
10/29/2022	3:58:12	0	0
10/30/2022	3:58:12	0	0
10/31/2022	3:58:11	0	0

October Total Discharge

0

0

Daily Discharge Limits: Max = 8,000 gal

Industrial Welding Site Flows

Nov-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

5,011

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
11/1/2022	3:58:14	0	0
11/2/2022	3:58:13	0	0
11/3/2022	3:59:37	0	0
11/4/2022	3:58:13	0	0
11/5/2022	3:58:12	0	0
11/6/2022	2:57:46	0	0
11/7/2022	3:58:13	0	0
11/8/2022	3:59:07	0.6	192
11/9/2022	3:58:18	0	0
11/10/2022	3:58:15	0	0
11/11/2022	3:58:12	0	0
11/12/2022	3:58:14	0	0
11/13/2022	3:58:14	0	0
11/14/2022	3:58:12	0	0
11/15/2022	3:58:14	0	0
11/16/2022	3:58:13	0	0
11/17/2022	3:58:13	0	0
11/18/2022	3:58:12	0	0
11/19/2022	3:58:13	0	0
11/20/2022	3:58:13	0	0
11/21/2022	3:58:13	2.6	881
11/22/2022	3:58:13	2.3	820
11/23/2022	3:58:14	2.4	832
11/24/2022	3:58:12	2.2	753
11/25/2022	3:58:12	0	0
11/26/2022	3:58:13	0	0
11/27/2022	3:58:11	2.2	761
11/28/2022	3:58:14	0	0
11/29/2022	3:58:14	0	0
11/30/2022	3:58:14	2.2	772

November Total Discharge

14.5

5,011

Daily Discharge Limits:

Max = 8,000 gal

Industrial Welding Site Flows

Dec-22

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

11,143

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
12/1/2022	3:58:14	0	0
12/2/2022	3:58:12	2.2	752
12/3/2022	3:58:11	0	0
12/4/2022	3:58:13	0	0
12/5/2022	3:58:14	2.1	740
12/6/2022	3:58:13	0	0
12/7/2022	3:58:12	0	0
12/8/2022	3:58:13	0	0
12/9/2022	3:58:19	0	0
12/10/2022	3:58:11	0	0
12/11/2022	3:58:11	2.1	727
12/12/2022	3:58:13	0	0
12/13/2022	3:58:13	0	0
12/14/2022	3:58:14	0	0
12/15/2022	3:58:14	2.8	956
12/16/2022	3:58:14	4.3	1488
12/17/2022	3:58:11	0.4	140
12/18/2022	3:58:13	2.2	744
12/19/2022	3:58:13	0	0
12/20/2022	3:58:13	0	0
12/21/2022	3:58:11	0	0
12/22/2022	3:58:13	2	732
12/23/2022	3:58:14	2.2	761
12/24/2022	3:58:14	0	0
12/25/2022	3:58:12	2.2	737
12/26/2022	3:58:13	0	0
12/27/2022	3:58:12	0	0
12/28/2022	3:58:12	0	0
12/29/2022	3:58:12	2.4	830
12/30/2022	3:58:14	2.3	803
12/31/2022	3:58:13	5.1	1733

December Total Discharge

32

11,143

Daily Discharge Limits:

Max = 8,000 gal

Industrial Welding Site - Discharge Flows: 2022

Month	Monthly Flow (gal)	gal/day
Jan	5,266	170
Feb	46,341	1,655
Mar	30,508	984
Apr	15,724	524
May	8,846	285
Jun	2,234	74
Jul	856	28
Aug	0	0
Sep	1,119	37
Oct	0	0
Nov	5,011	167
Dec	11,143	359
Total	127,048	
MONTHLY AVERAGE	10,587	
daily average	348	
daily avg Mgal	0.000348	

Daily Avg. Limit = 0.005 Mgal

Industrial Welding Site Flows

Jan-23

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

0

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
1/1/2023	3:58:13	8	2762
1/2/2023	3:58:13	5.5	1930
1/3/2023	3:58:13	5.2	1832
1/4/2023	3:58:13	6.1	2152
1/5/2023	3:58:13	10.6	3639
1/6/2023	3:58:13	8.3	2877
1/7/2023	3:58:12	5.2	1785
1/8/2023	3:58:18	4.8	1688
1/9/2023	3:58:13	3.1	1082
1/10/2023	3:58:11	3.9	1354
1/11/2023	3:58:12	2.2	781
1/12/2023	3:58:17	2.3	795
1/13/2023	3:58:13	2.4	789
1/14/2023	3:58:13	2.2	767
1/15/2023	3:58:13	2.2	759
1/16/2023	3:58:12	2.3	767
1/17/2023	3:58:15	2.9	980
1/18/2023	3:58:12	2.4	810
1/19/2023	3:58:13	4.7	1628
1/20/2023	3:58:11	2.5	850
1/21/2023	3:58:12	4.7	1643
1/22/2023	3:58:13	2.4	810
1/23/2023	3:58:12	4.7	1649
1/24/2023	3:58:13	2.4	807
1/25/2023	3:58:12	2.2	785
1/26/2023	3:58:13	2.8	963
1/27/2023	3:58:13	1.7	591
1/28/2023	3:58:13	3.6	1245
1/29/2023	3:58:12	4.7	1574
1/30/2023	3:58:13	4.9	1685
1/31/2023	3:58:12	<u>2.3</u>	<u>784</u>

January Total Discharge

123.2

42,563

Daily Discharge Limits:

Max = 8,000 gal

Industrial Welding Site Flows
Feb-23

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

16,518

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
2/1/2023	3:58:11	2.2	765
2/2/2023	3:58:11	2.2	767
2/3/2023	3:58:11	0	0
2/4/2023	3:58:11	2.2	756
2/5/2023	3:58:11	2.2	754
2/6/2023	3:58:11	0	0
2/7/2023	3:58:11	2.1	747
2/8/2023	3:58:11	0	0
2/9/2023	3:58:11	3.7	1273
2/10/2023	3:58:11	3.5	1237
2/11/2023	3:58:11	3.3	1125
2/12/2023	3:58:11	2.3	774
2/13/2023	3:58:11	2.3	779
2/14/2023	3:58:11	2.2	751
2/15/2023	3:58:11	2.2	751
2/16/2023	3:58:11	0	0
2/17/2023	3:58:11	4.7	1578
2/18/2023	3:58:11	0.2	72
2/19/2023	3:58:11	2	691
2/20/2023	3:58:11	2.2	751
2/21/2023	3:58:11	1.9	642
2/22/2023	3:58:11	0.2	82
2/23/2023	3:58:11	2.2	744
2/24/2023	3:58:11	0	0
2/25/2023	3:58:11	0	0
2/26/2023	3:58:11	2	730
2/27/2023	3:58:11	0.1	54
2/28/2023	3:58:11	2	695

February Total Discharge

47.9

16,518

Daily Discharge Limits:

Max = 8,000 gal

Industrial Welding Site Flows
Mar-23

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

56,659

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
3/1/2023	3:58:11	6.5	2211
3/2/2023	3:58:13	5.4	1862
3/3/2023	3:58:13	5	1696
3/4/2023	3:58:12	13.9	4747
3/5/2023	3:58:13	11.1	3792
3/6/2023	3:58:13	10.2	3482
3/7/2023	3:58:12	5.7	2000
3/8/2023	3:58:11	5.7	1944
3/9/2023	3:58:14	4.9	1652
3/10/2023	3:58:12	5.5	1867
3/11/2023	3:58:14	8	2765
3/12/2023	5:00:01	6.3	2185
3/13/2023	0:30:17	2.8	956
3/14/2023	3:58:13	5.1	1718
3/15/2023	3:58:13	4.7	1627
3/16/2023	3:58:13	2.3	794
3/17/2023	3:58:12	5.4	1843
3/18/2023	3:58:14	5.2	1768
3/19/2023	3:58:12	5.1	1731
3/20/2023	3:58:13	5.1	1726
3/21/2023	3:58:11	4.9	1660
3/22/2023	3:58:13	2.3	820
3/23/2023	3:58:13	4.7	1619
3/24/2023	3:58:13	2.3	794
3/25/2023	3:58:12	4.8	1673
3/26/2023	3:58:13	3.4	1176
3/27/2023	3:58:12	4	1377
3/28/2023	3:58:15	4.9	1681
3/29/2023	3:57:55	2.4	816
3/30/2023	3:58:11	4.7	1612
3/31/2023	3:58:12	<u>3.1</u>	<u>1065</u>

March Total Discharge

165

56,659

Daily Discharge Limits:

Max = 8,000 gal

Industrial Welding Site Flows

Apr-23

RTU NAME: Olin Industrial Welding

CUMULATEVE VALUES

Discharge Flow Meter

39,064

<u>Date</u>	<u>Time</u>	<u>Hours</u>	<u>Gallons</u>
4/1/2023	3:58:12	7.5	2591
4/2/2023	3:58:11	9.5	3250
4/3/2023	3:58:18	5.7	1953
4/4/2023	3:58:14	8.4	2869
4/5/2023	3:58:13	6	2027
4/6/2023	3:58:13	11.2	3784
4/7/2023	3:58:12	9.2	3145
4/8/2023	3:58:13	5.3	1846
4/9/2023	3:58:13	5.1	1764
4/10/2023	3:58:13	5	1712
4/11/2023	3:58:13	2.4	824
4/12/2023	3:58:14	4.7	1644
4/13/2023	3:58:13	2.2	787
4/14/2023	3:58:11	2.4	804
4/15/2023	3:58:12	2.2	783
4/16/2023	3:58:12	2.3	789
4/17/2023	3:58:14	4	1355
4/18/2023	3:58:13	1.5	521
4/19/2023	3:58:11	1.7	574
4/20/2023	3:58:12	2.3	779
4/21/2023	3:58:15	2.2	774
4/22/2023	3:58:15	2.2	748
4/23/2023	3:58:11	0	0
4/24/2023	3:58:12	2.3	766
4/25/2023	3:58:13	2.2	741
4/26/2023	3:58:13	0	0
4/27/2023	3:58:12	2.2	739
4/28/2023	3:58:13	0	0
4/29/2023	3:58:14	2.2	738
4/30/2023	3:58:14	<u>2.2</u>	<u>757</u>

April Total Discharge

114

39,064

Daily Discharge Limits:

Max = 8,000 gal

ATTACHMENT E

Site Activities Report

Sevenson Environmental Services, Inc.
Niagara Falls, New York

REPORT NO.	Sevenson Job No. 1283,	DATE: 11/08/22		
PROJECT TITLE	OLIN CORPORATION, INDUSTRIAL WELDING SITE			
LOCATION OF WORK	VETERANS DRIVE, NIAGARA FALLS, NEW YORK			
DESCRIPTION	O & M OF REMEDIATION SITE			
WEATHER: Sunny	RAINFALL INCHES: 0	TEMP (Deg F)	Min: 32	Max: 48

1. Work performed today by Prime Contractor (Include Labor Breakdown):

Greg Ernst & Max Liffiton on site to collect Leachate samples from "LCRS" well
Turned on heater in pumping well box
Greg Ernst took the samples

2. Work Performed Today By Subcontractors (Include Labor Breakdown):

NONE

3. Materials and/Or Equipment Delivered To Site (Include Equipment Demobilization)

Sample Bottles w/ dedicated tubing
Filter for DOC samples
Horiba

4. Type And Results Of Inspection:

Site looked good
Sampling went well
Collected samples & MS/MSD volumes
Packed on ice & shipped to ALS Labs for Analysis

INDUSTRIAL WELDING SITE
LEWISTON, NY
GROUNDWATER SAMPLING FIELD PARAMETERS
FIELD INSTRUMENTATION CALIBRATION FORM

DATE: 11/8/22 SAMPLING EVENT: LWS - LCRS Sampling

PERSON CALIBRATING METER: Gry East

INSTRUMENT USED:

MANUFACTURER: Horiba

MODEL NUMBER: u-52

HGS NUMBER: VTBB5L7G

DATE OF MANUFACTURE: 2014

CALIBRATION STANDARDS USED:

STANDARD 7.00 METER READ: _____

STANDARD 4.00 METER READ: X

STANDARD 10.00 METER READ: _____

CALIBRATION SOLUTION EXPIRATION DATE: _____

	PRE CALIBRATION READINGS	POST CALIBRATION READINGS
TEMPERATURE (°F or °C):	<u>19.88°C</u>	<u>19.10°C</u>
pH:	<u>5.04</u>	<u>3.96</u>
pHmv:	<u>—</u>	<u>—</u>
OX-RED POT (ORPmv):	<u>251</u>	<u>292</u>
CONDUCTIVITY (ms/cm):	<u>3.70</u>	<u>5.45</u>
TURBIDITY (NTU):	<u>0.0</u>	<u>0.5</u>
mg/L DO:	<u>8.17</u>	<u>9.4</u>
% DO:	<u>92.0</u>	<u>106.2</u>

OTHER CALIBRATION COMMENTS: _____

FIELD DATA LOG FOR LCRS DISCHARGE SAMPLING
Industrial Welding Site, Niagara Falls, New York

Location ID: MS #1

Date: 11/8/22 Time: 1040

Sampler(s) Gry Grant

Weather: Sunny, 47°F

System Status (Check): On ☒ Off ☐

Sample ID: IWS-MS1-110822

Sampling Method: Sampled from sample port using dedicated tubing, used filter for DOC samples.

Sample ID: _____

COMMENTS:

Horiba reading of wellwater:

Temp: 17.43°C

pH: 6.09

orp/mv: 226

MS/cm: 2.65

NTU: 11.5

mg/L DO: 10.62

% DO: 115.0%

Chain of Custody / Analytical Request Form

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 • +1 585 288 5380 • alsglobal.com

66225

SR#:

Page 1 of 1

[illegible]

Site Activities Report

Sevenson Environmental Services, Inc.

Niagara Falls, New York

REPORT NO.	Sevenson Job No. 1283 1305	DATE: 3/14/23		
PROJECT TITLE	OLIN CORPORATION, INDUSTRIAL WELDING SITE			
LOCATION OF WORK	VETERANS DRIVE, NIAGARA FALLS, NEW YORK			
DESCRIPTION	O & M OF REMEDIATION SITE			
WEATHER: Cloudy, windy ~10mph	RAINFALL INCHES: 0 in 2-4" of standing snow	TEMP (Deg F)	Min: 20°F	Max: 30°F

1. Work performed today by Prime Contractor (Include Labor Breakdown):

Max Littton, Greg Ernst (SES) onsite with Adam Carringer, Butch Brown, and Steve Walsh (Ohn). Site inspection performed. Water levels taken at wells SP1, SP2, LCBS1, PIR, P2R, P3R, P6R, MW1 and MW2. Samples for SVOA, pesticides, and tot Hg taken at MW1, MW2, and SD1. MS/MSD volumes taken at SD1.

2. Work Performed Today By Subcontractors (Include Labor Breakdown):

N.A. —

3. Materials and/Or Equipment Delivered To Site (Include Equipment Demobilization)

N.A. —

4. Type And Results Of Inspection:

Asphalt cover in good condition following last seasons repairs.
All else okay.

SEMI-ANNUAL INSPECTION REPORT FORM

DATE: 3/14/23

REPORT NO.: Spring 2023

QUESTIONS	RESPONSE		COMMENTS AND RECOMMENDATIONS
	YES	NO	
1. Security Fence			
Is damage evident? If Yes, describe the type of damage(s), and indicate the location(s) the attached map.		✓	Some small areas where it looks like small animals have squeezed under
Are warning signs missing or damaged? If Yes, describe the type of damage and indicate the location(s) on the attached map.		✓	
Is erosion evident under chain-link sections or around posts? If Yes, describe the type of erosion (rills, gullies, valleys, washouts), record approximate dimensions (length, width, depth) and indicate location(s) on the attached map.		✓	
Has failure of any fencing members occurred? If Yes, describe the failure(s) and indicate location(s) on attached map.		✓	
2. Vegetative Soil Cover			
Is settlement or standing water evident? If Yes, describe the degree of settlement(s) (slight, moderate, significant), record approximate dimensions, and indicate the location(s) on the attached map.		✓	
Is erosion evident? If Yes, describe the type of erosion (rills, gullies, valleys, washouts, slope failure), record approximate dimensions (length, width, depth) and indicate location(s) on the attached map.		✓	
Is vegetation distressed or are bare areas evident? If Yes, describe the type of disorder (distressed, sparsely vegetated, bare), record approximate dimensions and indicate location(s) on the attached map.		✓	
Is any other damage evident? If Yes, describe the type of damage(s) and indicate the location(s) on the attached map.		✓	
Are obstruction(s) (brush, debris, timber, leaves, sediment) interfering with the proper functioning of swales? Outlets from swales? If Yes, describe the type(s) of obstruction(s) and indicate the location(s) on the map attached. Is sediment deposited ins wales impending drainage? If Yes, record approximate dimensions and indicate location(s) on the attached map.		✓	

QUESTIONS	RESPONSE		COMMENTS AND RECOMMENDATIONS
	YES	NO	
3. Surface Water Drainage System			
Are catch basin(s) damaged? If Yes, describe the catch basin inspected, conditions observed (spalling, cracking, exposed reinforcement, joint separation) and indicate location(s) of damaged catch basin(s) on the attached map.		✓	
Are obstruction(s) (brush, debris, leaves, sediment) interfering with the proper functioning of the catch basin(s)? If Yes, describe the type(s) of obstruction(s) and indicated the location(s) on the attached map.		✓	
Is erosion evident? If Yes, describe the drainage structure inspected (swale, outfall) the type of erosion (rills, gullies, valley, washouts, slope failure), record approximate dimensions (length, width, depth) and indicate location(s) on the attached map.		✓	
Is sediment deposited in drainage pipe(s) deeper than 1/4 of the pipe diameter (shown on the contract drawings)? If Yes, record approximate dimension and indicate locations on the attached map.		✓	
Is structural damage to headwalls evident? If Yes, describe the type of damage (upheaval, cracking, undermined, overturned, fractured, broken) and indicate damaged structures on the map.		✓	
Have stones been dislodged at rip-rapped drainage outlet aprons? If Yes, record approximate dimensions and indicate location(s) on the attached map.		✓	
4. Asphalt Concrete Cover System			
Is pavement distress evident? If Yes, describe (cracking, pothole(s), upheaval, failed patch), record the approximate dimensions (length, width, and depth) and indicate location(s) on the attached map.		✓	cover system repaired last season, all in good order
Is settlement or standing surface water evident? If Yes, describe the degree of settlement(s) (slight, moderate, significant), record approximate dimensions and indicate the location(s) on the attached map.		✓	
Are obstructions present in the catch basins? If Yes, describe the obstacle(s) (leaves, brush, sediment) and indicate the location(s) on the map attached.		✓	
Is sediment deposited in swale(s) impeding drainage? If Yes, record approximate dimensions and indicate location(s) on the map attached.		✓	

QUESTIONS	RESPONSE		COMMENTS AND RECOMMENDATIONS
	YES	NO	
5. Leachate Collection and Recovery System			
Is standing water present at the LCRS cleanout? If Yes, describe the depth of the standing water.		✓	
Is there evidence of any pipes or valves leaking at the recovery well? If Yes, describe the magnitude of the leak (drip, steady discharge, single overflow) and tag location(s) of leak(s).		✓	
Is leachate extraction well pump operating properly based on visual inspection? If No, describe the condition.	✓		
Is damage or degradation evident at the extraction well or stand pipe(s)? If Yes, describe the type of damage (vent/well riser cover missing, vent/well riser cracked, overturned, leaning, broken) and indicate damaged vent/well riser(s) on the map attached.		✓	
Is damage or degradation evident at these system components? Extraction well pump and associated piping? Leachate collection pipe cleanout?		✓	

Date: 3/14/23

INSPECTOR: Max Liffittan

FIELD DATA LOG FOR STORM WATER SAMPLING
Industrial Welding Site, Niagara Falls, New York

Location Description: Storm Drain Sample Point East of Catch Basin

Sampler(s): Greg Ernst, Butch Brown, Steve Walsh, Max Liffiton

Weather: Snow 24°F

Date: 3/14/23

Time: 1000

Sample ID: IWS-SD1-031423

Sampling Method: Peristaltic Pump

Pipe Invert Elevation at Sample Point Riser (ft msl)	Measured Depth of Water Sample Point (ft)	Calculated Water Elevation - Sample Point (ft)	Outfall Invert Elevation (ft msl)	Measured Depth of Water Outfall Pipe (ft)	Calculated Outfall Water Elevation (ft msl)
	5.20				

COMMENTS:

Sample taken 10 AM. MS/MSD volumes taken here.

Water Quality at time of sample:

Ph-6.56

cond 0.57

temp 0.32°C

turb 8.94

FIELD DATA LOG FOR GROUNDWATER SAMPLING
Industrial Welding Site, Niagara Falls, New York

Well ID: MW-1 Date: 3-14-23
 Sampler(s): BUTCH BROWN STEVE WICKS Max Little Gregory
 Weather: SNOW 24" F
 Calibration of Field Equipment:

pH Meter: Date: 3-14-23 Time 0930
 Spec. Conduct. Meter: Date: 3-14-23 Time 0930
 Turbidity Meter: Date: 3-14-23 Time 0930

Purging Method/Sampling Method: LOW FLOW

Sample ID: IWS-MW1-031423

Well Purging Data:

	($\pm 0.1m$)		($\pm 0.5pH$)	($\pm 10\%$)	($\pm 1^{\circ}C$)	($\pm 50 NTU$)
Time	Water Level (Feet Below Top of Riser)	Volume Purged (Liters)	pH (Std. Units)	Specific Conductivity ($\mu mhos/cm$)	Tem (EC)	Turbidity (NTUs)
1109	6.89	1	7.05	1.07	3.94	1.15
1114	7.20	2	7.04	1.02	3.80	1.05
1119	7.61	3	7.00	0.97	3.48	1.02
1124	7.91	4	6.97	0.99	3.61	1.02
1129	8.21	5	6.99	1.00	3.62	1.02

COMMENTS: grab samples at 1129.

FIELD DATA LOG FOR GROUNDWATER SAMPLING
Industrial Welding Site, Niagara Falls, New York

Well ID: MW-2 Date: 3/14/23
 Sampler(s): BUTCH BROWN STEVE WALSH Max Lipton Greg Ernst
 Weather: SNOW 24°F
 Calibration of Field Equipment: 3-14-23

pH Meter: Date: 3-14-23 3-13-23 Time 0930
 Spec. Conduct. Meter: Date: 3-14-23 3-13-23 Time 0930
 Turbidity Meter: Date: 3-14-23 3-13-23 Time 0930

Purging Method/Sampling Method: LOW FLOW

Sample ID: IWS-MW-2-031423

Well Purging Data:

	($\pm 0.1m$)		(± 0.5)	($\pm 10\%$)	($\pm 1^\circ C$)	($\pm 50 NTU$)
Time	Water Level (Feet Below Top of Riser)	Volume Purged (Liters)	pH (Std. Units)	Specific Conductivity ($\mu mhos/cm$)	Tem (EC)	Turbidity (NTUs)
1030	5.65	1.5	7.47	1.04	4.69	2.43
1035	6.12	1.5	7.32	0.97	4.71	0.50
1040	6.37	2.5	7.15	0.77	4.64	0.45
1045	6.63	3.5	7.13	0.70	4.56	0.46
1050	6.71	4.5	7.15	0.71	4.58	0.41

COMMENTS: grab samples 1050,

INDUSTRIAL WELDING SITE
LEWISTON, NY
GROUNDWATER SAMPLING FIELD PARAMETERS
FIELD INSTRUMENTATION CALIBRATION FORM

DATE: 3-14-23 SAMPLING EVENT: Spring 2023

PERSON CALIBRATING METER: GEB

INSTRUMENT USED:

MANUFACTURER: IN. Stry

MODEL NUMBER: AquaTrak 500

HGS NUMBER: S/N 091056

DATE OF MANUFACTURE: _____

CALIBRATION STANDARDS USED:

Pre Post

STANDARD 7.00 METER READ: 7.06 / 7.12

STANDARD 4.00 METER READ: 3.53 / 4.01

STANDARD 10.00 METER READ: 10.19 / 10.16

CALIBRATION SOLUTION EXPIRATION DATE: _____

	PRE CALIBRATION READINGS	POST CALIBRATION READINGS
TEMPERATURE (°F or °C):	_____	_____
pH:	_____	_____
pHmv:	_____	_____
OX-RED POT (ORPmv):	_____	_____
CONDUCTIVITY (ms/cm):	<u>1.539</u>	<u>1.413</u>
TURBIDITY (NTU):	_____	_____
mg/L DO:	<u>N/A</u>	_____
% DO:	<u>N/A</u>	_____

OTHER CALIBRATION COMMENTS: GeoTest Turb Meter

NTU STD < .10, 20, 100, 800 PASSED

FIELD DATA LOG FOR WATER ELEVATION MEASUREMENTS
Industrial Welding Site, Niagara Falls, New York

Name of Sampler: Max Liffiton

Organization: Sevenson Environmental

Weather: Snow Flurries, High 29°F, Low 24°F

Water Level Indicator Make: Solinst Model: 101-P7 Serial No.: 501585

Location	Location ID	Date/Time Measured	Top of Riser Elevation (ft msl)	Measured Depth to Water (Feet Below Top of Riser)	Water Elevation (ft msl)
LCRS Stand Pipe	SP1	3/14/23		dry at 17.02	
		1048			
LCRS Stand Pipe	SP2	3/14/23		dry at 14.60	
		1102			
LCRS Recovery Well	LCRS1	3/14/23	573.43	8.55	564.88
		1153			
Cover Area Piezometer	P1R	3/14/23	582.10	17.38	564.72
		1053			
East Easement Piezometer	P2R	3/14/23	572.17	5.70	566.47
		1320			
Cover Area Piezometer	P3R	3/14/23	581.90	3.12 15.16	566.74
		1100			
East Easement Piezometer	P4R	3/14/23	571.09	3.12	567.97
		1321			
Cover Area Piezometer	P5R	3/14/23	578.46	14.03	564.43
		1056			
East Easement Piezometer	P6R	3/14/23	570.91	3.31	567.60
		1323			
NE Easement Monitoring Well	MW1	3/14/23	570.87	6.89	563.98
		1109			
SE Easement Monitoring Well	MW2	3/14/23	572.76	5.65	567.11
		1030			

COMMENTS:

Industrial Welding Site

Piezometer and Monitoring Well

INSPECTION FORM

Inspection of Well/Piezometer No.: SP-1

Date: 3/14/23

INSPECTOR: Greg Ernst

YES	NO
X	
X	
X	
	X
X	
	X
	X
X	

Is the wellhead clearly labeled?

Is there a lock on the well?

Is the concrete pad around the well in good condition

Has there been physical damage to the well?

Is the wellhead protected from standing water?

Is there evidence of frost heave on the protective casing?

Is there settlement around the well?

Is the well depth consistent with the installed depth?

COMMENTS:

None

Industrial Welding Site

Piezometer and Monitoring Well

INSPECTION FORM

Inspection of Well/Piezometer No.: SP-2

Date: 3/14/23

INSPECTOR: Greg Ernst

YES	NO
X	
X	
	X
	X
X	
	X
	X
X	

Is the wellhead clearly labeled?

Is there a lock on the well?

Is the concrete pad around the well in good condition

Has there been physical damage to the well?

Is the wellhead protected from standing water?

Is there evidence of frost heave on the protective casing?

Is there settlement around the well?

Is the well depth consistent with the installed depth?

COMMENTS:

Concrete pad cracked in half

Industrial Welding Site

Piezometer and Monitoring Well

INSPECTION FORM

Inspection of Well/Piezometer No.: PIR

Date: 3/14/23

INSPECTOR: Grey Frost

YES	NO
X	
X	
X	
	X
X	
	X
	X
X	

Is the wellhead clearly labeled?

Is there a lock on the well?

Is the concrete pad around the well in good condition

Has there been physical damage to the well?

Is the wellhead protected from standing water?

Is there evidence of frost heave on the protective casing?

Is there settlement around the well?

Is the well depth consistent with the installed depth?

COMMENTS:

None

Industrial Welding Site

Piezometer and Monitoring Well

INSPECTION FORM

Inspection of Well/Piezometer No.: P2R

Date: 3/14/23

INSPECTOR: Greg Ernst

YES	NO
X	
X	
X	
	X
X	
	X
	X
X	

Is the wellhead clearly labeled?

Is there a lock on the well?

Is the concrete pad around the well in good condition

Has there been physical damage to the well?

Is the wellhead protected from standing water?

Is there evidence of frost heave on the protective casing?

Is there settlement around the well?

Is the well depth consistent with the installed depth?

COMMENTS:

None

Industrial Welding Site

Piezometer and Monitoring Well

INSPECTION FORM

Inspection of Well/Piezometer No.: P3R

Date: 3/14/23

INSPECTOR: Greg Ernst

YES	NO
X	
X	
	X
	X
X	
	X
	X
X	

Is the wellhead clearly labeled?

Is there a lock on the well?

Is the concrete pad around the well in good condition

Has there been physical damage to the well?

Is the wellhead protected from standing water?

Is there evidence of frost heave on the protective casing?

Is there settlement around the well?

Is the well depth consistent with the installed depth?

COMMENTS:

Concrete pad slightly loose

Industrial Welding Site

Piezometer and Monitoring Well

INSPECTION FORM

Inspection of Well/Piezometer No.: P4R

Date: 3/14/23

INSPECTOR: Greytast

YES	NO	
X		Is the wellhead clearly labeled?
X		Is there a lock on the well?
X		Is the concrete pad around the well in good condition
	X	Has there been physical damage to the well?
X		Is the wellhead protected from standing water?
	X	Is there evidence of frost heave on the protective casing?
	X	Is there settlement around the well?
X		Is the well depth consistent with the installed depth?

COMMENTS:

None

Industrial Welding Site

Piezometer and Monitoring Well

INSPECTION FORM

Inspection of Well/Piezometer No.: P5R

Date: 3/14/23

INSPECTOR: Grey Ernst

YES	NO
X	
X	
	X
	X
X	
	X
	X
X	

Is the wellhead clearly labeled?

Is there a lock on the well?

Is the concrete pad around the well in good condition

Has there been physical damage to the well?

Is the wellhead protected from standing water?

Is there evidence of frost heave on the protective casing?

Is there settlement around the well?

Is the well depth consistent with the installed depth?

COMMENTS:

Concrete pad is loose.

Hinge on well head cover is bent/rusted and does not close fully

Industrial Welding Site

Piezometer and Monitoring Well

INSPECTION FORM

Inspection of Well/Piezometer No.: P6R

Date: 3/14/23

INSPECTOR: Greyfort

YES	NO
X	
X	
X	
	X
X	
	X
	X
X	

Is the wellhead clearly labeled?

Is there a lock on the well?

Is the concrete pad around the well in good condition

Has there been physical damage to the well?

Is the wellhead protected from standing water?

Is there evidence of frost heave on the protective casing?

Is there settlement around the well?

Is the well depth consistent with the installed depth?

COMMENTS:

None

Industrial Welding Site

Piezometer and Monitoring Well

INSPECTION FORM

Inspection of Well/Piezometer No.: MW-1

Date: 3/14/23

INSPECTOR: Greg Ernst

YES	NO
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Is the wellhead clearly labeled?

Is there a lock on the well?

Is the concrete pad around the well in good condition

Has there been physical damage to the well?

Is the wellhead protected from standing water?

Is there evidence of frost heave on the protective casing?

Is there settlement around the well?

Is the well depth consistent with the installed depth?

COMMENTS:

None

Industrial Welding Site

Piezometer and Monitoring Well

INSPECTION FORM

Inspection of Well/Piezometer No.: MW-2

Date: 3/14/23

INSPECTOR: Greg East

YES	NO
X	
X	
X	
	X
X	
	X
	X
X	

Is the wellhead clearly labeled?

Is there a lock on the well?

Is the concrete pad around the well in good condition

Has there been physical damage to the well?

Is the wellhead protected from standing water?

Is there evidence of frost heave on the protective casing?

Is there settlement around the well?

Is the well depth consistent with the installed depth?

COMMENTS:

None



1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 • +1 585 288 5380 • alsglobal.com

Chain of Custody / Analytical Request Form

71684

SR#:

Page

1

of

1

Report To:

Olin Corporation

Contact: Adam Carringer

Email: ABCarringer@Olin.com

Phone: 423 336 4987

Address: 490 Stuart Road

Cleveland TN 37312

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER

Project Name: Industrial Welding

Project Number: 1305

ALS Quote #:

Sample's Signature: Maxwell L. Hutton

Email CC:

Email CC:

State Samples Collected (Circle or Write): (N) MA, PA, CT, Other:

Lab ID (ALS)

Sample Collection Information:

Sample ID:

Date

Time

Matrix

Number of Containers

MS/MSD?

GC/MS VOA - 8260 • 624 • 524 • TCLP

GC/MS SVOA - 8270 • 625 • TCLP

Pesticides - 8081 • 608 • TCLP

PCBs - 8082 • 608

Herbicides - 8151 • TCLP

Metals, Total - Select Below

Metals, Dissolved - Field / In-Lab Filter

0. None

1. HCl

2. HNO3

3. H2SO4

4. NaOH

5. Zn Acet.

6. MeOH

7. NaHSO4

8. Other

Notes:

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

MS/MSD

Special Instructions / Comments:

Metals - total Mercury

Relinquished By:

Received By:

Relinquished By:

Received By:

Relinquished By:

Received By:

Signature

UPS

Printed Name

Maxwell L. Hutton

Company

Sevenson

Date/Time

3/14/23 1430

Turnaround Requirements

Report Requirements

Metals: RCRA 8 • PP 13 • TAL 23 • TCLP • Other (List)

*Rush (Surcharges Apply)

Subject to Availability

Please Check with your PM

Standard (10 Business Days)

Standard

Tier II/Cat A - Results/QC

Tier I/Cat B - Data

Validation/Report w/ Data

EDD: Yes No

EDD Type:

VOA/SVOA Report List: TCL • BTEX • TCLP • CP-51/Stars • THM • Other:

Invoice To: (if Same as Report To)

PO #:

Company:

Contact:

Email:

Phone:

Address:

HEALTH AND SAFETY PLAN SIGNATURE PAGE
INDUSTRIAL WELDING SITE, NIAGARA FALLS, NEW YORK

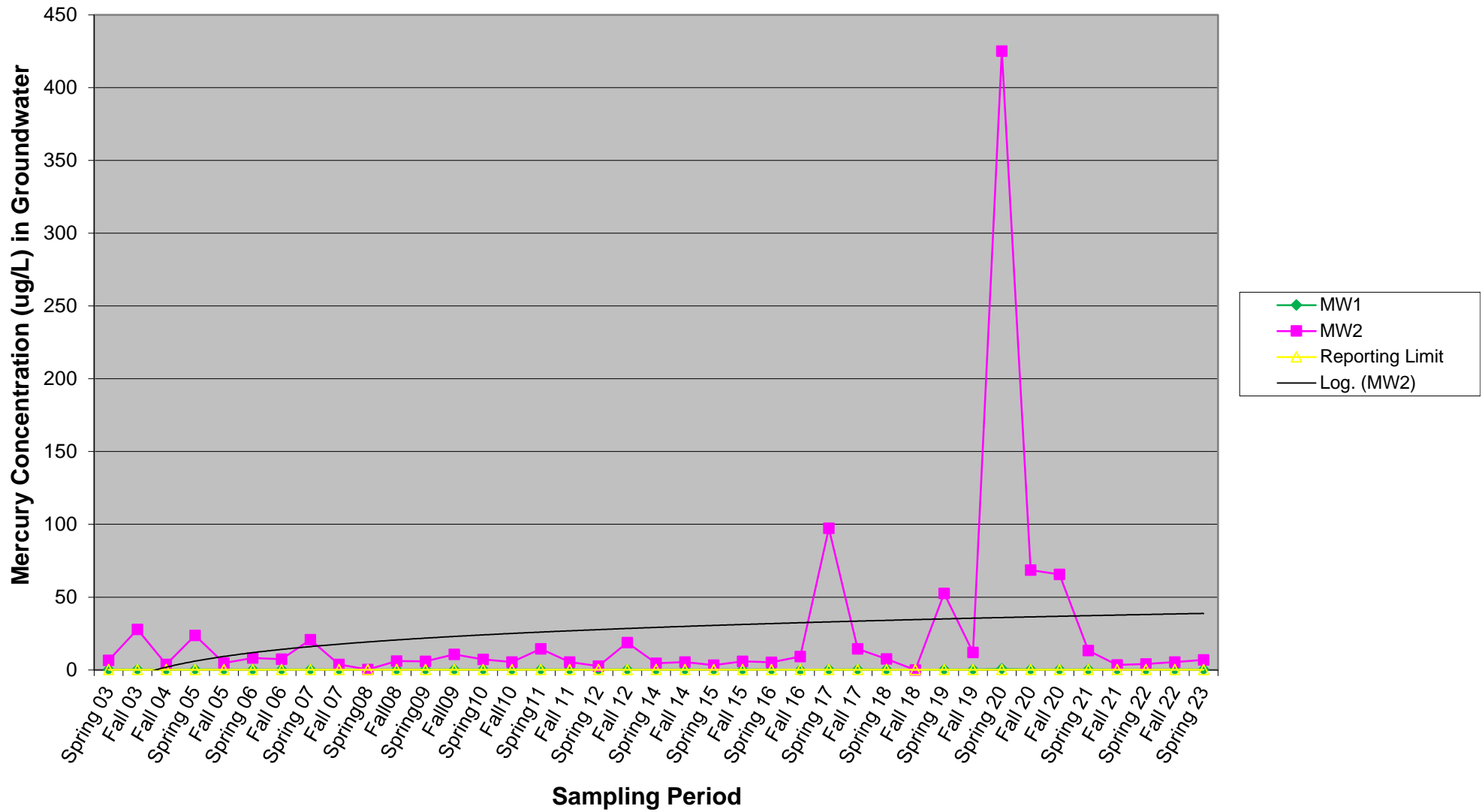
By signing below, I certify that I have read Sections 8.0 and 9.0 of this O & M Manual about health, safety and emergency procedures for the Industrial Welding Site and I agree to conform to those procedures.

[illegible]

ATTACHMENT F

Industrial Welding

Mercury Concentrations in Groundwater Over Time



**IW GROUNDWATER MONITORING
ANALYTICAL RESULTS FOR Hg MONITORING WELL BY PERIOD
SUMMARY SPRING 2003 - SPRING 2023**

Sampling Period	MW1 (ug/L)	MW2 (ug/L)	Rptg. Limit (ug/L)
Spring 03	0.2	77	0.2
Fall 03	2.2	9.3	0.2
Spring 04	0.2	37	0.2
Fall 04	0.2	6.6	0.2
Spring 05	0.2	27.8	0.2
Fall 05	0.2	3.7	0.2
Spring 06	0.2	23.7	0.2
Fall 06	0.2	4.7	0.2
Spring 07	0.2	8.2	0.2
Fall 07	0.2	7.3	0.2
Spring08	0.2	20.7	0.2
Fall08	0.2	3.7	0.2
Spring09	0.2	0.2	0.2
Fall09	0.2	6.1	0.2
Spring10	0.2	5.8	0.2
Fall10	0.2	10.6	0.2
Spring11	0.2	7.2	0.2
Fall 11	0.2	5.3	0.2
Spring 12	0.2	14.4	0.2
Fall 12	0.2	5.3	0.2
Spring 13	0.2	2.5	0.2
Fall 13	0.2	18.7	0.2
Spring 14	0.2	4.5	0.2
Fall 14	0.2	5.4	0.2
Spring 15	0.2	3.2	0.2
Fall 15	0.2	5.9	0.2
Spring 16	0.2	5.2	0.2
Fall 16	NA	9.1	0.2
Spring 17	0.2	97.2	0.2
Fall 17	0.2	14.4	0.2
Spring 18	0.2	7.5	0.2
*Fall 18	NT	NT	0.2
Spring 19	0.2	52.5	0.2
Fall 19	0.2	11.9	0.2
Spring 20	0.7	425	0.2
**Summer 20 ¹	0.2	68.6	0.2
Fall 20	0.2	65.6	0.2
Spring 21	0.2	13.3	0.2
Fall 21	0.2	3.4	0.2
Spring 22	0.2	4	0.2
Fall 22	0.2	5.42	0.2
Spring 23	0.2	6.81	0.2

= Detected value

*MW1 & MW2 were dry, no analysis available

**Resampled due to anomalous values from spring sampling event

NT = Not Tested

¹ERRATA: 2020 Sampling results/date were inadvertently reported.