Frontier Chemical – Pendleton Site PRP Group
c/o Olin Corporation
490 Stuart Road, NE
Cleveland, TN 37312

SENT VIA OVERNIGHT CARRIER/EMAIL

October 7, 2022

Mr. Glenn May
Division of Environmental Remediation
New York State Department of Environmental Conservation
270 Michigan Avenue
Niagara Falls, NY 14203-2999

Subject: Frontier Chemical – Pendleton Site, Pendleton, New York
Order on Consent (#B9-0270-89-05)
Annual Periodic Review Report – 2022
Post Closure Operation, Maintenance, and Monitoring Activities

Dear Mr. Sadowski:

On behalf of the Pendleton PRP Group, Olin hereby submits an email link containing a PDF of the 2022 Annual Periodic Review Report on the Post-Closure Operation, Maintenance, and Monitoring activities for the Frontier Chemical-Pendleton Site. The annual certification is attached as hard copy and as part of the PDF.

Please contact me with any questions at 423-508-2768 or by e-mail at abcarringer@olin.com.

Sincerely,

Pendleton PRP Group

Adam B. Carringer
Trustee

PERIODIC REVIEW REPORT
FRONTIER CHEMICAL-PENDLETON SITE

Olin Corporation
Frontier Pendleton PRP Group
Frontier Chemical-Pendleton Site
Pendleton, New York

Table of Contents

LIST OF ATTACHMENTS
(Following Report)

1 Introduction

1.1 Brief Summary, Nature and Extent, Remedial History.

The Frontier Chemical – Pendleton Site PRP Group is responsible for the operation, maintenance and monitoring of the closure components of the Site. The site is being maintained according to the approved O&M Plan. The Site occupies approximately 11 acres of the 75-acres operated by Frontier Chemical Waste Process, Inc. Frontier Chemical operated the site as an industrial waste treatment facility from 1958 to 1974. Plating wastes, pickle liquors and other liquid acid wastes from plating and metal finishing industries were treated at the site, with residuals from the waste treatment process being discharged into Quarry Lake. Much of the former Process Area was filled and graded following termination of waste treatment operations. In March 1994, the PRP Group entered into an Order on Consent (#B9-0270-89-05) with NYSDEC to implement the RD/RA Work Plan. Site remediation consisted of removal of lake sediments and placement in an onsite landfill. The site remediation project was designed in 1993 and 1994, the construction was completed in 1995 and 1996 by Sevenson Environmental Services, Inc., and O&M activities began in 1997.

1.2 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 ground water elevation data indicates that ground water within the capped area is migrating to the west toward the ground water collection trench. Review of the ground water elevation data indicates that inward hydraulic gradients were observed between piezometers within the capped area and piezometers outside of the capped area. The remedial program is achieving the objectives of containing groundwater flow and maintaining groundwater quality standards.

1.3 Compliance.

There are no areas of non-compliance.

1.4 Recommendations.

The Operation and Maintenance program data show conditions are stable, and the remedy remains effective. There are no recommendations at this time.

2 Site Overview

2.1 Site Description and Nature/Extent Prior to Remediation.

A map showing the site features is included in **Attachment A**. The Site occupies approximately 11 acres. The site consists of the capped landfill, with the adjacent quarry

lake having been remediated. Plating wastes, pickle liquors and other liquid acid wastes from plating and metal finishing industries were treated at the site, with residuals from the waste treatment process being discharged into Quarry Lake. Much of the former Process Area was filled and graded following termination of waste treatment operations. Site remediation consisted of removal of lake sediments and placement in an onsite landfill.

2.2 Remediation Chronology.

In March 1994, the PRP Group entered into an Order on Consent (#B9-0270-89-05) with NYSDEC to implement the RD/RA Work Plan. Site remediation consisted of removal of lake sediments and placement in an onsite landfill. The site remediation project was designed in 1993 and 1994, the construction was completed in 1995 and 1996 by Sevenson Environmental Services, Inc., and O&M activities began in 1997.

Constructed features for the Site include the capped area, ground water collection and conveyance system, surface water runoff facilities, constructed wetlands, perimeter and containment berms, and outlet weir, ground water monitoring system, access road, and site security. Each of the construction features is described briefly in the following paragraphs.

The low-permeability capped system at the Site is a multi-component system designed to isolate the contaminants in the landfill. The 60-mil thick textured high-density polyethylene (HDPE) geomembrane is the component that covers and isolates the contaminants in the landfill. A 2-foot thick soil barrier layer was installed to protect the HPDE geomembrane cover. An 18-inch thick layer of soil barrier protection layer was placed over the HDPE geomembrane to protect the HDPE geomembrane from external forces. A 6-inch thick layer of topsoil was added to bring the soil barrier protection layer to a thickness of 2-feet. The soil barrier protection layer supports the vegetative cover that minimizes erosion.

The ground water collection system installed along the southern perimeter of the capped area and eastern edge of Quarry Lake is approximately 1,594 feet in length. The southern perimeter collection system is a perforated 6-inch diameter HDPE pipe approximately 420 feet in length sloped to discharge to manhole MH-1 of the eastern edge of Quarry Lake collection system. The collection system along the eastern edge of the Quarry Lake is a perforated 6-inch pipe approximately 1,174 feet in length.

The groundwater pre-treatment system consists of wet/dry well pump station designed for a maximum flow rate of 10 gallon per minute (gpm). A modified lead/lag sand/granular activated carbon (GAC) dual media system was installed in the dry well to treat water collected by the groundwater collection system.

The surface water runoff control facilities at the Site are designed to protect the toe of the capped area from run on and to convey runoff away from the capped area during a 25-year, 24-hour storm or a seasonal thaw event. Wetlands are constructed in Quarry Lake between the lake and the reconstructed perimeter berm, north of the capped area, and south of the capped area. The perimeter berm was constructed at a top elevation of approximately 580.5 feet and with a slope of 1V:3H provides containment for 25-year, 24-hour event while maintaining two feet of freeboard.

The access road from Townline Road allows access to the perimeter of the capped area and ground water collection, conveyance and pre-treatment system for inspection and maintenance purposes. Site access is controlled by a vehicle access gate at Town Line Road.

3 Remedial Performance, Effectiveness, and Protectiveness

3.1 Effectiveness of Remedial Goals.

The isolation of groundwater within the capped area has been established and is being maintained by current operation and maintenance activities. The ground water elevation data indicates that ground water within the capped area is migrating to the west toward the ground water collection trench. Review of the ground water elevation data indicate that acceptable hydraulic gradients were observed between piezometers within the capped area and piezometers outside of the capped area. **Attachment B** shows the most recent graphs and tables for piezometric data demonstrating inward gradient. **Attachment C** includes the analytical data from pre-treated water prior to discharge from September 2021 through this reporting period as well as the groundwater data from August 2022. The performance of the pre-treatment system has met the discharge criteria of the permit since startup in 1997.

4 IC/EC Plan (not applicable)

4.1 IC/EC Requirements.

A fence is in place around the landfill, effectively restricting access.

Clean soil cover is in place on the landfill, restricting infiltration and promoting runoff.

A water treatment system is in place, treating and discharging groundwater in accordance with a local discharge permit.

A vapor mitigation system is in place on the landfill, the exhaust fan from the treatment system vault effectively vents vapors.

A hydraulic control system is in place, effectively controlling groundwater flow direction.

4.2 Certification.

The certification is attached.

5 Monitoring Plan Compliance Report

5.1 Components of Monitoring Plan.

Operation, maintenance, and monitoring activities to be performed by the Group include:

In accordance with the Operation and Maintenance Manual NYSDEC approval dated March 17, 1997, during the first year of monitoring, groundwater samples were to be collected semi-annually for target compound list (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs)/pesticides, and target analyte list (TAL) metals. After five years the sampling frequency was reduced to an annual basis while the SVOCs and PCBs were no longer required.

From 2003-2013 sampling was conducted on an annual basis. On January 9, 2014, NYSDEC approved a reduction in the sampling frequency from annually to biennially.
In addition to the 2014 approved reduction in frequency, a reduction in parameters was also granted.

The TCL for VOCs went from the 34-parameter full suite to carbon disulfide.

The twenty-four compounds listed in the TAL for metals was reduced to arsenic, chromium, and potassium.

In 2019, NYSDEC requested we reinstate the chlorinated VOC sampling to the 34-parameter full suite as was originally done prior to the 2014 reduction. In addition to this change, carbon disulfide would no longer be sampled.

In accordance with the NYSDEC approval dated January 9, 2014, groundwater analytical sampling is conducted on a bi-ennial basis. In 2021, groundwater sampling was not required to be performed. Groundwater sampling will occur again in 2024 in accordance with the approved schedule. Groundwater level measurements will continue to be obtained on a semi-annual basis.

The ground water monitoring system includes ten ground water monitoring wells (URS-14I, URS-14D, URS-9I, URS-9D, 85-5R, URS-5D, 85-7R, URS-7D, 88-12C, and 88-12D), eight piezometers (P-1 through P-8), and one standpipe (SP-1). The ground water monitoring wells are located outside the limits of the capped area and serve to monitor the elevation of the ground water table as well as to collect samples of ground water to be analyzed. Five piezometers are located within the capped area, and three piezometers are located outside the capped area. The standpipe is located within the ground water collection trench. The surface water elevation in Quarry Lake is measured along with water elevations from the eight piezometers, and the standpipe in the collection trench to monitor the establishment of an inward hydraulic gradient at the perimeter of the capped area.

5.2 Summary and Comparison to 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 elevation data indicates that ground water within the capped area is migrating to the west toward the ground water collection trench. Review of the ground water elevation data indicate that acceptable hydraulic gradients were observed between piezometers within the capped area and piezometers outside of the capped area.

The performance of the pre-treatment system has met the discharge criteria of the permit since startup in 1997.

The water level in the wetlands to the north of Quarry Lake is higher than the Quarry Lake outlet weir, at 578.31 ft-msl. The spill level at the outlet weir for Quarry Lake is approximately 578 feet. The weir was constructed to maintain a design water level in Quarry Lake and to provide a discharge point for rainfall runoff from the capped area. The perimeter berm for Quarry Lake is approximately 580.50 feet. This elevated water level has not adversely impacted any components of the site. The surface control features function as designed and comply with the O&M Plan.

The water elevation data collected from the piezometers and ground water wells was used to determine whether an inward hydraulic gradient exists and was made by comparing water level measurements within the capped area to those measured outside the capped area.

An inward hydraulic gradient was established when water levels in piezometers outside of the capped area (P-1, P-5, P-8) and Quarry Lake are higher than water levels in piezometers within the capped area (P-2, P-3, P-4, P-6, P-7). There are four pairs of piezometer placed around the perimeter of the capped landfill to determine attainment of an inward gradient.

The Hydrographs showing groundwater elevation trends are shown in **Attachment B**. Levels for piezometer pair, P-1 and P-2, located in the eastern portion of the capped area that borders the abandoned ROW, indicate that an inward gradient has been maintained for this pair of piezometers. The ground water levels were checked for piezometer pair, P-5 and P-6, located in the southern portion of the capped area. An inward gradient has historically been maintained for this pair of piezometers, although the latest round of measurement indicate a slightly outward gradient of 0.07 ft. We anticipate this slight outward gradient to fall back within typical range during the next event. The ground water levels were checked for the piezometer pair, P-7 and P-8, located in the northern portion of the capped area. An inward gradient has been maintained for this pair of piezometers.

The ground water elevation in the standpipe (SP-1) in the ground water collection trench is dry, i.e. indicating that it is lower than the surface water elevation of Quarry Lake. This indicates that Quarry Lake is isolated from the capped area.

The ground water elevation data indicate that ground water within the capped area is migrating to the west toward the ground water collection trench. **Attachment D** contains a well location map and tabulated groundwater elevations for the April 2021 and September 2021 monitoring episodes.

5.3 Deficiencies.

There are no deficiencies.

5.4 Recommendations for Change.

There are no recommendations at this time.

6 Operation and Maintenance (OM&M) Plan Compliance Report

6.1 Components of the O&M Plan.

Routine inspection and maintenance of constructed features, including the capped area, groundwater collection and conveyance system, surface water runoff facilities, constructed wetlands, access road, perimeter and containment berms, and outlet weir.

Operation and maintenance of the ground water pre-treatment system.

Evaluation of operation, maintenance, and monitoring activities and identification of proposed changes to the O&M Manual or site procedures and policies which would provide a safer and/or more cost-effective operation.

6.2 OM&M Summary.

The ground water collection system is inspected semi-annually for the buildup of hard or soft scale-like deposits. The inspection is performed concurrently with inspection of the capped area. The dry vault and wet well components are visually inspected monthly for leakage or corrosion of valves, pipes and appurtenances, and for proper operation. A leak is repaired when found. If a component of the ground water collection, conveyance, or pre-treatment system is found to be damaged or malfunctioning, it is repaired or replaced. The semi-annual and monthly inspection checklist is contained in **Attachment E**.

Water from the pre-treatment system is discharged from the dry vault via a dual contained force main to the Niagara County Sewer District #1 interceptor system at manhole MH-16. The flow rate and volume of ground water pumped from the wet well is measured using a magnetic-type flowmeter. The flowmeter is the measurement device used in reporting discharge flow from the Site to MH-16. A sump is installed within the dry vault to recycle spills and leaks inside the dry vault back into the wet well. A sump pump with a float switch pumps spills and leaks from the floor of the dry vault back into the wet well for treatment.

The capped area was mowed on a regular basis to prevent establishment of woody vegetation during this reporting period. The capped area functions as designed and complies with the O&M Plan.

The pre-treatment system was designed for continuous operation capable of treating approximately 15,000 gallons per day at a rate of 10 gallons per minute. The water level sensor in the wet well can be set at various levels but is currently set to activate the pumping system when the wet well sump begins to back up water in the ground water collection piping.

PRE-TREATMENT PROCESSING, AVERAGE FLOW RATE		
PROCESS FLOW RATES	**DESIGN**	**ACTUAL**
Gallons Per Day	15,000	365
Gallons Per Minute	10	0.25

Under current conditions, the pumping system is always on-line but normally operates six to eight times per 24-hour period. Each time a pump is activated by the level sensor, approximately 60 gallons of water is pumped into the pre-treatment system. Based upon the volume of the pre-treatment system, it takes at least a day for the ground water to pass through the pre-treatment system and be discharged to Manhole #16. A ten-year summary of the pre-treatment flow volume by year is shown in the table below.

PRE-TREATMENT FLOW SUMMARY BY OPERATING YEAR		
DATE	**GALLONS PER YEAR**	**GALLONS PER DAY**
2009	140,867	385
2010	74,506	204
2011	40,653	111
2012	35,830	98
2013	37,125	102
2014	61,744	169
2015	41,568	114
2016	41,046	112
2017	124,159	341
2018	149,642	410
2019	133,578	366
2020	28,111	77
2021	55,744	153
2022 through August	31,449	129

Calendar-year flows by day for September 2021 through August 2022 are presented in **Attachment F**.

The permit to discharge from the pre-treatment system to Manhole #16 of the Niagara County Sewer District #1 is currently granted by District Permit #21-11. Discharge Permit

#21-11 was issued for August 30, 2021 and expires August 30, 2024. The permit is included in **Attachment G.** Semi-annual reporting to Niagara County Sewer District #1 includes the volume and chemical characteristics of the water being discharge from the Site.

Maintenance for the pre-treatment system is recorded in the Pre-Treatment System Operator Log. Information on the Pre-Treatment System Operator Log includes the purpose of the visit, local time and conditions, status of the process, details of the visit, planned action, and recommendations to prevent future problems. A log sheet is filled out during each visit to record site conditions and actions taken by the technician. Site visits are normally monthly unless alarm conditions, call by neighbors, data request, etc., require additional visits.

Regular inspections are currently conducted monthly. These inspections are a part of the pre-treatment systems operating log. The Pre-Treatment Operator's Logs for this reporting period are included in **Attachment H.**

Solids resulting from ground water collection system cleaning and equipment decontamination activities are stored, handled, and disposed of in accordance with the New York State Hazardous Waste Manifest System Regulations 6NYCRR Part 372 and any other applicable local, state, and federal regulations. No waste was disposed of during this reporting period.

The access road was inspected at the same frequency as inspection of the final cover for rutting, potholes or settlement. No repairs were needed and there was no disposal to document. The access road functions as designed and complies with the O&M Plan.

6.3 Evaluation of Remedial Systems.

All components are performing as designed.

6.4 OM&M Deficiencies.

There are no deficiencies.

6.5 Conclusions.

The OM&M system is being run and maintained properly and does not require additions or modifications at this time.

7 Overall PRR Conclusions and Recommendations

7.1 Compliance with SMP.

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.

7.2 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 elevation data indicates that ground water within the capped area is migrating to the west toward the ground water collection trench.

Review of the ground water elevation data indicate that inward hydraulic gradients were observed between piezometers within the capped area and piezometers outside of the capped area.

7.3 Future Submittals.

Future submittals of this report will be done on an annual basis.

Enclosure 2

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

Site Details **Box 1**

Site No. 932043

Site Name Frontier Chemical - Pendleton

Site Address: Townline Road Zip Code: 14120
City/Town: North Tonawanda
County: Niagara
Site Acreage: 11.000

Reporting Period: September 01, 2020 to September 01, 2021

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

Box 2

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

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

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

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 932043

Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
164.00-3-36	Frontier Chem PRP Group, c/o Olin Co	
		Monitoring Plan
		O&M Plan

Record of Decision (ROD); March 2, 1992.

Order on Consent (#B9-0270-89-05); March 1994.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
164.00-3-36	Groundwater Treatment System
	Cover System
	Groundwater Containment
	Leachate Collection
	Fencing/Access Control
	Monitoring Wells

1. Waste consolidation and stabilization including contaminated sediments dredged from Quarry Lake.

2. Capping of waste under a low-permeability cap system.

3. Installation of surface water system.

4. Installation of a 60-mil. HDPE geomembrane over the western side of the collection trench as a water barrier from Quarry Lake.

5. Installation of a groundwater collection system within the contained area to maintain inward gradients.

6. Onsite treatment of groundwater collected with subsequent discharge to Municipal POTW.

7. Creation of new wetlands.

8. Installation of a perimeter berm, containment berm, and outlet weir.

9. Installation of a monitoring system to monitor the effectiveness of the remedy.

10. Installation of a chain link fence around the capped area and pump station to limit access.

Box 5

Periodic Review Report (PRR) Certification Statements

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

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

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

YES	NO
☑	☐

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. 932043

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 B Carringer (print name) at 490 Stuart Rd NE Cleveland, TN 37312 (print business address),

am certifying as Frontier Chemical Group Trustee (Owner or Remedial Party)

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

Adam B Carringer

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

9/27/2022

EC CERTIFICATIONS

Box 7

Professional Engineer Signature

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

I CARRIE HUNT (print name) at 490 STUART RD NE, CLEVELAND, TN, 37312 (print business address)

am certifying as a Professional Engineer for the OWNER'S REPRESENTIVE (Owner or Remedial Party)

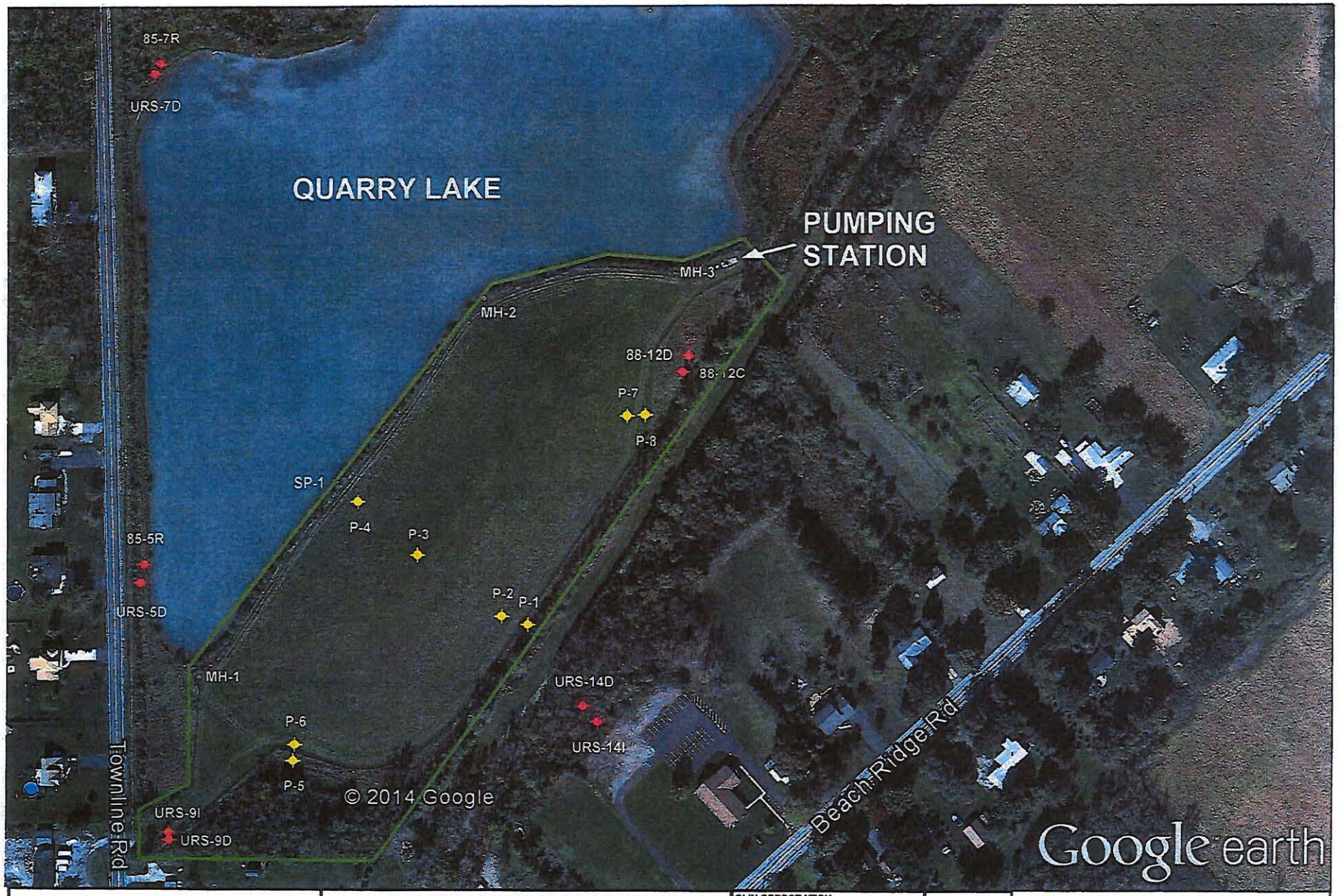
CHMM — Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

11148 — Stamp (Required for PE)

9/27/2022 — Date

ATTACHMENT A

Site Features Map



Olin

OLIN CORPORATION
Environmental Remediation Group
3855 N. Ocoee St., Ste. 200
Cleveland, tennessee 37312
423/336-4000

SCALE: NOTED	DRAWN BY: JRH	DATE: 8-29-2019
	CHKD. BY: ABC	DATE: 9-5-2019

OLIN CORPORATION
FRONTIER CHEMICAL PENDLETON SITE
PENDLETON, NY

SITE MAP
MONITORING WELL/PEIZOMETER LOCATIONS
APRIL 2019

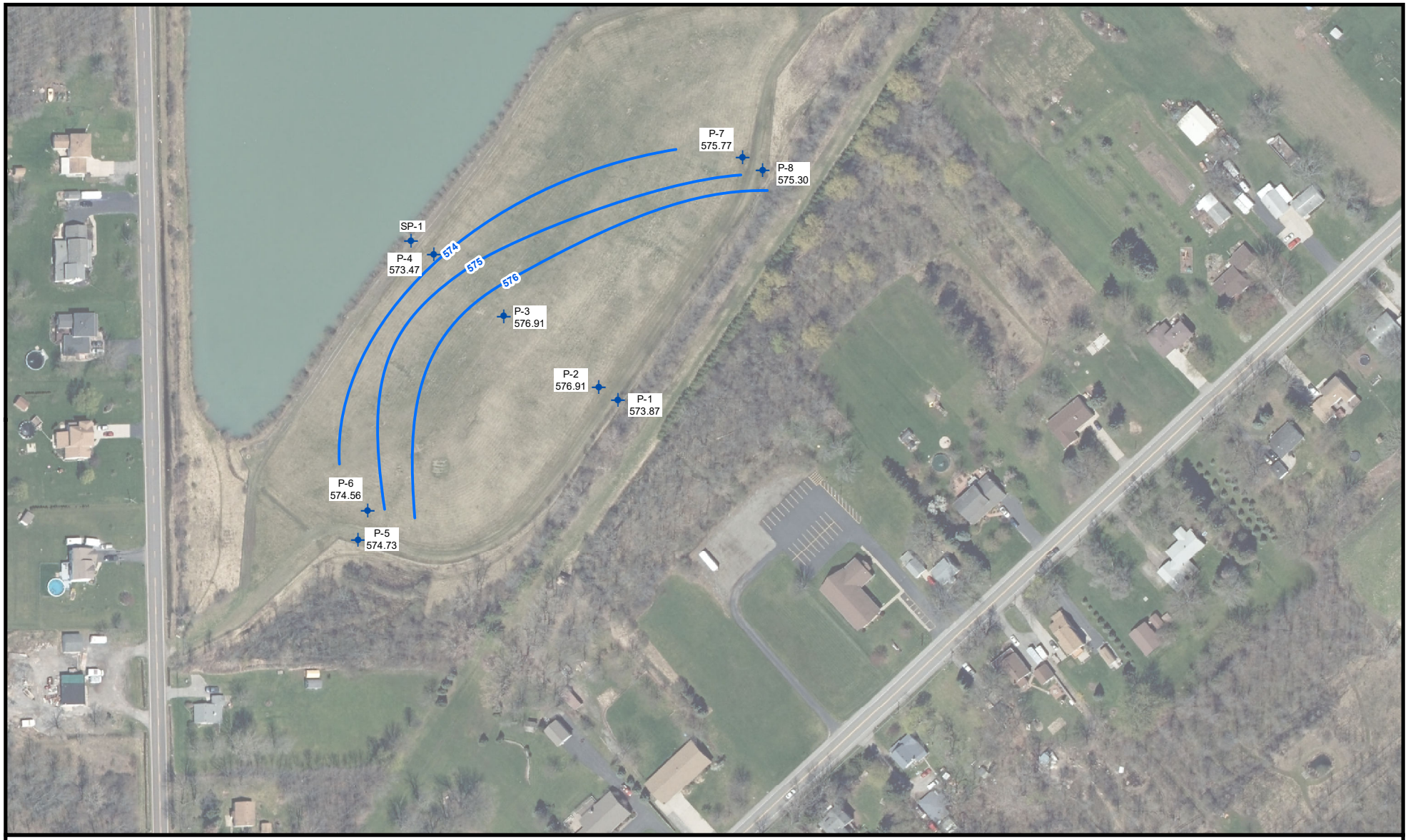
FIG. NO. 1

SCALE: 1 INCH = 200 FEET

- PIEZOMETER WELL
- MONITORING WELL
- SITE BOUNDRY
- MH = MANHOLE
- SP = STAND PIPE

ATTACHMENT B

Piezometer Tables, Graphs, and Potentiometric Surface Maps



Legend

- Piezometer Well
- Potentiometric Surface - Piezometer Wells

N

0 75 150 Feet

Prepared/Date: LCB 09-22-22 | Checked/Date: RB 09-22-22

Figure 2
Potentiometric Surface Map
Piezometer Wells April 12, 2022

Frontier Chemical
The Olin Corporation
Pendleton, New York

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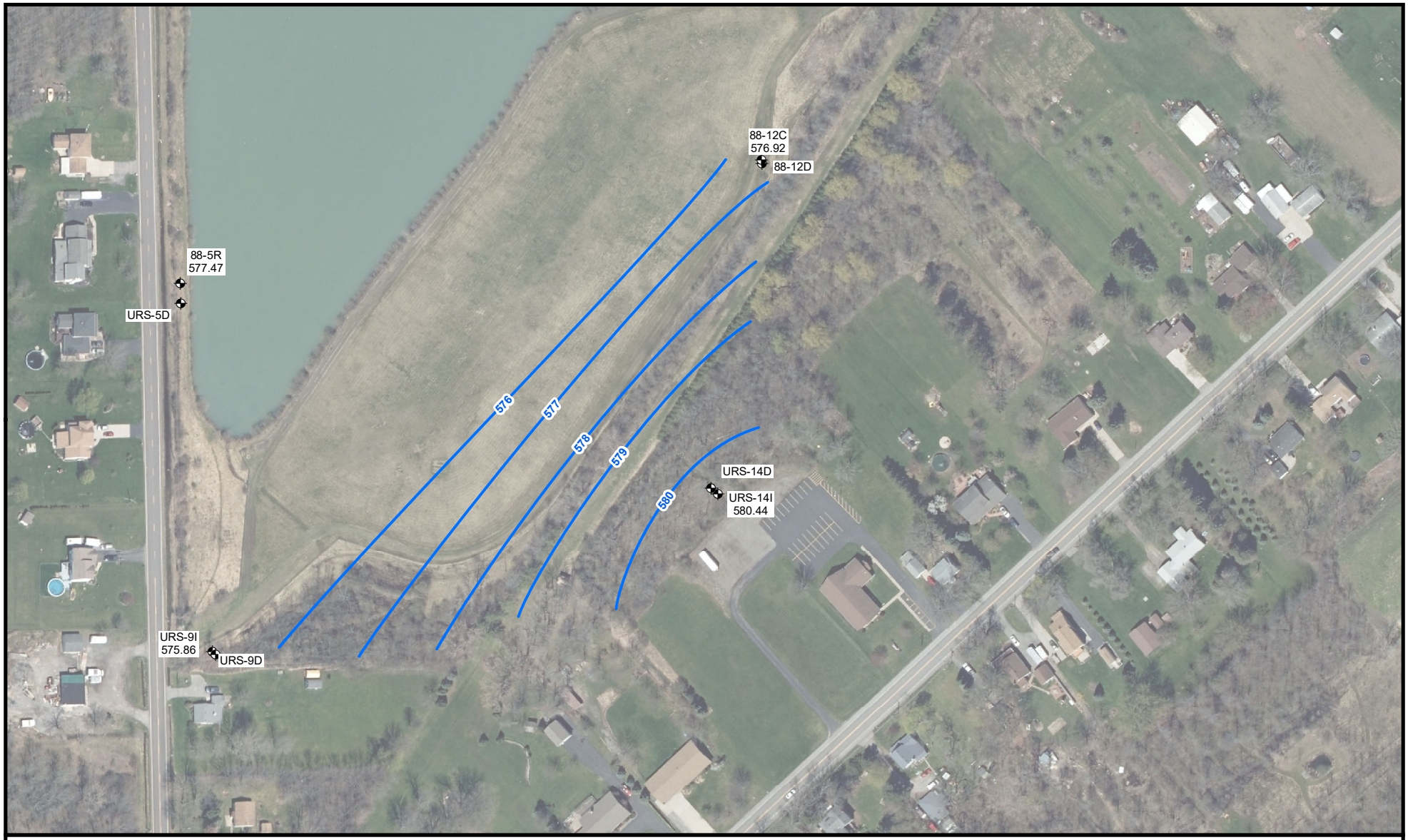

Legend

- Monitoring Well
- Potentiometric Surface - Sandy Silt Monitoring Wells

N

0 75 150 Feet

Figure 3
Potentiometric Surface Map
Sandy Silt Wells April 12, 2022

Frontier Chemical
The Olin Corporation
Pendleton, New York

Prepared/Date: LCB 09-22-22	Checked/Date: RB 09-22-22

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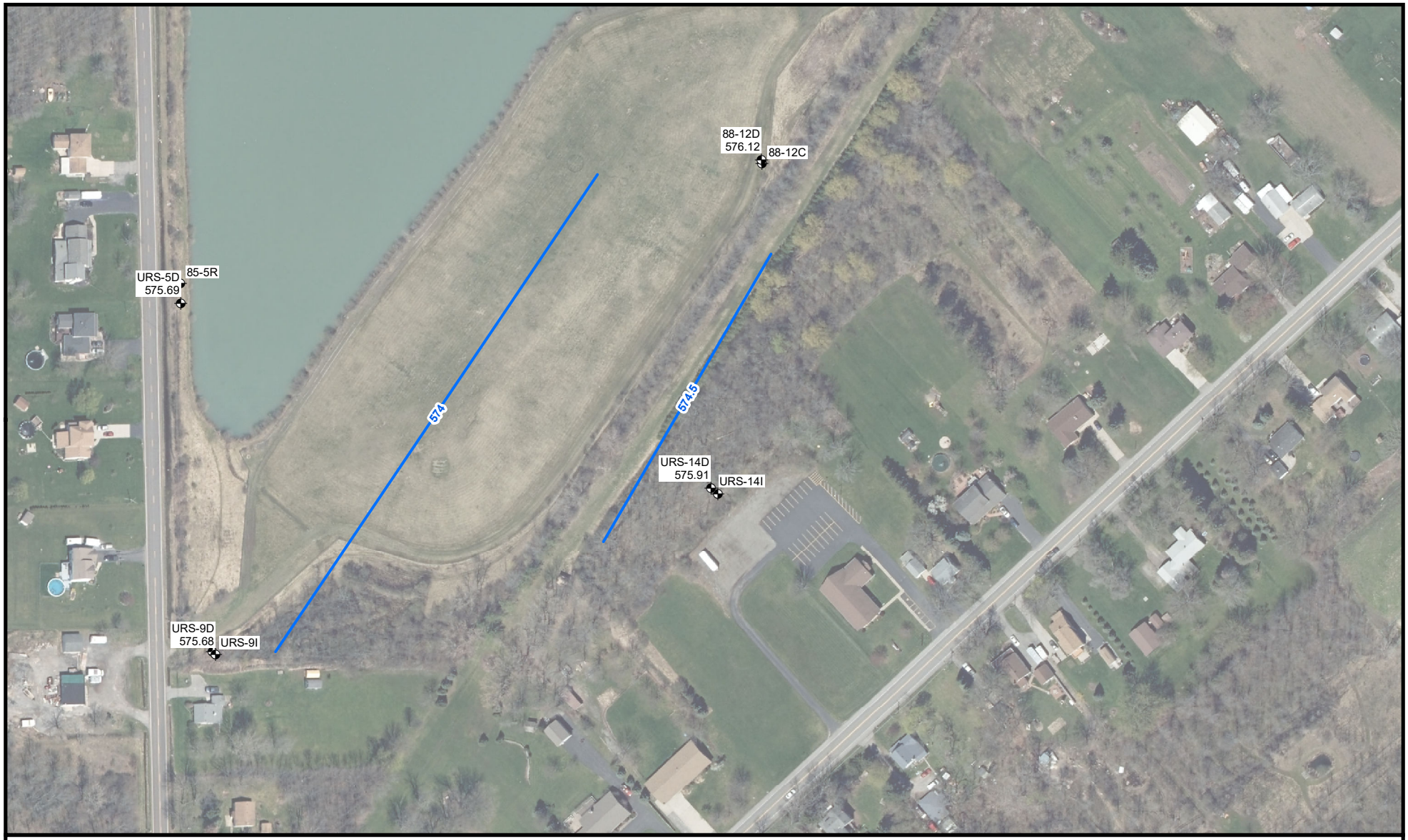

Legend

- Monitoring Well
- Potentiometric Surface - Deep Monitoring Wells

N

0 75 150 Feet

Prepared/Date: LCB 09-22-22 | Checked/Date: RB 09-22-22

Figure 4
Potentiometric Surface Map
Deep Wells April 12, 2022

Frontier Chemical
The Olin Corporation
Pendleton, New York

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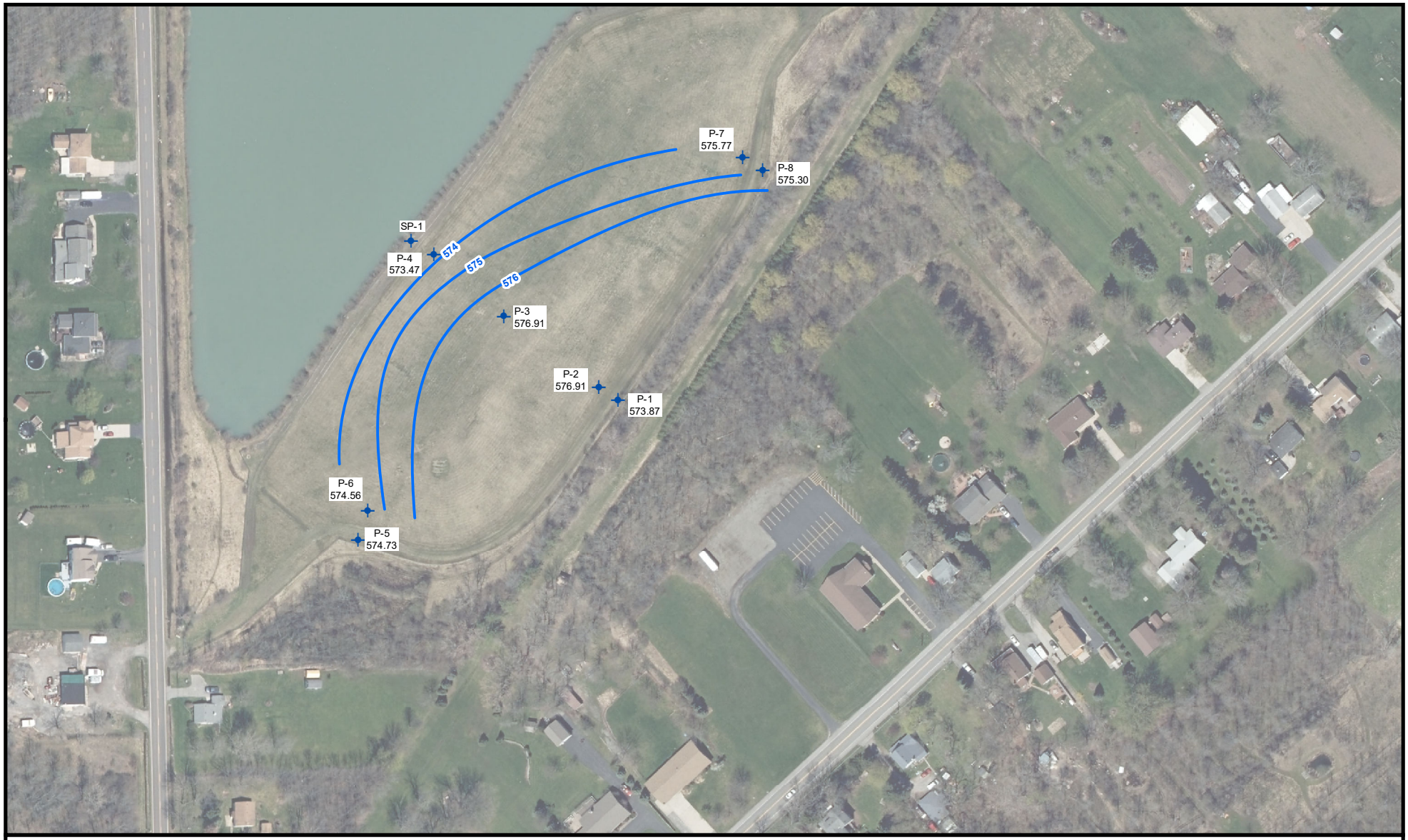


Legend

- Piezometer Well
- Potentiometric Surface - Piezometer Wells

N

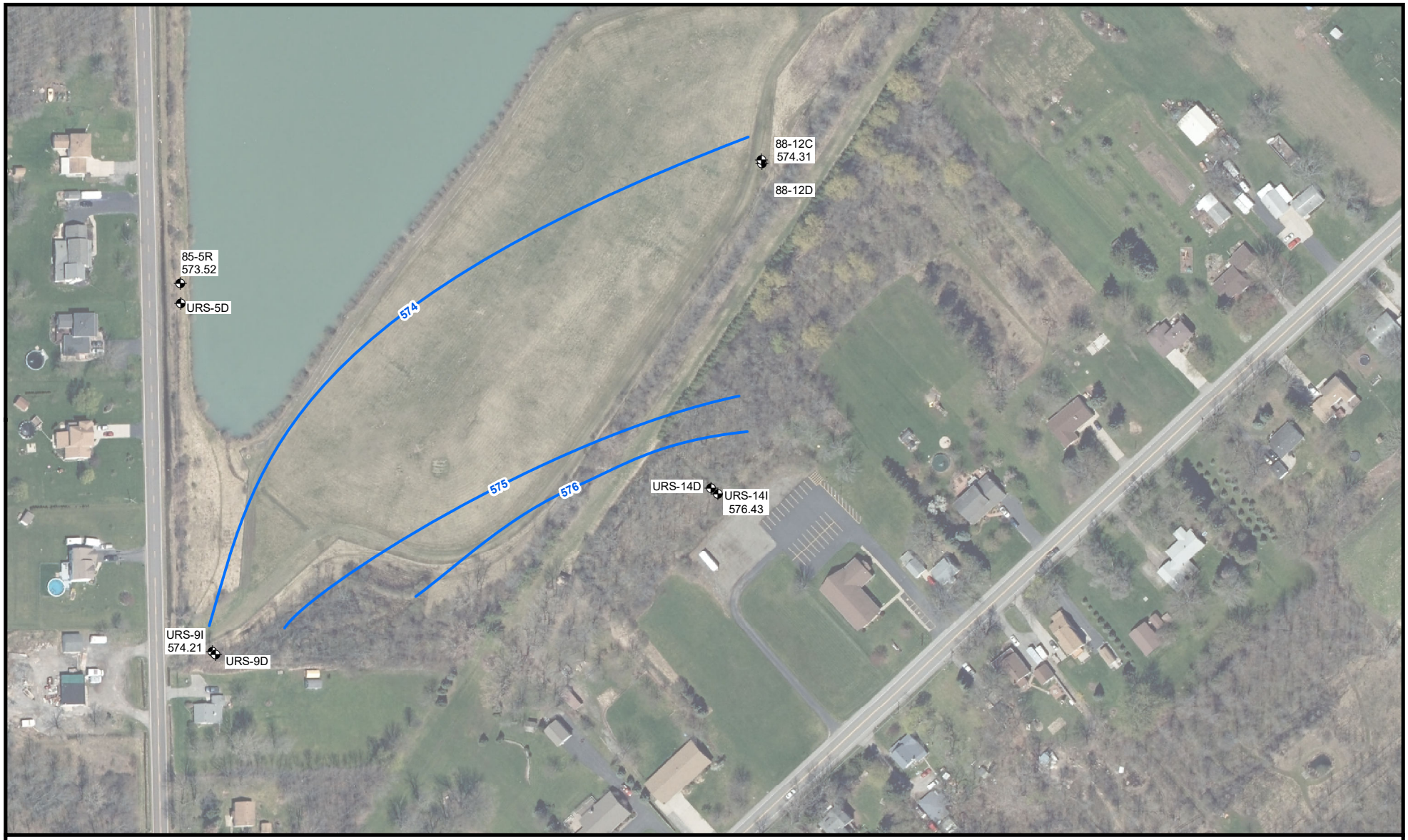
0 75 150 Feet

Prepared/Date: LCB 09-22-22 | Checked/Date: RB 09-22-22

Figure 5
Potentiometric Surface Map
Piezometer Wells August 18, 2022

Frontier Chemical
The Olin Corporation
Pendleton, New York

Document: P:\Projects\Olin Frontier Chemical - Pendleton\4.0_Deliverables\4.5_Databases\GIS\MapDocuments\GW_2022\OLIN_PNDLTN_GW_CONT_2022.mxd PDF: P:\Projects\Olin Frontier Chemical - Pendleton\4.0_Deliverables\4.5_Databases\GIS\PDFS\GW_2022\Figure 2 PZ Elev_Sp22.pdf 9/22/2022 1110orA lindsey.belliveau



Legend

- Monitoring Well
- Potentiometric Surface - Silty Sand Wells

N

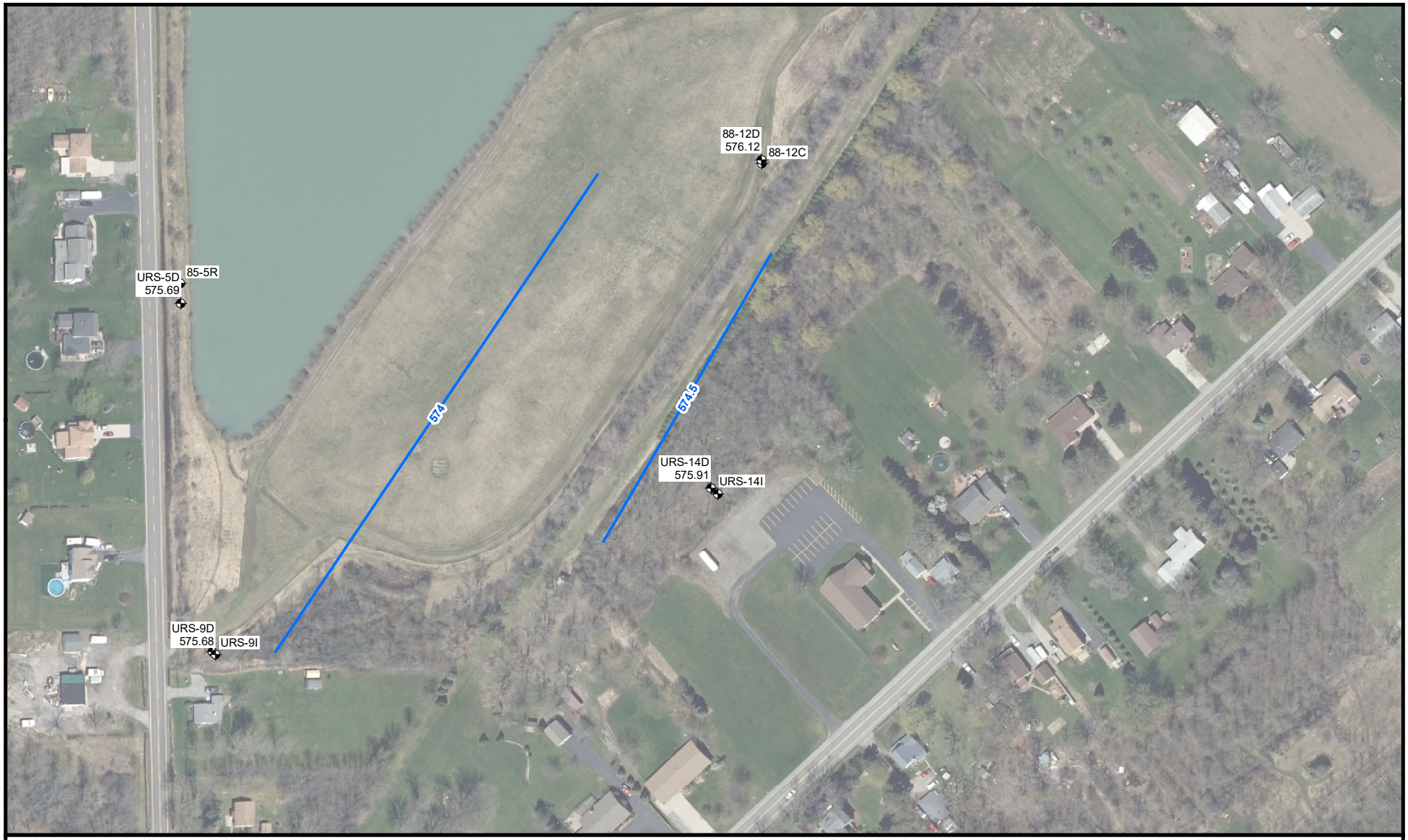
0 75 150 Feet

Figure 6
Potentiometric Surface Map
Sandy Silt Wells August 18, 2022

Frontier Chemical
The Olin Corporation
Pendleton, New York

Prepared/Date: LCB 09-22-22	Checked/Date: RB 09-22-22

Document: P:\Projects\Olin Frontier Chemical - Pendleton\4.0_Deliverables\4.5_Databases\GIS\MapDocuments\GW_2022\OLIN_PNDLTN_GW_CONT_2022.mxd PDF: P:\Projects\Olin Frontier Chemical - Pendleton\4.0_Deliverables\4.5_Databases\GIS\PDFS\GW_2022\Figure 2 PZ Elev_Sp22.pdf 9/22/2022 3310orA lindsey.belliveau



Legend

- Monitoring Well
- Potentiometric Surface - Deep Monitoring Wells

N

0 75 150 Feet

Prepared/Date: LCB 09-21-22	Checked/Date: RB 09-21-22

Figure 7
Potentiometric Surface Map
Deep Wells August 18, 2022

Frontier Chemical
The Olin Corporation
Pendleton, New York

Document: P:\Projects\Olin Frontier Chemical - Pendleton\4.0_Deliverables\4.5_Databases\GIS\MapDocuments\GW_2022\OLIN_PNDLTN_GW_CONT_2022.mxd PDF: P:\Projects\Olin Frontier Chemical - Pendleton\4.0_Deliverables\4.5_Databases\GIS\PDFS\GW_2022\Figure 2 PZ Elev_Sp22.pdf 9/22/2022 29orA lindsey.belliveau

ATTACHMENT B
FRONTIER CHEMICAL - PENDLETON SITE
PIEZOMETER GROUND WATER ELEVATION SUMMARY

PIEZOMETER	POSITION	LOCATION	TOP OF RISER ELEVATION, FEET	TOP OF COVER ELEVATION, FEET	DEPTH TO WATER	SCREENED ELEVATION, FEET
P-1	(O)	EASTERN PORTION OF CAPPED AREA	583.21	583.30	9.34	576.8 - 566.8
P-2	(I)		582.90	583.20	5.99	577.2 - 567.2
P-3	(I)	CENTER OF CAPPED AREA	606.33	606.64	29.42	586.6 - 566.6
P-4	(I)	ADJACENT TO QUARRY LAKE	582.31	583.85	8.84	576.7 - 566.7
SP-1	(T)		579.86	580.07		BOP = 564.9
P-5	(O)	SOUTHERN PORTION OF CAPPED AREA	583.05	583.55	8.32	577.6 - 567.6
P-6	(I)		584.45	584.60	9.89	578.3 - 568.3
P-7	(I)	NORTHERN PORTION OF CAPPED AREA	580.97	582.00	5.20	575.0 - 565.0
P-8	(O)		582.83	583.00	7.53	575.5 - 565.5

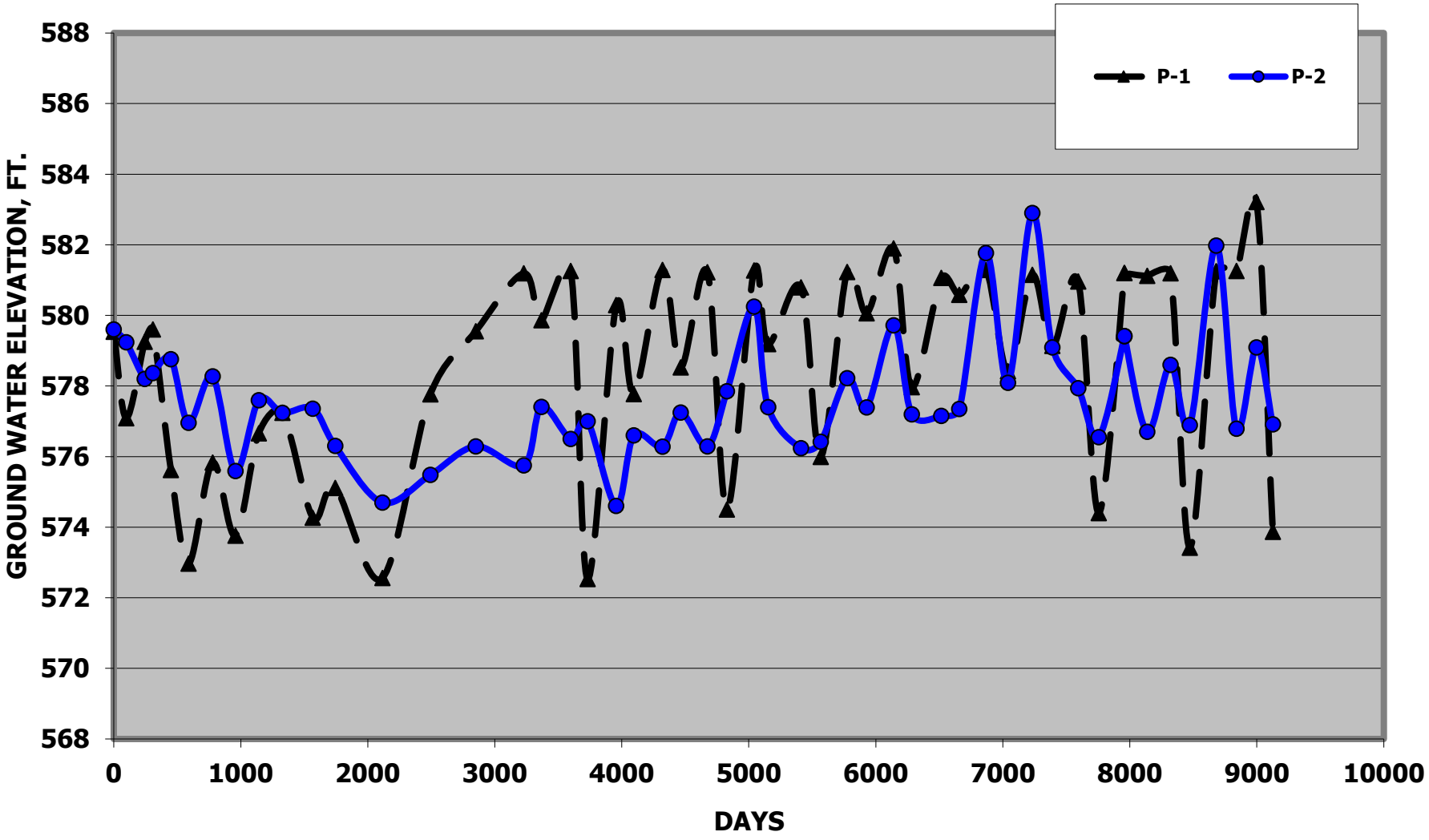
Notes:
Elevation based on USGS Datum.
O = piezometer located outside of capped area.
I = piezometer located inside capped area.
T = standpipe located within the ground water collection trench.
BOP= bottom of pipe

ATTACHMENT B
FRONTIER CHEMICAL - PENDLETON SITE
PIEZOMETER GROUND WATER ELEVATION SUMMARY

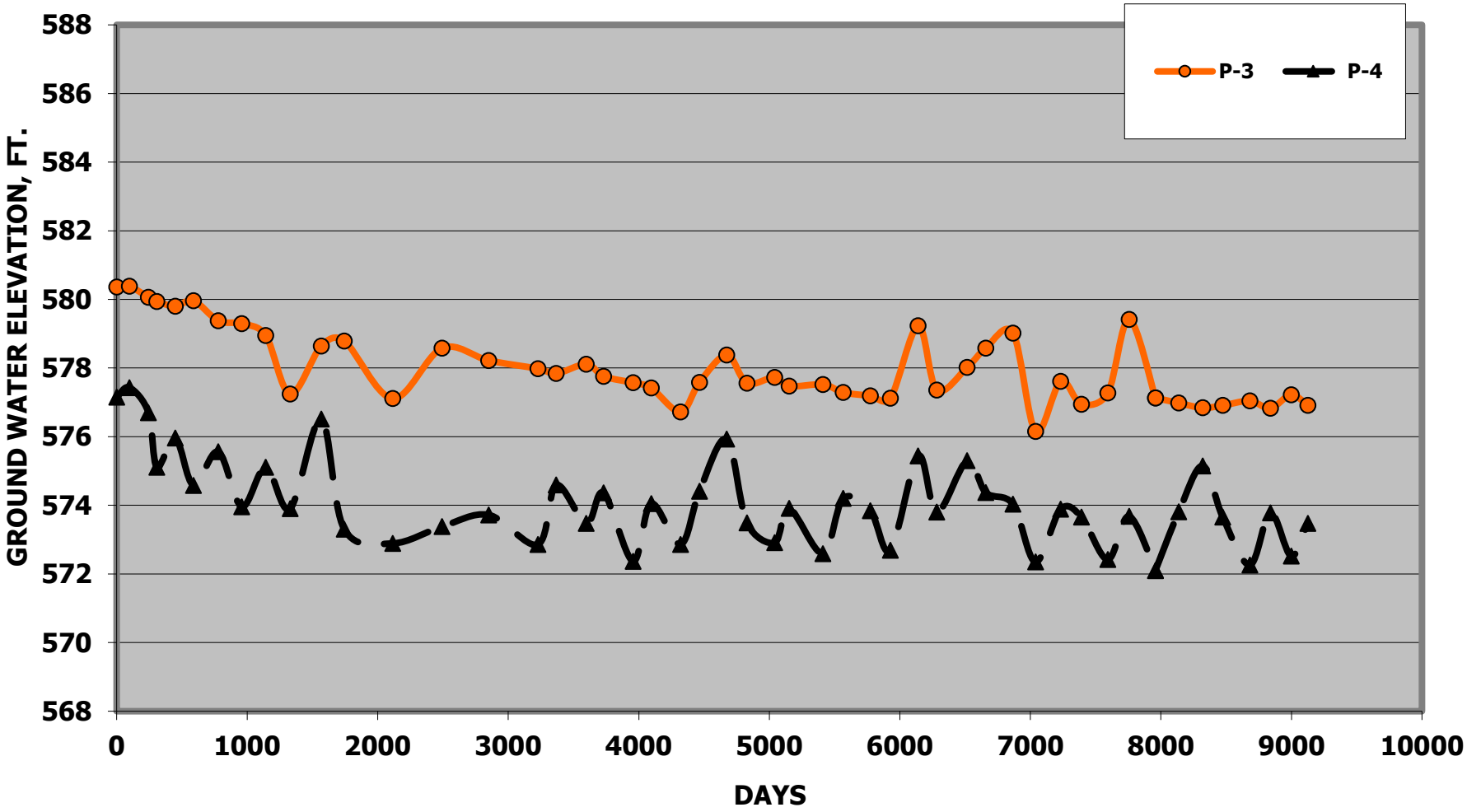
PIEZOMETER	POSITION	LOCATION	TOP OF RISER ELEVATION, FEET	TOP OF COVER ELEVATION, FEET	DEPTH TO WATER	SCREENED ELEVATION, FEET	8998 4/12/22	9126 8/18/22
P-1	(O)	EASTERN PORTION OF CAPPED AREA	583.21	583.30	9.34	576.8 - 566.8	581.36	573.87
P-2	(I)		582.90	583.20	5.99	577.2 - 567.2	579.09	576.91
P-3	(I)	CENTER OF CAPPED AREA	606.33	606.64	29.42	586.6 - 566.6	577.22	576.91
P-4	(I)	ADJACENT TO QUARRY LAKE	582.31	583.85	8.84	576.7 - 566.7	572.52	573.47
SP-1	(T)		579.86	580.07		BOP = 564.9		
P-5	(O)	SOUTHERN PORTION OF CAPPED AREA	583.05	583.55	8.32	577.6 - 567.6	580.16	574.73
P-6	(I)		584.45	584.60	9.89	578.3 - 568.3	575.50	574.56
P-7	(I)	NORTHERN PORTION OF CAPPED AREA	580.97	582.00	5.20	575.0 - 565.0	577.91	575.77
P-8	(O)		582.83	583.00	7.53	575.5 - 565.5	580.62	575.30

Notes:
Elevation based on USGS Datum.
O = piezometer located outside of capped area.
I = piezometer located inside capped area.
T = standpipe located within the ground water collection trench.
BOP= bottom of pipe

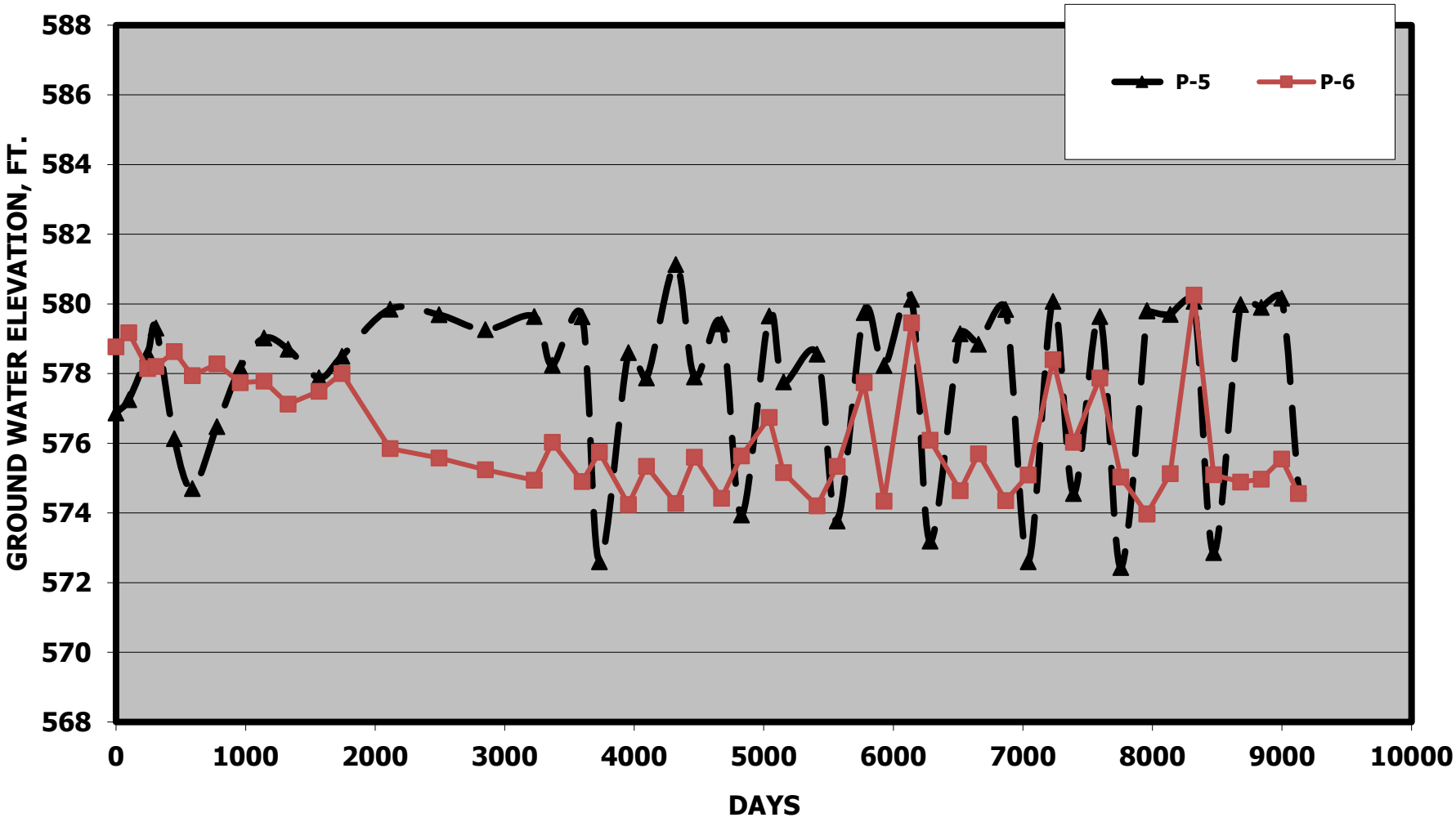
FRONTIER CHEMICAL - PENDLETON SITE
EASTERN PORTION OF CAPPED AREA



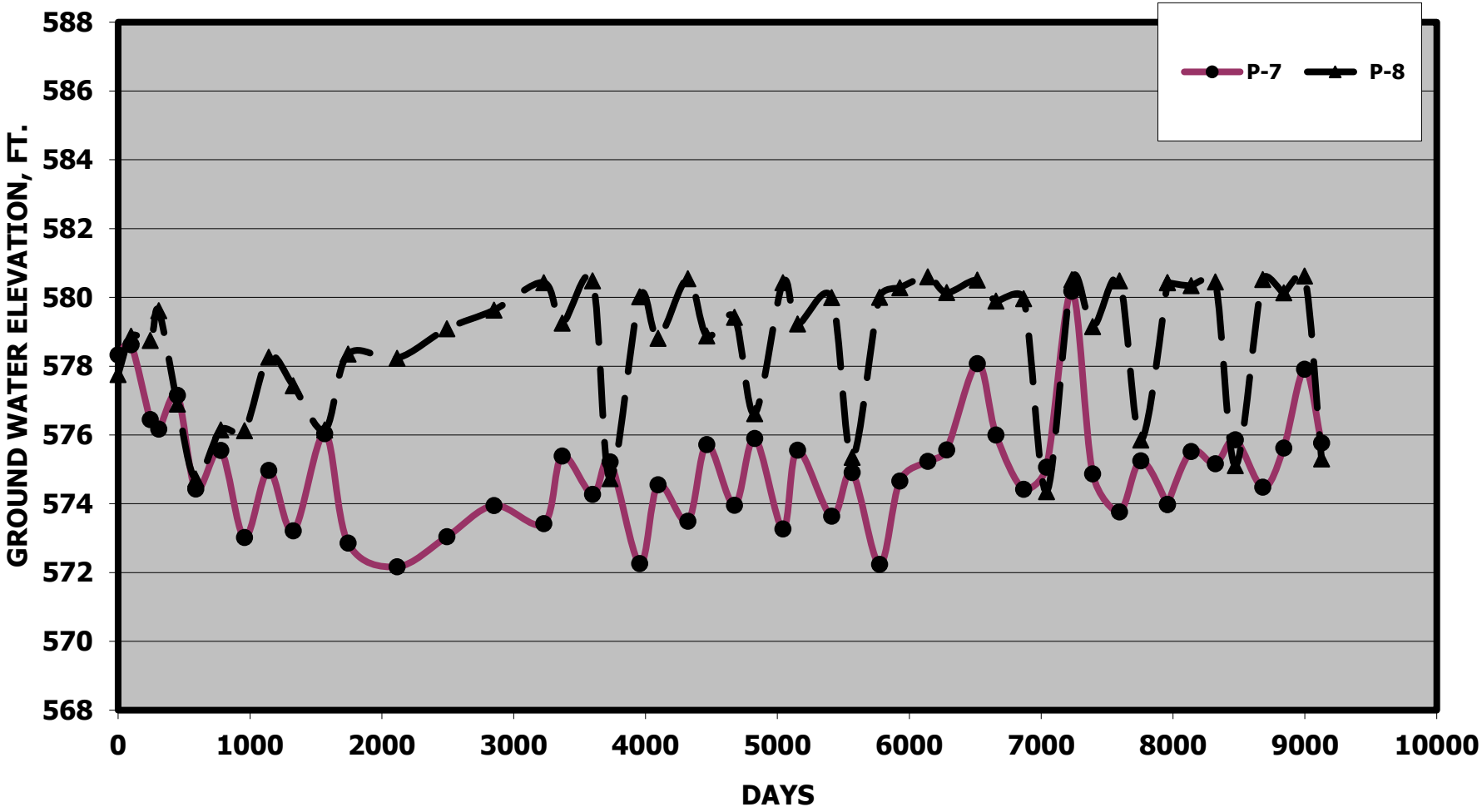
FRONTIER CHEMICAL - PENDLETON SITE
CENTER OF CAPPED AREA AND ADJACENT TO QUARRY LAKE



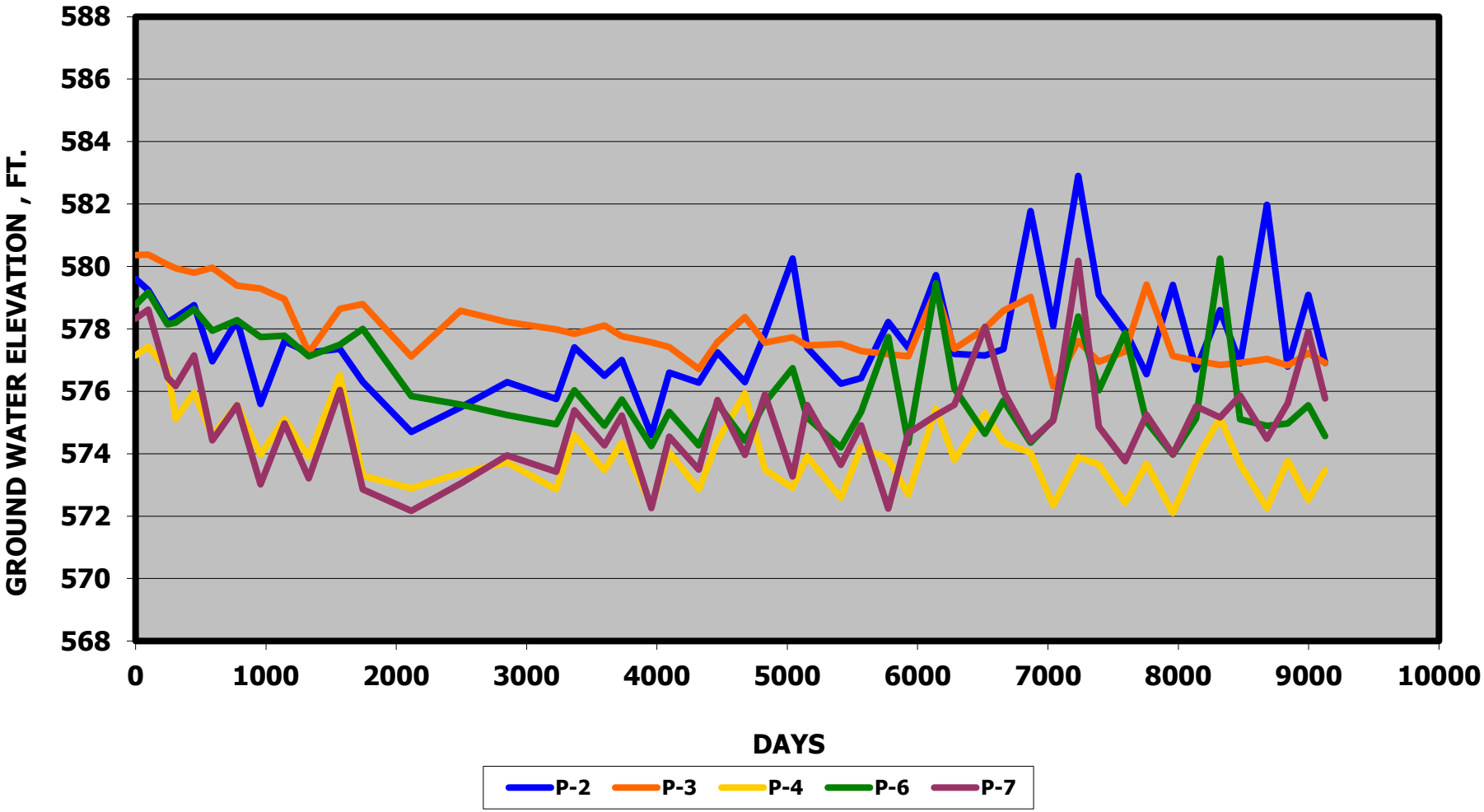
FRONTIER CHEMICAL - PENDLETON SITE
SOUTHERN PORTION OF CAPPED AREA



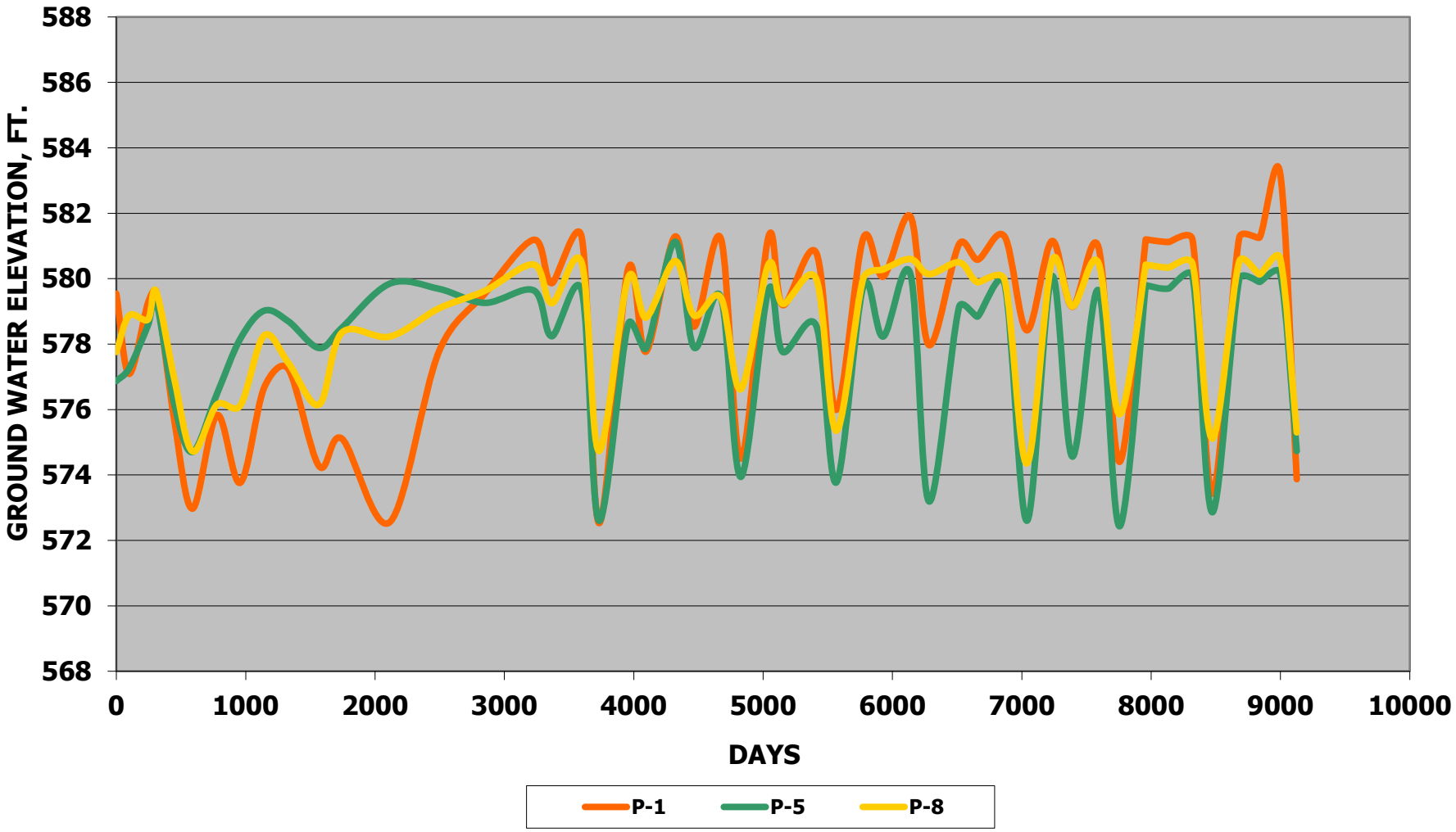
FRONTIER CHEMICAL - PENDLETON SITE
NORTHERN PORTION OF CAPPED AREA



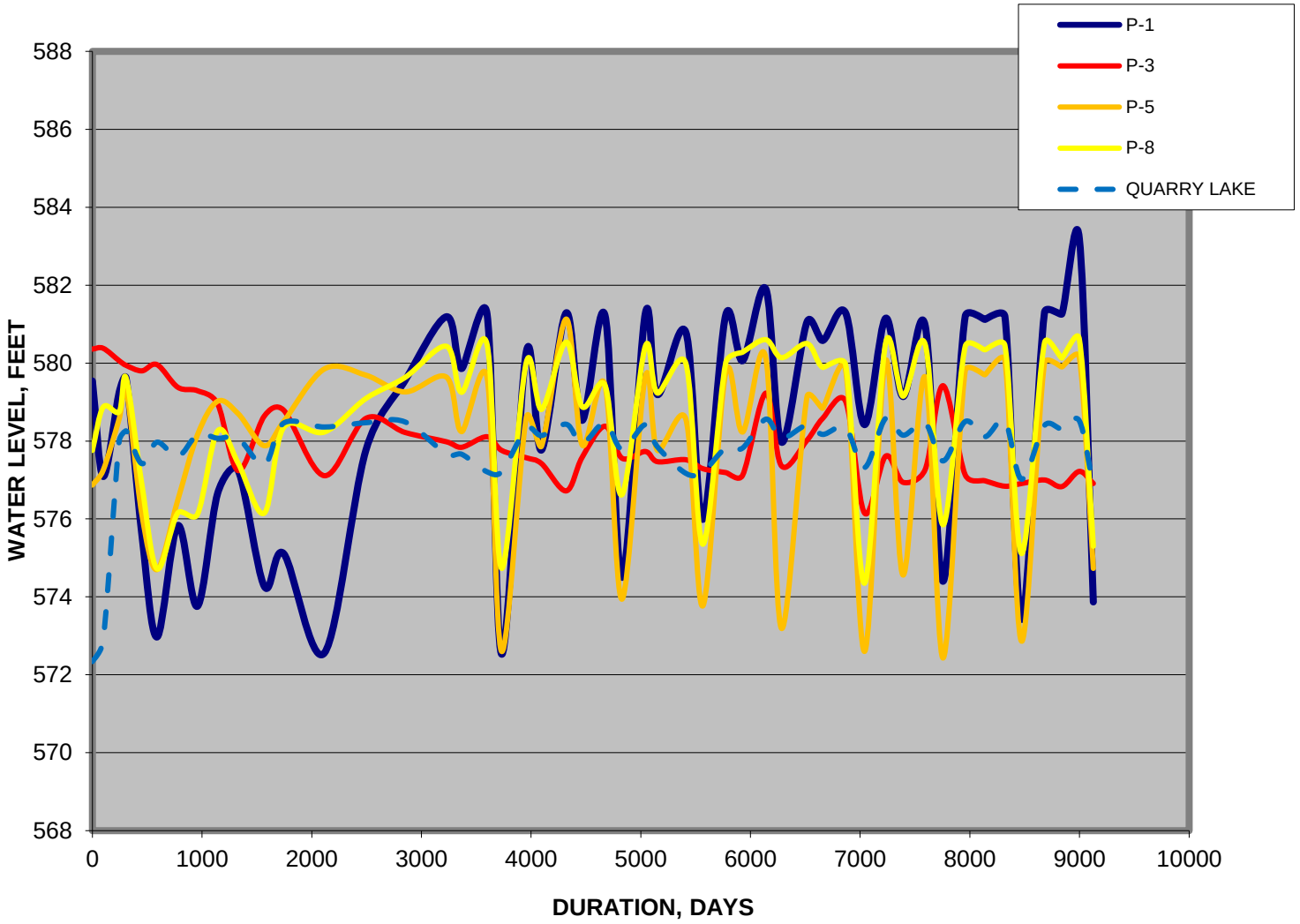
FRONTIER CHEMICAL - PENDLETON SITE
PIEZOMETERS - INSIDE CAPPED AREA



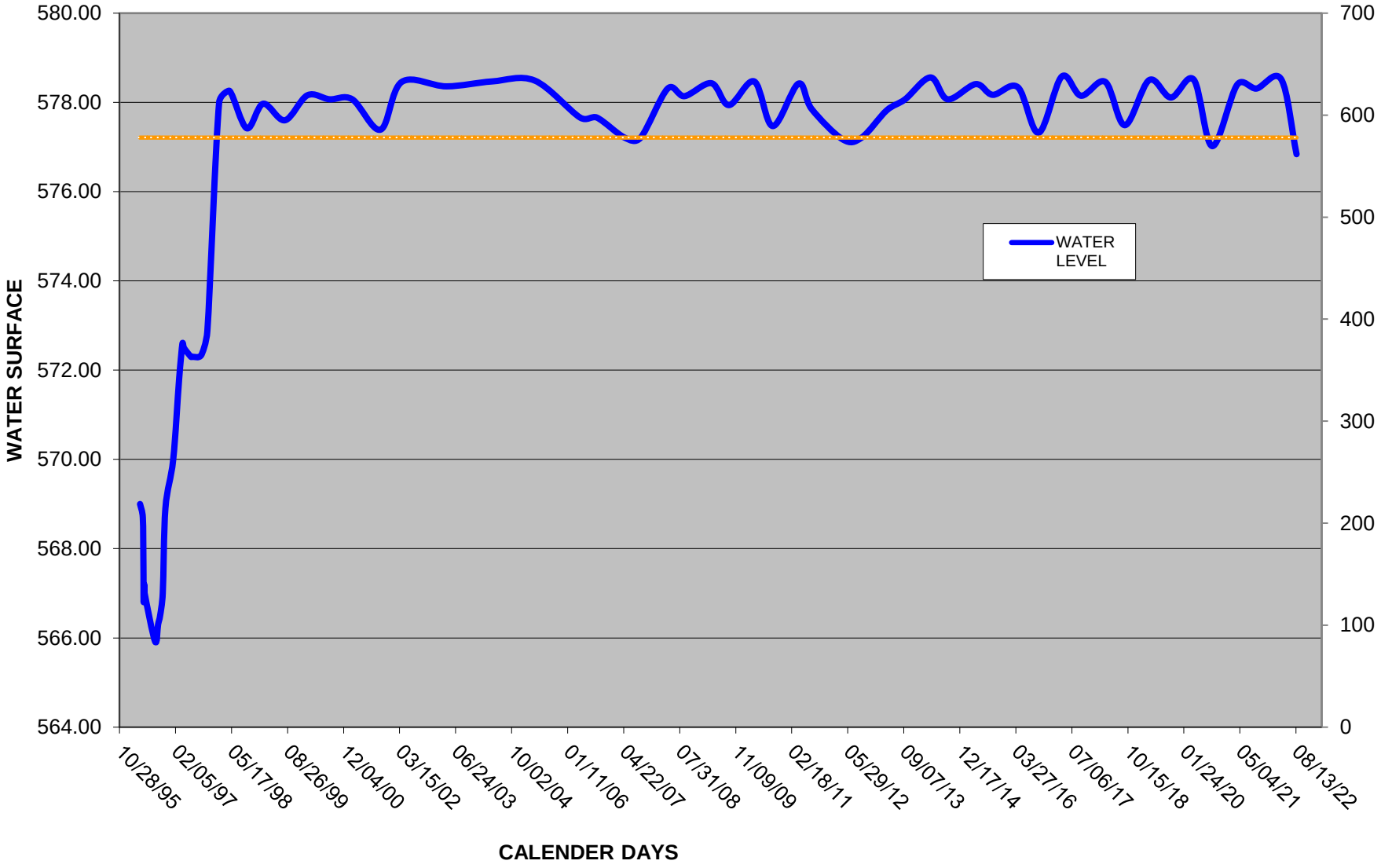
FRONTIER CHEMICAL - PENDLETON SITE
PIEZOMETERS - OUTSIDE CAPPED AREA



FRONTIER CHEMICAL - PENDLETON SITE
GROUND WATER GRADIENT



QUARRY LAKE
WATER LEVEL VS. TIME



ATTACHMENT C

Analytical Data

Pre-Treated Water Data

October 05, 2021 Service Request No:R2109692

Adam Carringer
Olin Corporation
490 Stuart Road
Cleveland, TN 37312

Laboratory Results for: Pendleton

Dear Adam,

Enclosed are the results of the sample(s) submitted to our laboratory September 17, 2021
For your reference, these analyses have been assigned our service request number **R2109692.**

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

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

Client: Olin Corporation
Project: Pendleton
Sample Matrix: Water

Service Request: R2109692
Date Received: 09/17/2021

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:

Four water samples were received for analysis at ALS Environmental on 09/17/2021. 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.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

Method 624, 09/20/2021: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). 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.

SMO:

No significant anomalies were noted with this analysis.

Report was revised to correct the sample date, Entered wrong at receipt.

Approved by  Date 10/05/2021

SAMPLE DETECTION SUMMARY

CLIENT ID: PS-INF-091521	Lab ID: R2109692-001					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Suspended (TSS)	11.5			2.5	mg/L	SM 2540 D-1997 (2011)
1,1-Dichloroethane (1,1-DCA)	0.524	J	0.200	1.00	ug/L	624.1
Methylene Chloride	1.57		0.650	1.00	ug/L	624.1

CLIENT ID: PS-TW-091521	Lab ID: R2109692-003					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
1,1-Dichloroethane (1,1-DCA)	1.39		0.200	1.00	ug/L	624.1
Methylene Chloride	0.873	J	0.650	1.00	ug/L	624.1
cis-1,2-Dichloroethene	0.247	J	0.230	1.00	ug/L	624.1

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 **Service Request:**R2109692
Project: Pendleton/1229

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2109692-001	PS-INF-091521	9/15/2021	1244
R2109692-002	Trip Blank	9/15/2021	1355
R2109692-003	PS-TW-091521	9/15/2021	1244
R2109692-004	Trip Blank	9/15/2021	1355

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

061089

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: Olin Pendleton Site	Project Number: 1229
Project Manager: Adam Carringer	Report CC: Adam Carringer-Olin
Company/Address: Olin Corp 3855 North Ocoee Rd. Cleveland TN 37312	
Phone #: 423-336-4057	Email: ABCarringer@Olin.com
Sampler's Signature:	Sampler's Printed Name: Max Littlton

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 0 | 2 | 3 | 4 | 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Phenol	TCN	Trip Blank					REMARKS/ ALTERNATE DESCRIPTION
PS-INF 091521		9/15/21	1133	GW	3	3														grab in field
PS-INF 091521		9/15/21	1153	"	3	3														grab in field
PS-INF 091521		9/15/21	1213	"	3	3														grab in field
PS-INF 091521		9/15/21	1233	"	3	3														grab in field
PS-INF 091521		9/15/21	1240	"	1								1							comped in field
PS-INF 091521		9/15/21	1242	"	1						1									comped in field
PS-INF 091521		9/15/21	1133	"	1									1						* composite in lab
PS-INF 091521		9/15/21	1153	"	1									1						* composite in lab
PS-INF 091521		9/15/21	1213	"	1									1						* composite in lab
PS-INF 091521		9/15/21	1233	GW	1									1						* composite in lab
Trip Blank		9/9/21	1355	—	3										3					from lab

Preservative Key
0. NONE
1. HCl
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals Antimony, Boron, Chromium
* CN samples to be comped composited in lab.
See attached form for sampling timeline

See QAPP ☐

TURNAROUND REQUIREMENTS
___ RUSH (SURCHARGES APPLY)
___ 1 day ___ 2 day ___ 3 day
___ 4 day ___ 5 day
Q Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE Standard

REPORT REQUIREMENTS
___ I. Results Only
Q II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data
Edata ___ Yes ___ No

INVOICE INFORMATION
PO # REIN 003
BILL TO: Olin Corp

STATE WHERE SAMPLES WERE COLLECTED NY

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Maxwell Littlton	UPS	Signature	Signature: Gary LaTorre	Signature	Signature
Printed Name: Maxwell Littlton	Printed Name	Printed Name	Printed Name: Gary LaTorre	Printed Name	Printed Name
Firm: SES	Firm	Firm	Firm: ALS	Firm	Firm
Date/Time: 9/16/21 1500	Date/Time	Date/Time	Date/Time: 9/17/21 0940	Date/Time	Date/Time

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

061089

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 2 OF 4

Project Name: Olin-Pendleton Site	Project Number: 1229
Project Manager: Adam Carringer	Report CC: Adam Carringer - Olin
Company/Address: Olin Corp 3855 North Ocoee Rd Cleveland TN 37312	
Phone #: 423-336-4057	Email: ABCarringer@Olin.com
Sampler's Signature: Maxwell Lifton	Sampler's Printed Name: Maxwell Lifton

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 0 0 3

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	TSS	CBOD5	Total Phos.	REMARKS/ ALTERNATE DESCRIPTION
PS-INF 091521		9/15/21	1246	GW	1	1			comped in field
PS-INF 091521		9/15/21	1248	GW	1		1		comped in field
PS-INF 091521		9/15/21	1244	GW	1			1	comped in field
Temp Blank		—	—	—	1				from lab

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other _____

GC/MS VOAs • 8260 • 624 • CLP; GC/MS SVOAs • 8270 • 625; GC VOAs • 8021 • 601/602; PESTICIDES • 8081 • 608; PCBs • 8082 • 608; METALS, TOTAL (List in comments below); METALS, DISSOLVED (List in comments below)

SPECIAL INSTRUCTIONS/COMMENTS
Metals Antimony, Boron, Chromium
* CN samples to be composited in lab
See attached form for sampling timeline

See QAPP ☐

TURNAROUND REQUIREMENTS
___ RUSH (SURCHARGES APPLY)
___ 1 day ___ 2 day ___ 3 day
___ 4 day ___ 5 day
☒ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: Std.

REPORT REQUIREMENTS
___ I. Results Only
☒ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data

Edata ___ Yes ___ No

INVOICE INFORMATION
PO # REIN 003
BILL TO: Olin Corp

STATE WHERE SAMPLES WERE COLLECTED: NY

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Maxwell Lifton	UPS				
Printed Name: Maxwell Lifton					
Firm: SES					
Date/Time: 9/16/21 1500					

Distribution: White - Lab Copy; Yellow - Return to Originator

R2109692 5
Olin Corporation
Pendleton

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

ALS

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 3 OF 4

Project Name: Olin-Pendleton Site	Project Number: 1229
Project Manager: Adam Carringer	Report CC: Adam Carringer - Olin
Company/Address: Olin Corp, 3855 North Ocoee Rd, Cleveland, TN, 39312	
Phone #: 423-336-4057	Email: ABCarringer@Olin.com
Sampler's Signature: Maxwell Uffton	Sampler's Printed Name: Maxwell Uffton

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○8260 ○624 ○CLP	GC/MS SVOAs ○8270 ○625	GC VOAs ○8021 ○601/602	PESTICIDES ○8081 ○608	PCBs ○8082 ○608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Phenol	TCN	Trip Blank					REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE						0					2		3	4	0					
PS-TW 091521		9/15/21	1133	GW	3	3														grab in field
PS-TW 091521			1153		3	3														grab in field
PS-TW 091521			1213		3	3														grab in field
PS-TW 091521			1233		3	3														grab in field
PS-TW 091521			1240		1								1							comped in field
PS-TW 091521			1242		1						1									comped in field
PS-TW 091521			1133		1									1						* composite in lab
PS-TW 091521			1153		1									1						* composite in lab
PS-TW 091521			1213		1									1						* composite in lab
PS-TW 091521		9/15/21	1233	GW	1									1						* composite in lab
Trip Blank		9/9/21	1355	—	3										3					from lab

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ______

SPECIAL INSTRUCTIONS/COMMENTS

Metals: Antimony, Boron, Chromium

* CN samples to be composited in lab.

See attached form for sampling timeline.

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED: NY

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)

____ 1 day ____ 2 day ____ 3 day

____ 4 day ____ 5 day

X Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: Std

REPORT REQUIREMENTS

____ I. Results Only

X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION

PO #: REIN 003

BILL TO: Olin Corp

	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
		UPS				
Signature	Max Uffton			[signature]		
Printed Name	Maxwell Uffton			Gary Vater		
Firm	SES			ALS		
Date/Time	9/16/21 1500			9/17/21 0940		

R2109692 5

Olin Corporation

Pendleton

ALS Group

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 4 CBOD

Project Name: Olm-Pendleton Site	Project Number: 1229
Project Manager: Adam Carringer	Report CC: Adam Carringer - Olin
Company/Address: Olin Corp 3855 North Ocoee Rd Cleveland, TN 37312	
Phone #: 423-336-4057	Email: ABCarringer@Olin.com
Sampler's Signature: Maxwell Liffiton	Sampler's Printed Name: Maxwell Liffiton

ANALYSIS REQUESTED (Include Method Number and Contain

PRESERVATIVE: 0 0 3

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	TSS	CBOD5	Total Phos	REMARKS/ ALTERNATE DESCRIPTION
PS-TW 091521		9/15/21	1246	GW	1	1			comped in field
PS-TW 091521		9/15/21	1248	GW	1		1		comped in field
PS-TW 091521		9/15/21	1244	GW	1			1	comped in field

GC/MS VOAs ○ 8260 ○ 624 ○ CLP; GC/MS SVOAs ○ 8270 ○ 625; GC VOAs ○ 8021 ○ 601/602; PESTICIDES ○ 8081 ○ 608; PCBs ○ 8082 ○ 608; METALS, TOTAL (List in comments below); METALS, DISSOLVED (List in comments below)

4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other ____

SPECIAL INSTRUCTIONS/COMMENTS

Metals Antimony, Boron, Chromium
* CN samples to be composited in lab
See attached form for sampling timelines.

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day ____ 5 day
☒ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: Std.

REPORT REQUIREMENTS

____ I. Results Only
☒ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION

PO # REIN 003
BILL TO: Olin Corp

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Max Liffiton	UPS				
Printed Name: Max Liffiton					
Firm: SES					
Date/Time: 9/16/21 1500			9/17/21 0140		

Distribution: White - Lab Copy; Yellow - Return to Originator

R2109692 5
Olin Corporation
Pendleton

Pendleton Sampling Timeline Fall 2021

9/13/21

0800 - Sevenson shut down system in preparation for sampling event

9/15/21

PLEASE NOTE that at each specified time, two sets of samples were taken, one for treated water (TW) and one for influent water (INF). Equavalent samples were taken by Mike Walker and Max Liffiton of Sevenson. Samples of TW and INF were taken at four different times separated by 20 minutes.

1133 – First round of samples taken for both INF and TW. These samples included VOCs and CN. Composite jars were started for phenol, metals, total phosphorus, TSS, and CBOD5 samples.

1153 – Second round of samples taken for both INF and TW. These samples included VOCs and CN. Water collection into composite jars for phenol, metals, total phosphorus, TSS, and CBOD5 samples.

1213 – Third round of samples taken for both INF and TW. These samples included VOCs and CN. Water collection into composite jars for phenol, metals, total phosphorus, TSS, and CBOD5 samples.

1233 - Fourth round of samples taken for both INF and TW. These samples included VOCs and CN. Water collection into composite jars for phenol, metals, total phosphorus, TSS, and CBOD5 samples.

1240 – Samples for phenols were taken from composite jars

1242 - Samples for metals were taken from composite jars

1244 - Samples for total phosphorus were taken from composite jars

1246 - Samples for TSS were taken from composite jars

1248 - Samples for CBOD5 were taken from composite jars

SAMPLE PREPARATION FORM

Project/Client Olin Corp **Submission Number** Ra109692
Form initiated by: HE
Project Manager Approval _____ **Client consulted? Yes No (NA)**

COMPOSITING

Date: 9/20/21 Time: 10:55 Analyst: HE

Field ID	Vol/wt used	Describe how composited*	Final Order #
PS-Inf-091521	4 grabs of	4 grab bottles composited into a	001
and	125 ml bottles	1 liter plastic Bottle	
PS-TW-091521			002

*Examples: mixed in metal bowl with metal spoon – shaken in 1 Liter plastic – mixed with wooden scoop in glass jar

PHASE SEPARATION

Date: _____ Time: _____ Analyst: _____

Location	layer extracted (describe)	Describe how separated**	Final Order #

**Examples: seperatory funnel – decanted – pipetted out

PARTICLE SIZE REDUCTION

Date: _____ Time: _____ Analyst: _____

Sample ID	Describe how reduced***

***Examples: scissors- hammer – tear by hand – mortar and pestle

OTHER DOCUMENTATION / INSTRUCTIONS (Example: limited volume priority instructions, instructions for special situations, irregular subsampling documentation)

R2109692 5
Olin Corporation
Pendleton

Cooler Receipt and Preservation Check F

Project/Client Olin Folder Number .

Cooler received on 9/17/21 by: @

COURIER: ALS (UPS) FEDEX VELOCITY CLIENT

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

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

8. Temperature Readings Date: 9/17/21 Time: 0955 ID: IR#7 (IR#11) From: (Temp Blank) Sample Bottle

Observed Temp (°C)	12.8						
Within 0-6°C?	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

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-007 by @ on 9/17/21 at 1000
5035 samples placed in storage location: by on at within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date : 9/20/21 Time: 10:45 by: AE

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? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12	223419	NaOH	X		214719	04/22				
≤2	↓	HNO_3	X		121042	03/22				
≤2	↓	H_2SO_4	X		215947	06/22				
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522	X		If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		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: 80521-05, 21-07-12, 77397-CQTQ4, 1-027-0088

Explain all Discrepancies/ Other Comments:

Headspace: TB- 1 vial

AE 9/20/21

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: AE
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:** R2109692
Project: Pendleton/1229

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2109692-001.01					
	200.7,200.7,200.7				
		9/20/2021	0753	SMO / MPEDRO	
		9/20/2021	1109	R-A01 / GLAFORCE	
		9/22/2021	1050	In Lab / NMANSEN	
		9/23/2021	0924	R-A01 / BDIAMOND	
R2109692-001.02					
	Kelada-01				
		9/20/2021	0753	SMO / MPEDRO	
		9/21/2021	0837	R-015 / GESMERIAN	
		9/21/2021	0847	RT000002 / GESMERIAN	
R2109692-001.03					
	624				
		9/20/2021	0753	SMO / MPEDRO	
		9/20/2021	1109	R-001 / GLAFORCE	
		9/20/2021	1423	In Lab / KRUEST	
		9/20/2021	1453	R-001-S12 / KRUEST	
R2109692-001.04					
		9/20/2021	0753	SMO / MPEDRO	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-001.05					
		9/20/2021	0753	SMO / MPEDRO	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-001.06					
	420.4				
		9/20/2021	0753	SMO / MPEDRO	
		9/21/2021	0837	R-015 / GESMERIAN	
		9/21/2021	0847	RT000002 / GESMERIAN	
R2109692-001.07					
	SM 2540 D-1997(2011)				
		9/20/2021	0753	SMO / MPEDRO	
		9/20/2021	1109	R-002 / GLAFORCE	
R2109692-001.08					
	365.1				
		9/20/2021	0753	SMO / MPEDRO	
		9/20/2021	1302	R-016 / GESMERIAN	
		9/20/2021	1311	RT000613 / GESMERIAN	
R2109692-001.09					

Client: Olin Corporation **Service Request:** R2109692
Project: Pendleton/1229

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	SM 5210 B-2001(2011)				
		9/20/2021	0753	SMO / MPEDRO	
		9/20/2021	1312	R-002 / GESMERIAN	
		9/20/2021	1322	RT000696 / GESMERIAN	
R2109692-001.10					
		9/20/2021	1106	SMO / GLAFORCE	
R2109692-001.11					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-001.12					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-001.13					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-001.14					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-001.15					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-001.16					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-001.17					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-001.18					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-001.19					

Client: Olin Corporation **Service Request:** R2109692
Project: Pendleton/1229

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-002.03					
	624				
		9/20/2021	0753	SMO / MPEDRO	
		9/20/2021	1109	R-001 / GLAFORCE	
		9/20/2021	1423	In Lab / KRUEST	
		9/20/2021	1453	R-001-S12 / KRUEST	
R2109692-002.04					
		9/20/2021	0753	SMO / MPEDRO	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-002.05					
		9/20/2021	0753	SMO / MPEDRO	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-003.01					
	200.7,200.7,200.7				
		9/20/2021	1106	SMO / GLAFORCE	
		9/20/2021	1109	R-A01 / GLAFORCE	
		9/22/2021	1050	In Lab / NMANSEN	
		9/23/2021	0924	R-A01 / BDIAMOND	
R2109692-003.02					
	Kelada-01				
		9/20/2021	1106	SMO / GLAFORCE	
		9/21/2021	0837	R-015 / GESMERIAN	
		9/21/2021	0847	RT000002 / GESMERIAN	
R2109692-003.03					
	624				
		9/20/2021	1106	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
		9/20/2021	1423	In Lab / KRUEST	
		9/20/2021	1453	R-001-S12 / KRUEST	
R2109692-003.04					
		9/20/2021	1106	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-003.05					
		9/20/2021	1106	SMO / GLAFORCE	

Client: Olin Corporation **Service Request:** R2109692
Project: Pendleton/1229

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-003.06					
	420.4				
		9/20/2021	1106	SMO / GLAFORCE	
		9/21/2021	0837	R-015 / GESMERIAN	
		9/21/2021	0847	RT000002 / GESMERIAN	
R2109692-003.07					
	SM 2540 D-1997(2011)				
		9/20/2021	1106	SMO / GLAFORCE	
		9/20/2021	1109	R-002 / GLAFORCE	
		9/24/2021	1318	R-Dumpster / KAWONG	
R2109692-003.08					
	365.1				
		9/20/2021	1106	SMO / GLAFORCE	
		9/20/2021	1302	R-016 / GESMERIAN	
		9/20/2021	1311	RT000613 / GESMERIAN	
R2109692-003.09					
	SM 5210 B-2001(2011)				
		9/20/2021	1106	SMO / GLAFORCE	
		9/20/2021	1312	R-002 / GESMERIAN	
		9/20/2021	1322	RT000696 / GESMERIAN	
R2109692-003.10					
		9/20/2021	1106	SMO / GLAFORCE	
R2109692-003.11					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-003.12					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-003.13					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-003.14					
		9/20/2021	1109	SMO / GLAFORCE	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation **Service Request:** R2109692
Project: Pendleton/1229

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-003.15					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-003.16					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-003.17					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-003.18					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-003.19					
		9/20/2021	1109	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-004.03					
	624				
		9/20/2021	1106	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
		9/20/2021	1423	In Lab / KRUEST	
		9/20/2021	1453	R-001-S12 / KRUEST	
R2109692-004.04					
		9/20/2021	1106	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	
R2109692-004.05					
		9/20/2021	1106	SMO / GLAFORCE	
		9/20/2021	1109	R-001 / GLAFORCE	

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.

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/Arclors).

B Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.

E Inorganics- Concentration is estimated due to the serial dilution was outside control limits.

E Organics- Concentration has exceeded the calibration range for that specific analysis.

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.

* 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.

H Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.

Spike was diluted out.

+ Correlation coefficient for MSA is <0.995.

N Inorganics- Matrix spike recovery was outside laboratory limits.

N Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.

S Concentration has been determined using Method of Standard Additions (MSA).

W Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.

P Concentration >40% difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).

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 Accreditations[1]

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.

Client: Olin Corporation **Service Request:** R2109692
Project: Pendleton/1229

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
624.1	Water	2-Butanone (MEK)
624.1	Water	2-Hexanone
624.1	Water	Carbon Disulfide

Client: Olin Corporation
Project: Pendleton/1229
Service Request: R2109692

Sample Name: PS-INF-091521
Lab Code: R2109692-001
Sample Matrix: Water
Date Collected: 09/15/21
Date Received: 09/17/21

Analysis Method	Extracted/Digested By	Analyzed By
200.7	NMANSEN	KMCLAEN
365.1	KWONG	GNITAJOUPPI
420.4		BBOWE
624		KRUEST
Kelada-01		CWOODS
SM 2540 D-1997(2011)		KAWONG
SM 5210 B-2001(2011)		STALARICO

Sample Name: Trip Blank
Lab Code: R2109692-002
Sample Matrix: Water
Date Collected: 09/15/21
Date Received: 09/17/21

Analysis Method	Extracted/Digested By	Analyzed By
624		KRUEST

Sample Name: PS-TW-091521
Lab Code: R2109692-003
Sample Matrix: Water
Date Collected: 09/15/21
Date Received: 09/17/21

Analysis Method	Extracted/Digested By	Analyzed By
200.7	NMANSEN	KMCLAEN
365.1	KWONG	GNITAJOUPPI
420.4		BBOWE
624		KRUEST
Kelada-01		CWOODS
SM 2540 D-1997(2011)		KAWONG
SM 5210 B-2001(2011)		STALARICO

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229		

Sample Name:	Trip Blank	**Date Collected:**	09/15/21
Lab Code:	R2109692-004	**Date Received:**	09/17/21
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
624		KRUEST

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

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	09/15/21 12:44
Sample Matrix:	Water	**Date Received:**	09/17/21 09:40
Sample Name:	PS-INF-091521	**Units:**	ug/L
Lab Code:	R2109692-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.200	1	09/20/21 16:06	*
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.200	1	09/20/21 16:06	*
1,1,2-Trichloroethane	ND	U	1.00	0.200	1	09/20/21 16:06	*
1,1-Dichloroethane (1,1-DCA)	**0.524**	**J**	1.00	0.200	1	09/20/21 16:06	*
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.200	1	09/20/21 16:06	*
1,2-Dichloroethane	ND	U	1.00	0.200	1	09/20/21 16:06	*
1,2-Dichloropropane	ND	U	1.00	0.200	1	09/20/21 16:06	*
2-Butanone (MEK)	ND	U	5.00	0.780	1	09/20/21 16:06	*
2-Hexanone	ND	U	5.00	0.200	1	09/20/21 16:06	*
4-Methyl-2-pentanone (MIBK)	ND	U	5.00	0.200	1	09/20/21 16:06	*
Acetone	ND	U	5.00	2.10	1	09/20/21 16:06	*
Acrolein	ND	U	10.0	0.900	1	09/20/21 16:06	*
Acrylonitrile	ND	U	10.0	0.900	1	09/20/21 16:06	*
Benzene	ND	U	1.00	0.200	1	09/20/21 16:06	*
Bromodichloromethane	ND	U	1.00	0.200	1	09/20/21 16:06	*
Bromoform	ND	U	1.00	0.250	1	09/20/21 16:06	*
Bromomethane	ND	U	1.00	0.700	1	09/20/21 16:06	*
Carbon Disulfide	ND	U	10.0	0.420	1	09/20/21 16:06	*
Carbon Tetrachloride	ND	U	1.00	0.340	1	09/20/21 16:06	*
Chlorobenzene	ND	U	1.00	0.200	1	09/20/21 16:06	*
Chloroethane	ND	U	1.00	0.230	1	09/20/21 16:06	*
Chloroform	ND	U	1.00	0.240	1	09/20/21 16:06	*
Chloromethane	ND	U	1.00	0.280	1	09/20/21 16:06	*
Dibromochloromethane	ND	U	1.00	0.200	1	09/20/21 16:06	*
Methylene Chloride	**1.57**		1.00	0.650	1	09/20/21 16:06	*
Ethylbenzene	ND	U	1.00	0.200	1	09/20/21 16:06	*
Styrene	ND	U	1.00	0.200	1	09/20/21 16:06	*
Tetrachloroethene (PCE)	ND	U	1.00	0.210	1	09/20/21 16:06	*
Toluene	ND	U	1.00	0.200	1	09/20/21 16:06	*
Trichloroethene (TCE)	ND	U	1.00	0.200	1	09/20/21 16:06	*
Vinyl Chloride	ND	U	1.00	0.200	1	09/20/21 16:06	*
cis-1,2-Dichloroethene	ND	U	1.00	0.230	1	09/20/21 16:06	*
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	09/20/21 16:06	*
m,p-Xylenes	ND	U	2.00	0.200	1	09/20/21 16:06	*
o-Xylene	ND	U	1.00	0.200	1	09/20/21 16:06	*
trans-1,2-Dichloroethene	ND	U	1.00	0.200	1	09/20/21 16:06	*
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	09/20/21 16:06	*

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	09/15/21 12:44
Sample Matrix:	Water	**Date Received:**	09/17/21 09:40
Sample Name:	PS-INF-091521	**Units:**	ug/L
Lab Code:	R2109692-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	111	73 - 125	09/20/21 16:06	
4-Bromofluorobenzene	106	85 - 122	09/20/21 16:06	
Toluene-d8	110	87 - 121	09/20/21 16:06	

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	09/15/21 13:55
Sample Matrix:	Water	**Date Received:**	09/17/21 09:40
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R2109692-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.200	1	09/20/21 15:22	*
1,1,2,2-Tetrachloroethane	ND U	1.00	0.200	1	09/20/21 15:22	*
1,1,2-Trichloroethane	ND U	1.00	0.200	1	09/20/21 15:22	*
1,1-Dichloroethane (1,1-DCA)	ND U	1.00	0.200	1	09/20/21 15:22	*
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.200	1	09/20/21 15:22	*
1,2-Dichloroethane	ND U	1.00	0.200	1	09/20/21 15:22	*
1,2-Dichloropropane	ND U	1.00	0.200	1	09/20/21 15:22	*
2-Butanone (MEK)	ND U	5.00	0.780	1	09/20/21 15:22	*
2-Hexanone	ND U	5.00	0.200	1	09/20/21 15:22	*
4-Methyl-2-pentanone (MIBK)	ND U	5.00	0.200	1	09/20/21 15:22	*
Acetone	ND U	5.00	2.10	1	09/20/21 15:22	*
Acrolein	ND U	10.0	0.900	1	09/20/21 15:22	*
Acrylonitrile	ND U	10.0	0.900	1	09/20/21 15:22	*
Benzene	ND U	1.00	0.200	1	09/20/21 15:22	*
Bromodichloromethane	ND U	1.00	0.200	1	09/20/21 15:22	*
Bromoform	ND U	1.00	0.250	1	09/20/21 15:22	*
Bromomethane	ND U	1.00	0.700	1	09/20/21 15:22	*
Carbon Disulfide	ND U	10.0	0.420	1	09/20/21 15:22	*
Carbon Tetrachloride	ND U	1.00	0.340	1	09/20/21 15:22	*
Chlorobenzene	ND U	1.00	0.200	1	09/20/21 15:22	*
Chloroethane	ND U	1.00	0.230	1	09/20/21 15:22	*
Chloroform	ND U	1.00	0.240	1	09/20/21 15:22	*
Chloromethane	ND U	1.00	0.280	1	09/20/21 15:22	*
Dibromochloromethane	ND U	1.00	0.200	1	09/20/21 15:22	*
Methylene Chloride	ND U	1.00	0.650	1	09/20/21 15:22	*
Ethylbenzene	ND U	1.00	0.200	1	09/20/21 15:22	*
Styrene	ND U	1.00	0.200	1	09/20/21 15:22	*
Tetrachloroethene (PCE)	ND U	1.00	0.210	1	09/20/21 15:22	*
Toluene	ND U	1.00	0.200	1	09/20/21 15:22	*
Trichloroethene (TCE)	ND U	1.00	0.200	1	09/20/21 15:22	*
Vinyl Chloride	ND U	1.00	0.200	1	09/20/21 15:22	*
cis-1,2-Dichloroethene	ND U	1.00	0.230	1	09/20/21 15:22	*
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	09/20/21 15:22	*
m,p-Xylenes	ND U	2.00	0.200	1	09/20/21 15:22	*
o-Xylene	ND U	1.00	0.200	1	09/20/21 15:22	*
trans-1,2-Dichloroethene	ND U	1.00	0.200	1	09/20/21 15:22	*
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	09/20/21 15:22	*

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	09/15/21 13:55
Sample Matrix:	Water	**Date Received:**	09/17/21 09:40
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R2109692-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	110	73 - 125	09/20/21 15:22	
4-Bromofluorobenzene	104	85 - 122	09/20/21 15:22	
Toluene-d8	109	87 - 121	09/20/21 15:22	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	09/15/21 12:44
Sample Matrix:	Water	**Date Received:**	09/17/21 09:40
Sample Name:	PS-TW-091521	**Units:**	ug/L
Lab Code:	R2109692-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.200	1	09/20/21 16:28	*
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.200	1	09/20/21 16:28	*
1,1,2-Trichloroethane	ND	U	1.00	0.200	1	09/20/21 16:28	*
1,1-Dichloroethane (1,1-DCA)	**1.39**		1.00	0.200	1	09/20/21 16:28	*
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.200	1	09/20/21 16:28	*
1,2-Dichloroethane	ND	U	1.00	0.200	1	09/20/21 16:28	*
1,2-Dichloropropane	ND	U	1.00	0.200	1	09/20/21 16:28	*
2-Butanone (MEK)	ND	U	5.00	0.780	1	09/20/21 16:28	*
2-Hexanone	ND	U	5.00	0.200	1	09/20/21 16:28	*
4-Methyl-2-pentanone (MIBK)	ND	U	5.00	0.200	1	09/20/21 16:28	*
Acetone	ND	U	5.00	2.10	1	09/20/21 16:28	*
Acrolein	ND	U	10.0	0.900	1	09/20/21 16:28	*
Acrylonitrile	ND	U	10.0	0.900	1	09/20/21 16:28	*
Benzene	ND	U	1.00	0.200	1	09/20/21 16:28	*
Bromodichloromethane	ND	U	1.00	0.200	1	09/20/21 16:28	*
Bromoform	ND	U	1.00	0.250	1	09/20/21 16:28	*
Bromomethane	ND	U	1.00	0.700	1	09/20/21 16:28	*
Carbon Disulfide	ND	U	10.0	0.420	1	09/20/21 16:28	*
Carbon Tetrachloride	ND	U	1.00	0.340	1	09/20/21 16:28	*
Chlorobenzene	ND	U	1.00	0.200	1	09/20/21 16:28	*
Chloroethane	ND	U	1.00	0.230	1	09/20/21 16:28	*
Chloroform	ND	U	1.00	0.240	1	09/20/21 16:28	*
Chloromethane	ND	U	1.00	0.280	1	09/20/21 16:28	*
Dibromochloromethane	ND	U	1.00	0.200	1	09/20/21 16:28	*
Methylene Chloride	**0.873**	**J**	1.00	0.650	1	09/20/21 16:28	*
Ethylbenzene	ND	U	1.00	0.200	1	09/20/21 16:28	*
Styrene	ND	U	1.00	0.200	1	09/20/21 16:28	*
Tetrachloroethene (PCE)	ND	U	1.00	0.210	1	09/20/21 16:28	*
Toluene	ND	U	1.00	0.200	1	09/20/21 16:28	*
Trichloroethene (TCE)	ND	U	1.00	0.200	1	09/20/21 16:28	*
Vinyl Chloride	ND	U	1.00	0.200	1	09/20/21 16:28	*
cis-1,2-Dichloroethene	**0.247**	**J**	1.00	0.230	1	09/20/21 16:28	*
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	09/20/21 16:28	*
m,p-Xylenes	ND	U	2.00	0.200	1	09/20/21 16:28	*
o-Xylene	ND	U	1.00	0.200	1	09/20/21 16:28	*
trans-1,2-Dichloroethene	ND	U	1.00	0.200	1	09/20/21 16:28	*
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	09/20/21 16:28	*

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	09/15/21 12:44
Sample Matrix:	Water	**Date Received:**	09/17/21 09:40
Sample Name:	PS-TW-091521	**Units:**	ug/L
Lab Code:	R2109692-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	107	73 - 125	09/20/21 16:28	
4-Bromofluorobenzene	102	85 - 122	09/20/21 16:28	
Toluene-d8	106	87 - 121	09/20/21 16:28	

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	09/15/21 13:55
Sample Matrix:	Water	**Date Received:**	09/17/21 09:40
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R2109692-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.200	1	09/20/21 15:44	*
1,1,2,2-Tetrachloroethane	ND U	1.00	0.200	1	09/20/21 15:44	*
1,1,2-Trichloroethane	ND U	1.00	0.200	1	09/20/21 15:44	*
1,1-Dichloroethane (1,1-DCA)	ND U	1.00	0.200	1	09/20/21 15:44	*
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.200	1	09/20/21 15:44	*
1,2-Dichloroethane	ND U	1.00	0.200	1	09/20/21 15:44	*
1,2-Dichloropropane	ND U	1.00	0.200	1	09/20/21 15:44	*
2-Butanone (MEK)	ND U	5.00	0.780	1	09/20/21 15:44	*
2-Hexanone	ND U	5.00	0.200	1	09/20/21 15:44	*
4-Methyl-2-pentanone (MIBK)	ND U	5.00	0.200	1	09/20/21 15:44	*
Acetone	ND U	5.00	2.10	1	09/20/21 15:44	*
Acrolein	ND U	10.0	0.900	1	09/20/21 15:44	*
Acrylonitrile	ND U	10.0	0.900	1	09/20/21 15:44	*
Benzene	ND U	1.00	0.200	1	09/20/21 15:44	*
Bromodichloromethane	ND U	1.00	0.200	1	09/20/21 15:44	*
Bromoform	ND U	1.00	0.250	1	09/20/21 15:44	*
Bromomethane	ND U	1.00	0.700	1	09/20/21 15:44	*
Carbon Disulfide	ND U	10.0	0.420	1	09/20/21 15:44	*
Carbon Tetrachloride	ND U	1.00	0.340	1	09/20/21 15:44	*
Chlorobenzene	ND U	1.00	0.200	1	09/20/21 15:44	*
Chloroethane	ND U	1.00	0.230	1	09/20/21 15:44	*
Chloroform	ND U	1.00	0.240	1	09/20/21 15:44	*
Chloromethane	ND U	1.00	0.280	1	09/20/21 15:44	*
Dibromochloromethane	ND U	1.00	0.200	1	09/20/21 15:44	*
Methylene Chloride	ND U	1.00	0.650	1	09/20/21 15:44	*
Ethylbenzene	ND U	1.00	0.200	1	09/20/21 15:44	*
Styrene	ND U	1.00	0.200	1	09/20/21 15:44	*
Tetrachloroethene (PCE)	ND U	1.00	0.210	1	09/20/21 15:44	*
Toluene	ND U	1.00	0.200	1	09/20/21 15:44	*
Trichloroethene (TCE)	ND U	1.00	0.200	1	09/20/21 15:44	*
Vinyl Chloride	ND U	1.00	0.200	1	09/20/21 15:44	*
cis-1,2-Dichloroethene	ND U	1.00	0.230	1	09/20/21 15:44	*
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	09/20/21 15:44	*
m,p-Xylenes	ND U	2.00	0.200	1	09/20/21 15:44	*
o-Xylene	ND U	1.00	0.200	1	09/20/21 15:44	*
trans-1,2-Dichloroethene	ND U	1.00	0.200	1	09/20/21 15:44	*
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	09/20/21 15:44	*

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	09/15/21 13:55
Sample Matrix:	Water	**Date Received:**	09/17/21 09:40
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R2109692-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	110	73 - 125	09/20/21 15:44	
4-Bromofluorobenzene	104	85 - 122	09/20/21 15:44	
Toluene-d8	110	87 - 121	09/20/21 15:44	

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

METALS

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Olin Corporation	**Service Request:**	PS-INF-091521
Project No.:	R2109692	**Date Collected:**	9/15/2021
Project Name:		**Date Received:**	9/17/2021
Matrix:	WATER	**Units:**	ug/L
		Basis:	

Sample Name: **PS-INF-091521** **Lab Code:** **R2109692-001**

Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Antimony	**200.7**	**60.0**	**5.4**	**1.0**	**60.0**	**U**	
Boron	**200.7**	**200**	**19.0**	**1.0**	**65.6**	**J**	
Chromium	**200.7**	**10.0**	**0.910**	**1.0**	**1.1**	**J**	

% Solids: **0.0**

Comments:

METALS

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Olin Corporation	**Service Request:**	PS-INF-091521
Project No.:	R2109692	**Date Collected:**	9/15/2021
Project Name:		**Date Received:**	9/17/2021
Matrix:	WATER	**Units:**	ug/L
		Basis:	

Sample Name: **PS-TW-091521** **Lab Code:** **R2109692-003**

Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Antimony	**200.7**	**60.0**	**5.4**	**1.0**	**60.0**	**U**	
Boron	**200.7**	**200**	**19.0**	**1.0**	**132**	**J**	
Chromium	**200.7**	**10.0**	**0.910**	**1.0**	**10.0**	**U**	

% Solids: **0.0**

Comments:

General Chemistry

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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	09/15/21 12:44
Sample Matrix:	Water	**Date Received:**	09/17/21 09:40
Sample Name:	PS-INF-091521	**Basis:**	NA
Lab Code:	R2109692-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2001(2011)	ND U	mg/L	2.0	1	09/17/21 11:03	NA	
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	09/22/21 20:09	NA	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	09/27/21 14:08	NA	
Phosphorus, Total	365.1	ND U	mg/L	0.050	1	09/30/21 10:48	09/29/21	
Solids, Total Suspended (TSS)	SM 2540 D-1997(2011)	**11.5**	mg/L	2.5	1	09/23/21 07:40	NA	

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	09/15/21 12:44
Sample Matrix:	Water	**Date Received:**	09/17/21 09:40
Sample Name:	PS-TW-091521	**Basis:**	NA
Lab Code:	R2109692-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2001(2011)	ND U	mg/L	2.0	1	09/17/21 11:04	NA	
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	09/22/21 20:13	NA	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	09/27/21 14:12	NA	
Phosphorus, Total	365.1	ND U	mg/L	0.050	1	09/30/21 10:49	09/29/21	
Solids, Total Suspended (TSS)	SM 2540 D-1997(2011)	ND U	mg/L	1.0	1	09/23/21 07:40	NA	

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

Client: Olin Corporation **Service Request:** R2109692

Project: Pendleton/1229

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Sample Name	Lab Code	1,2-Dichloroethane-d4 73-125	4-Bromofluorobenzene 85-122	Toluene-d8 87-121
PS-INF-091521	R2109692-001	111	106	110
Trip Blank	R2109692-002	110	104	109
PS-TW-091521	R2109692-003	107	102	106
Trip Blank	R2109692-004	110	104	110
Method Blank	RQ2111589-05	109	105	110
Lab Control Sample	RQ2111589-04	106	106	109

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2111589-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.200	1	09/20/21 12:28	
1,1,2,2-Tetrachloroethane	ND U	1.00	0.200	1	09/20/21 12:28	
1,1,2-Trichloroethane	ND U	1.00	0.200	1	09/20/21 12:28	
1,1-Dichloroethane (1,1-DCA)	ND U	1.00	0.200	1	09/20/21 12:28	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.200	1	09/20/21 12:28	
1,2-Dichloroethane	ND U	1.00	0.200	1	09/20/21 12:28	
1,2-Dichloropropane	ND U	1.00	0.200	1	09/20/21 12:28	
2-Butanone (MEK)	ND U	5.00	0.780	1	09/20/21 12:28	
2-Hexanone	ND U	5.00	0.200	1	09/20/21 12:28	
4-Methyl-2-pentanone (MIBK)	ND U	5.00	0.200	1	09/20/21 12:28	
Acetone	ND U	5.00	2.10	1	09/20/21 12:28	
Acrolein	ND U	10.0	0.900	1	09/20/21 12:28	
Acrylonitrile	ND U	10.0	0.900	1	09/20/21 12:28	
Benzene	ND U	1.00	0.200	1	09/20/21 12:28	
Bromodichloromethane	ND U	1.00	0.200	1	09/20/21 12:28	
Bromoform	ND U	1.00	0.250	1	09/20/21 12:28	
Bromomethane	ND U	1.00	0.700	1	09/20/21 12:28	
Carbon Disulfide	ND U	10.0	0.420	1	09/20/21 12:28	
Carbon Tetrachloride	ND U	1.00	0.340	1	09/20/21 12:28	
Chlorobenzene	ND U	1.00	0.200	1	09/20/21 12:28	
Chloroethane	ND U	1.00	0.230	1	09/20/21 12:28	
Chloroform	ND U	1.00	0.240	1	09/20/21 12:28	
Chloromethane	ND U	1.00	0.280	1	09/20/21 12:28	
Dibromochloromethane	ND U	1.00	0.200	1	09/20/21 12:28	
Methylene Chloride	ND U	1.00	0.650	1	09/20/21 12:28	
Ethylbenzene	ND U	1.00	0.200	1	09/20/21 12:28	
Styrene	ND U	1.00	0.200	1	09/20/21 12:28	
Tetrachloroethene (PCE)	ND U	1.00	0.210	1	09/20/21 12:28	
Toluene	ND U	1.00	0.200	1	09/20/21 12:28	
Trichloroethene (TCE)	ND U	1.00	0.200	1	09/20/21 12:28	
Vinyl Chloride	ND U	1.00	0.200	1	09/20/21 12:28	
cis-1,2-Dichloroethene	ND U	1.00	0.230	1	09/20/21 12:28	
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	09/20/21 12:28	
m,p-Xylenes	ND U	2.00	0.200	1	09/20/21 12:28	
o-Xylene	ND U	1.00	0.200	1	09/20/21 12:28	
trans-1,2-Dichloroethene	ND U	1.00	0.200	1	09/20/21 12:28	
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	09/20/21 12:28	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2111589-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	109	73 - 125	09/20/21 12:28	
4-Bromofluorobenzene	105	85 - 122	09/20/21 12:28	
Toluene-d8	110	87 - 121	09/20/21 12:28	

Client: Olin Corporation
Project: Pendleton/1229
Sample Matrix: Water

Service Request: R2109692
Date Analyzed: 09/20/21

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Units:ug/L
Basis:NA

Lab Control Sample
RQ2111589-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	624.1	21.5	20.0	108	70-130
1,1,2,2-Tetrachloroethane	624.1	22.7	20.0	113	60-140
1,1,2-Trichloroethane	624.1	21.1	20.0	106	70-130
1,1-Dichloroethane (1,1-DCA)	624.1	22.2	20.0	111	70-130
1,1-Dichloroethene (1,1-DCE)	624.1	21.9	20.0	110	50-150
1,2-Dichloroethane	624.1	19.7	20.0	99	70-130
1,2-Dichloropropane	624.1	20.7	20.0	103	35-165
2-Butanone (MEK)	624.1	19.7	20.0	98	61-137
2-Hexanone	624.1	19.4	20.0	97	63-124
4-Methyl-2-pentanone (MIBK)	624.1	18.7	20.0	94	66-124
Acetone	624.1	18.4	20.0	92	40-161
Acrolein	624.1	39.4	40.0	99	60-140
Acrylonitrile	624.1	116	100	116	60-140
Benzene	624.1	21.0	20.0	105	65-135
Bromodichloromethane	624.1	20.1	20.0	100	65-135
Bromoform	624.1	21.8	20.0	109	70-130
Bromomethane	624.1	22.9	20.0	114	15-185
Carbon Disulfide	624.1	26.0	20.0	130 *	66-128
Carbon Tetrachloride	624.1	18.4	20.0	92	70-130
Chlorobenzene	624.1	20.9	20.0	104	65-135
Chloroethane	624.1	24.7	20.0	123	40-160
Chloroform	624.1	21.3	20.0	106	70-135
Chloromethane	624.1	29.7	20.0	149	1-205
Dibromochloromethane	624.1	22.1	20.0	111	70-135
Methylene Chloride	624.1	22.2	20.0	111	60-140
Ethylbenzene	624.1	19.8	20.0	99	60-140
Styrene	624.1	20.8	20.0	104	80-124
Tetrachloroethene (PCE)	624.1	19.3	20.0	97	70-130
Toluene	624.1	21.0	20.0	105	70-130
Trichloroethene (TCE)	624.1	20.2	20.0	101	65-135
Vinyl Chloride	624.1	25.3	20.0	127	5-195
cis-1,2-Dichloroethene	624.1	21.0	20.0	105	80-117
cis-1,3-Dichloropropene	624.1	22.9	20.0	115	25-175

Client: Olin Corporation
Project: Pendleton/1229
Sample Matrix: Water

Service Request: R2109692
Date Analyzed: 09/20/21

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Units:ug/L
Basis:NA

Lab Control Sample
RQ2111589-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
m,p-Xylenes	624.1	40.9	40.0	102	80-126
o-Xylene	624.1	20.6	20.0	103	79-123
trans-1,2-Dichloroethene	624.1	22.0	20.0	110	70-130
trans-1,3-Dichloropropene	624.1	22.7	20.0	113	50-150

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

METALS

-3-

BLANKS

Contract: R2109692

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: PS-INF-09152

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Antimony	9.80	J	5.40	U	5.40	U	5.40	U	5.400	U	P
Boron	19.00	U	19.00	U	19.00	U	19.00	U	19.000	U	P
Chromium	0.91	U	0.91	U	0.91	U	0.91	U	0.910	U	P

Comments:

METALS

-3-

BLANKS

Contract: R2109692

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: PS-INF-09152

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Antimony			5.40	U	5.40	U	5.40	U			P
Boron			19.00	U	19.00	U	19.00	U			P
Chromium			0.91	U	0.91	U	0.91	U			P

Comments:

METALS

-3-

BLANKS

Contract: R2109692

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: PS-INF-09152

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Antimony			5.40	U							P
Boron			19.00	U							P
Chromium			0.91	U							P

Comments:

METALS

-7-

LABORATORY CONTROL SAMPLE

Contract: R2109692

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: PS-INF-09152

Solid LCS Source: _____

Aqueous LCS Source: CPI

Analyte	Aqueous (ug/L			Solid (mg/K				
	True	Found	%R	True	Found	C	Limits	%R
Antimony	500	469	94					
Boron	1000	979	98					
Chromium	200	205	102					

Comments: _____

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

Client:	Olin Corporation	**Service Request:**	R2109692
Project:	Pendleton/1229	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R2109692-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2001(2011)	ND	U	mg/L	2.0	1	09/17/21 09:00	NA	
Cyanide, Total	Kelada-01	ND	U	mg/L	0.0050	1	09/22/21 19:01	NA	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	1	09/27/21 12:52	NA	
Phosphorus, Total	365.1	ND	U	mg/L	0.050	1	09/30/21 10:46	09/29/21	
Solids, Total Suspended (TSS)	SM 2540 D-1997(2011)	ND	U	mg/L	1.0	1	09/23/21 07:40	NA	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Pendleton/1229
Sample Matrix: Water

Service Request:R2109692
Date Collected:09/15/21
Date Received:09/17/21
Date Analyzed:09/27/21 - 09/30/21

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: PS-TW-091521
Lab Code: R2109692-003

Units:mg/L
Basis:NA

			Matrix Spike R2109692-003MS			Duplicate Matrix Spike R2109692-003DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phenolics, Total Recoverable	420.4	ND U	0.0391	0.0400	98	0.0392	0.0400	98	90-110	<1	20
Phosphorus, Total	365.1	ND U	0.775	0.800	97	0.760	0.800	95	90-110	2	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.

Client: Olin Corporation
Project: Pendleton/1229
Sample Matrix: Water

Service Request: R2109692
Date Analyzed: 09/17/21 - 09/30/21

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R2109692-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2001(2011)	200	198	101	85-115
Cyanide, Total	Kelada-01	0.107	0.100	107	90-110
Phenolics, Total Recoverable	420.4	0.0392	0.0400	98	90-110
Phosphorus, Total	365.1	0.756	0.800	95	90-110
Solids, Total Suspended (TSS)	SM 2540 D-1997(2011)	191	214	89	80-120

Pre-Treated Water Data

May 04, 2022 Service Request No:R2203407

Adam Carringer
Olin Corporation
490 Stuart Road
Cleveland, TN 37312

Laboratory Results for: Pendleton

Dear Adam,

Enclosed are the results of the sample(s) submitted to our laboratory April 15, 2022
For your reference, these analyses have been assigned our service request number **R2203407.**

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

ALS Environmental

Client: Olin Corporation
Project: Pendleton
Sample Matrix: Water

Service Request: R2203407
Date Received: 04/15/2022

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:

Ten water samples were received for analysis at ALS Environmental on 04/15/2022. 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.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

SMO:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

Method 624, 04/16/2022: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). 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.

Approved by _____ Date 05/04/2022

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 **Service Request:**R2203407
Project: Pendleton/1229

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2203407-001	PS-INF-041322 - Lab Comp	4/13/2022	1058
R2203407-002	PS-INF-041322 - Field Comp	4/13/2022	1102
R2203407-003	PS-INF-041322 - Grab	4/13/2022	1003
R2203407-004	PS-INF-041322 DUP - Grab	4/13/2022	1006
R2203407-005	PS-INF-041322 Field Blank - Grab	4/13/2022	0955
R2203407-006	Trip Blank	4/13/2022	
R2203407-007	PS-TW-041322 - Lab Comp	4/13/2022	1058
R2203407-008	PS-TW-041322 - Field Comp	4/13/2022	1103
R2203407-009	PS-TW-041322 - Grab	4/13/2022	1008
R2203407-010	PS-TW-041322 DUP	4/13/2022	1010

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

063292

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 4

Project Name: Olin-Pendleton Site	Project Number: 1229
Project Manager: Adam Carringer	Report CC: Adam Carringer-Olin
Company/Address: Olin Corp, 3855 North Ocoee Rd, Cleveland, TN 39312	
Phone #: 423-336-4057	Email: ABCarringer@Olin.com
Sampler's Signature: [signature]	Sampler's Printed Name: Maxwell Liffiton

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

Preservative Key: 0. NONE 1. HCL 2. HNO_3 3. H_2SO_4 4. NaOH 5. Zn. Acetate 6. MeOH 7. $NaHSO_4$ 8. Other ____

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	DATE	TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs 8260 624 CLP (Pres. 0)	GC/MS SVOAs 8270 625	GC VOAs 8021 601 602	PESTICIDES 8081 608	PCBs 8082 608	METALS, TOTAL (List in comments below) (Pres. 2)	METALS, DISSOLVED (List in comments below)	Phenol (Pres. 3)	TCN (Pres. 4)	Trip Blank (Pres. 0)				REMARKS/ ALTERNATE DESCRIPTION
PS-INF-041322		4/13/22	1014	GW	3	3													grab in field
PS-INF-041322		↓	1029	↓	3	3													grab in field
PS-INF-041322			1044		3	3													grab in field
PS-INF-041322			1058		3	3													grab in field
PS-INF-041322			1102		1								1						comped in field
PS-INF-041322			1103		1						1								comped in field
PS-INF-041322			1027		1									1					* comp in lab
PS-INF-041322			1012		1									1					* comp in lab
PS-INF-041322			1056		1									1					* comp in lab
PS-INF-041322			1042		1									1					* comp in lab
Trip Blank		—	—	—	3										3				from lab

SPECIAL INSTRUCTIONS/COMMENTS

Metals: Antimony, Boron, Chromium

* CN samples to be composited in lab

See attached for sampling timeline

Shipped in one cooler.

See QAPP

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)

____ 1 day ____ 2 day ____ 3 day

____ 4 day ____ 5 day

X Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: Std.

REPORT REQUIREMENTS

____ I. Results Only

X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION

PO #: REIN003

BILL TO: Olin Corp

	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
		UPS				
Signature	[signature]			[signature]		
Printed Name	Max Liffiton			Gary [signature]		
Firm	SES			ALS		
Date/Time	4/13/22 1630			4/15/22 0925		

R2203407 5
Olin Corporation
Pendleton

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

n63292

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: Olin-Pendleton Site | Project Number: 1229

Project Manager: Adam Carringer | Report To: Adam Carringer-Olin

Company/Address: Olin Corp, 3855 North Ocoee Rd, Cleveland, TN 37312

Phone #: 423-336-4057 | Email: ABCarringer@Olin.com

Sampler's Signature: | Sampler's Printed Name: Maxwell Lifton

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 0 0 3 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	TSS	CBODs	Tot. Phos.	LL Hg	REMARKS/ ALTERNATE DESCRIPTION
PS-INF-041322		4/13/22	1059	GW	1	1				comped in field
PS-INF-041322			1100		1		1			comped in field
PS-INF-041322			1101		1			1		comped in field
PS-INF-041322			1003		1				1	grab in field
PS-INF-041322DUP			1006		1				1	grab in field
LL Hg Field Blank			0955		1				1	provided by lab
Temp. Blank		—	—	—	1					from lab

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other

SPECIAL INSTRUCTIONS/COMMENTS

Metals Antimony, Boron, Chromium

* CN Samples to be composited in lab

See attached for sampling timeline

Shipped in one cooler

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED:

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)

____ 1 day ____ 2 day ____ 3 day

____ 4 day ____ 5 day

__X__ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: Std.

REPORT REQUIREMENTS

___ I. Results Only

_a_ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

___ III. Results + QC and Calibration Summaries

___ IV. Data Validation Report with Raw Data

Edata ___ Yes ___ No

INVOICE INFORMATION

PO # REIN003

BILL TO: Olin Corp

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature:	UPS	Signature	Signature	Signature	Signature
Printed Name: Max Lifton	Printed Name	Printed Name	Printed Name: Gabby Lefton	Printed Name	Printed Name
Firm: SES	Firm	Firm	Firm: ALS	Firm	Firm
Date/Time: 4/13/22 1680	Date/Time	Date/Time	Date/Time: 4/15/22 0925	Date/Time	Date/Time

R2203407 5

Olin Corporation Pendleton

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

ALS

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 3 OF 4

Project Name: Olin-Pendleton Site — Project Number: 1229

Project Manager: Adam Carringe — Report to: Adam Carringe Ol

Company/Address: Olin Corp, 3855 North Ocoee Rd, Cleveland, TN 37312

Phone #: 423 336-4057 — Email: ABCarringe@Olin.com

Sampler's Signature: [signature] — Sampler's Printed Name: Maxwell Uffelt

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

Preservative Key: 0. NONE 1. HCL 2. HNO_3 3. H_2SO_4 4. NaOH 5. Zn. Acetate 6. MeOH 7. $NaHSO_4$ 8. Other

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	DATE	TIME	MATRIX	NUMBER OF CONTAINERS	(0)					METALS, TOTAL (2)	METALS, DISSOLVED	Phenol (3)	TCN (4)	Trip Blank (0)				REMARKS/ ALTERNATE DESCRIPTION
PS-TW-041322		4/13/22	1014	GW	3	3													grab in field
PS-TW-041322			1029		3	3													grab in field
PS-TW-041322			1044		3	3													grab in field
PS-TW-041322			1058		3	3													grab in field
PS-TW-041322			1102		1							1							comped in field
PS-TW-041322			1103		1						1								comped in field
PS-TW-041322			1027		1									1					* comp in lab
PS-TW-041322			1012		1									1					* comp in lab
PS-TW-041322			1056		1									1					* comp in lab
PS-TW-041322			1042		1									1					* comp in lab
Trip Blank		—	—	—	3										3				from lab

SPECIAL INSTRUCTIONS/COMMENTS

Metals: Antimony, Boron, Chromium

* CN sample to be composited in lab. See attached for compositing. Shipped in one cooler.

See QAPP

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

___ RUSH (SURCHARGES APPLY)

___ 1 day ___ 2 day ___ 3 day

___ 4 day ___ 5 day

X Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: Std

REPORT REQUIREMENTS

___ I. Results Only

X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

___ III. Results + QC and Calibration Summaries

___ IV. Data Validation Report with Raw Data

Edata ___ Yes ___ No

INVOICE INFORMATION

PO #: REIN 003

BILL TO: Olin Corp

	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
		UPS				
Signature	[signature]			[signature]		
Printed Name	Max Uffelt			Gregory LeFevre		
Firm	SCS					
Date/Time	4/13/22 1630			4/15/22 0925		

R2203407 5
Olin Corporation
Pendleton

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

063292

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 4 OF 4

Project Name: Olin-Pendleton Site	Project Number: 1229
Project Manager: Adam Carnage	Report CC: Adam Carnage Olin
Company/Address: Olin Corp, 3855 North Ocoee Rd, Cleveland, TN 37312	
Phone #: 423 336 4057	Email: ABCarnage@Olin.com
Sampler's Signature: [signature]	Sampler's Printed Name: Max Lillston

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE									0	0	3	0			

Preservative Key: 0. NONE 1. HCL 2. HNO3 3. H_2SO_4 4. NaOH 5. Zn. Acetate 6. MeOH 7. $NaHSO_4$ 8. Other ____

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs 8260 624 CLP	GC/MS SVOAs 8270 625	GC VOAs 8021 601 602	PESTICIDES 8081 608	PCBs 8082 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	TSS	CBOD5	Tot. Phos.	LL Hg			REMARKS/ ALTERNATE DESCRIPTION
PS-TW-041322		4/13/22	1059	GW	1								1						comped in field
PS-TW-041322		|	1100	|	1									1					comped in field
PS-TW-041322		|	1101	|	1										1				comped in field
PS-TW-041322		|	1008	|	1											1			grab in field
PS-TW-041322DUP		|	1010	|	1											1			grab in field

SPECIAL INSTRUCTIONS/COMMENTS
Metals Antimony, Boron, Chromium
* All samples for [illegible]
See attached for [illegible]
Shipped in one cooler

See QAPP [illegible]

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
___ RUSH (SURCHARGES APPLY)
___ 1 day ___ 2 day ___ 3 day
___ 4 day ___ 5 day
X Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: Std.

REPORT REQUIREMENTS
___ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Data

Edata ___ Yes ___ No

INVOICE INFORMATION
PO # REIN 003
BILL TO: Olin Corp

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
	UPS				
Signature: [signature]	Signature	Signature	Signature: [signature]	Signature	
Printed Name: Max Lillston	Printed Name	Printed Name	Printed Name: Gary LeFore	Printed Name	
Firm: SCS	Firm	Firm	Firm: ALS	Firm	
Date/Time: 4/13/22 1630	Date/Time	Date/Time	Date/Time: 4/15/22 0915	Date/Time	Date/Time

R2203407 5
Olin Corporation
Pendleton

Distribution: White - Lab Copy; Yellow - Return to Originator

4/13/22 Sample Narrative/Timeline

4/11/22 - System turned off by SES @ 0826.

4/13/22

0955 - LL Hg field blank taken

1000 - System restarted by SES.

1003 - LL Hg taken for influent

1006 - LL Hg duplicate taken for influent

1008 - LL Hg taken for treated water

1010 - LL Hg duplicate taken for treated water

* unless otherwise * noted, INF and TW samples taken at equivalent times by Max Liffton and * Greg Ernst *

1011 - composite jugs started, filled 1/4 full

1012 - TCN samples taken

1014 - VOA samples taken

1026 - comp. jars filled 1/2 full.

1027 - TCN samples taken

1029 - VOA samples taken

1041 - comp. jars filled 3/4 full.

1042 - TCN samples taken

1044 - VOA samples taken

1055 - comp. jars filled completely

1056 - TCN samples taken

1058 - VOA samples taken

1059 - TSS samples taken from comp. jars

1100 - $CBOD_5$ samples taken from comp. jars.

1102 - phenols samples taken from comp jars.

1103 - metals samples taken from comp jars

R2203407 5
Olin Corporation
Pendleton

Cooler Receipt and Preservation Check Form

Project/Client Olin Folder Number .

Cooler received on 4/15/22 by: @ COURIER: ALS (UPS) FEDEX VELOCITY CLIENT

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

3. Temperature Readings Date: 4/15/22 Time: 0943 ID: IR#7 (IR#11) From: (Temp Blank) Sample Bottle

Observed Temp (°C)	7.1						
Within 0-6°C?	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

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: Rear by @ on 4/15/22 at 0946
5035 samples placed in storage location: by on at within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 4/15/22 Time: 1433 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? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12	025320	NaOH	✓		214719					
≤2		HNO_3	✓		1121081					
≤2		H_2SO_4	✓		L130-10, 231534					
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For (CN) ~~Phenol~~, 625, 608pest, 522	✓		If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**	1114652					

Bottle lot numbers: 80133-10 1-027-008, 21-12-12, 22-01-04, 1114462
Explain all Discrepancies/ Other Comments:

Rec'd: PS-TW-041322 ½ empty (CBOD)

Overpacked cooler E

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

SAMPLE PREPARATION FORM

Project/Client Ulus **Submission Number** R-3407
Form initiated by: @
Project Manager Approval _____ **Client consulted? Yes No (NA)**

COMPOSITING

Date: 4/15/22 Time: 1430 Analyst: AD

Field ID	Vol/wt used	Describe how composited*	Final Order #
INF	4 x 125ml	poured into 500ml bottle	-002
		↓	
TW	4 x 125ml	↓	
		↓	-007

*Examples: mixed in metal bowl with metal spoon – shaken in 1 Liter plastic – mixed with wooden scoop in glass jar

PHASE SEPARATION

Date: _____ Time: _____ Analyst: _____

Location	layer extracted (describe)	Describe how separated**	Final Order #

**Examples: seperatory funnel – decanted – pipetted out

PARTICLE SIZE REDUCTION

Date: _____ Time: _____ Analyst: _____

Sample ID	Describe how reduced***

***Examples: scissors- hammer – tear by hand – mortar and pestle

OTHER DOCUMENTATION / INSTRUCTIONS (Example: limited volume priority instructions, instructions for special situations, irregular subsampling documentation)

Client: Olin Corporation **Service Request:** R2203407
Project: Pendleton/1229

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2203407-001.05					
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-001.06					
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-001.07					
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-001.08					
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-001.09					
	Kelada-01				
		4/15/2022	1059	SMO / GLAFORCE	
		4/16/2022	0822	R-015 / GESMERIAN	
		4/16/2022	0823	RT000236 / GESMERIAN	
R2203407-001.10					
		4/15/2022	1435	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-001.11					
		4/15/2022	1435	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-001.12					
		4/15/2022	1435	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-001.13					
		4/15/2022	1435	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-001.14					
		4/15/2022	1435	SMO / GLAFORCE	

Client: Olin Corporation **Service Request:** R2203407
Project: Pendleton/1229

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-001.15					
		4/15/2022	1435	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-001.16					
	624				
		4/15/2022	1435	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
		4/16/2022	1142	In Lab / KRUEST	
		4/16/2022	1323	R-001-S12 / KRUEST	
R2203407-001.17					
		4/15/2022	1435	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-001.18					
		4/15/2022	1435	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-002.01					
	SM 2540 D-2015				
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-002 / GLAFORCE	
		4/20/2022	0933	R-Dumpster / CLOI	
R2203407-002.02					
	420.4				
		4/15/2022	1059	SMO / GLAFORCE	
		4/16/2022	0822	R-015 / GESMERIAN	
		4/16/2022	0823	RT000236 / GESMERIAN	
R2203407-002.08					
	200.7,200.7,200.7				
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-A01 / GLAFORCE	
		4/19/2022	0936	In Lab / BDIAMOND	
		4/19/2022	1422	R-A01 / CDISTEFANO	
R2203407-002.10					
	365.1				
		4/15/2022	1059	SMO / GLAFORCE	
		4/16/2022	0830	R-016 / GESMERIAN	
		4/16/2022	0832	RT000315 / GESMERIAN	

Client: Olin Corporation **Service Request:** R2203407
Project: Pendleton/1229

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2203407-002.11					
	SM 5210 B-2001(2011)				
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-002 / GLAFORCE	
		4/21/2022	2103	RT000215 / GLAFORCE	
		4/21/2022	2103	R-002 / GLAFORCE	
R2203407-003.01					
	1631E				
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-A01 / GLAFORCE	
R2203407-004.01					
	1631E				
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-A01 / GLAFORCE	
R2203407-005.01					
	1631E				
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-A01 / GLAFORCE	
R2203407-006.05					
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-006.06					
	624				
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
		4/16/2022	1142	In Lab / KRUEST	
		4/16/2022	1323	R-001-S12 / KRUEST	
R2203407-006.07					
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.01					
	Kelada-01				
		4/15/2022	1059	SMO / GLAFORCE	
		4/16/2022	0822	R-015 / GESMERIAN	
		4/16/2022	0823	RT000236 / GESMERIAN	
R2203407-007.05					
		4/15/2022	1059	SMO / GLAFORCE	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation **Service Request:** R2203407
Project: Pendleton/1229

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.06					
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.07					
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.08					
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.10					
		4/15/2022	1436	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.11					
		4/15/2022	1436	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.12					
		4/15/2022	1436	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.13					
		4/15/2022	1436	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.14					
		4/15/2022	1436	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.15					
		4/15/2022	1436	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.16					

Client: Olin Corporation **Service Request:** R2203407
Project: Pendleton/1229

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	624				
		4/15/2022	1436	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
		4/16/2022	1142	In Lab / KRUEST	
		4/16/2022	1323	R-001-S12 / KRUEST	
R2203407-007.17					
		4/15/2022	1436	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-007.18					
		4/15/2022	1436	SMO / GLAFORCE	
		4/15/2022	1436	R-001 / GLAFORCE	
R2203407-008.01					
	SM 2540 D-2015				
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-002 / GLAFORCE	
		4/20/2022	0933	R-Dumpster / CLOI	
R2203407-008.02					
	420.4				
		4/15/2022	1059	SMO / GLAFORCE	
		4/16/2022	0822	R-015 / GESMERIAN	
		4/16/2022	0823	RT000236 / GESMERIAN	
R2203407-008.08					
	200.7,200.7,200.7				
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-A01 / GLAFORCE	
		4/19/2022	0935	In Lab / BDIAMOND	
		4/19/2022	1421	R-A01 / CDISTEFANO	
R2203407-008.10					
	365.1				
		4/15/2022	1433	SMO / GLAFORCE	
		4/16/2022	0830	R-016 / GESMERIAN	
		4/16/2022	0832	RT000315 / GESMERIAN	
R2203407-008.11					
	SM 5210 B-2001(2011)				
		4/15/2022	1433	SMO / GLAFORCE	
		4/15/2022	1436	R-002 / GLAFORCE	
		4/21/2022	2102	RT000797 / GLAFORCE	
		4/21/2022	2103	R-002 / GLAFORCE	
R2203407-009.01					

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation **Service Request:** R2203407
Project: Pendleton/1229

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	1631E				
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-A01 / GLAFORCE	
R2203407-010.01					
	1631E				
		4/15/2022	1059	SMO / GLAFORCE	
		4/15/2022	1436	R-A01 / GLAFORCE	

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.
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/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
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.
*	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.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: 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 Accreditations[1]

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.

Client: Olin Corporation **Service Request:** R2203407
Project: Pendleton/1229

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
624.1	Water	2-Butanone (MEK)
624.1	Water	2-Hexanone
624.1	Water	Carbon Disulfide

Client: Olin Corporation **Service Request:** R2203407
Project: Pendleton/1229

Sample Name: PS-INF-041322 - Lab Comp **Date Collected:** 04/13/22
Lab Code: R2203407-001 **Date Received:** 04/15/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
624		KRUEST
Kelada-01		CWOODS

Sample Name: PS-INF-041322 - Field Comp **Date Collected:** 04/13/22
Lab Code: R2203407-002 **Date Received:** 04/15/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
200.7	BDIAMOND	KMCLAEN
365.1	KWONG	MROGERSON
420.4		BBOWE
SM 2540 D-2015		KAWONG
SM 5210 B-2001(2011)		SMEDBURY

Sample Name: PS-INF-041322 - Grab **Date Collected:** 04/13/22
Lab Code: R2203407-003 **Date Received:** 04/15/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
1631E		KMCLAEN

Sample Name: PS-INF-041322 DUP - Grab **Date Collected:** 04/13/22
Lab Code: R2203407-004 **Date Received:** 04/15/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
1631E		KMCLAEN

Client: Olin Corporation **Service Request:** R2203407
Project: Pendleton/1229

Sample Name: PS-INF-041322 Field Blank - Grab **Date Collected:** 04/13/22
Lab Code: R2203407-005 **Date Received:** 04/15/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
1631E		NMANSEN

Sample Name: Trip Blank **Date Collected:** 04/13/22
Lab Code: R2203407-006 **Date Received:** 04/15/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
624		KRUEST

Sample Name: PS-TW-041322 - Lab Comp **Date Collected:** 04/13/22
Lab Code: R2203407-007 **Date Received:** 04/15/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
624		KRUEST
Kelada-01		CWOODS

Sample Name: PS-TW-041322 - Field Comp **Date Collected:** 04/13/22
Lab Code: R2203407-008 **Date Received:** 04/15/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
200.7	BDIAMOND	KMCLAEN
365.1	KWONG	MROGERSON
420.4		BBOWE
SM 2540 D-2015		KAWONG
SM 5210 B-2001(2011)		SMEDBURY

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229		

Sample Name:	PS-TW-041322 - Grab	**Date Collected:**	04/13/22
Lab Code:	R2203407-009	**Date Received:**	04/15/22
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1631E		NMANSEN

Sample Name:	PS-TW-041322 DUP	**Date Collected:**	04/13/22
Lab Code:	R2203407-010	**Date Received:**	04/15/22
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1631E		NMANSEN

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

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1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 10:58
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-INF-041322 - Lab Comp	**Units:**	ug/L
Lab Code:	R2203407-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.200	1	04/16/22 15:51	
1,1,2,2-Tetrachloroethane	ND U	1.00	0.200	1	04/16/22 15:51	
1,1,2-Trichloroethane	ND U	1.00	0.200	1	04/16/22 15:51	
1,1-Dichloroethane (1,1-DCA)	**0.388 J**	1.00	0.200	1	04/16/22 15:51	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.200	1	04/16/22 15:51	
1,2-Dichloroethane	ND U	1.00	0.200	1	04/16/22 15:51	
1,2-Dichloropropane	ND U	1.00	0.200	1	04/16/22 15:51	
2-Butanone (MEK)	ND U	5.00	0.780	1	04/16/22 15:51	
2-Hexanone	ND U	5.00	0.200	1	04/16/22 15:51	
4-Methyl-2-pentanone (MIBK)	ND U	5.00	0.200	1	04/16/22 15:51	
Acetone	ND U	5.00	2.10	1	04/16/22 15:51	
Acrolein	ND U	10.0	0.900	1	04/16/22 15:51	
Acrylonitrile	ND U	10.0	0.900	1	04/16/22 15:51	
Benzene	ND U	1.00	0.200	1	04/16/22 15:51	
Bromodichloromethane	ND U	1.00	0.200	1	04/16/22 15:51	
Bromoform	ND U	1.00	0.250	1	04/16/22 15:51	
Bromomethane	ND U	1.00	0.700	1	04/16/22 15:51	
Carbon Disulfide	ND U	10.0	0.420	1	04/16/22 15:51	
Carbon Tetrachloride	ND U	1.00	0.340	1	04/16/22 15:51	
Chlorobenzene	ND U	1.00	0.200	1	04/16/22 15:51	
Chloroethane	ND U	1.00	0.230	1	04/16/22 15:51	
Chloroform	ND U	1.00	0.240	1	04/16/22 15:51	
Chloromethane	ND U	1.00	0.280	1	04/16/22 15:51	
Dibromochloromethane	ND U	1.00	0.200	1	04/16/22 15:51	
Methylene Chloride	ND U	1.00	0.650	1	04/16/22 15:51	
Ethylbenzene	ND U	1.00	0.200	1	04/16/22 15:51	
Styrene	ND U	1.00	0.200	1	04/16/22 15:51	
Tetrachloroethene (PCE)	ND U	1.00	0.210	1	04/16/22 15:51	
Toluene	ND U	1.00	0.200	1	04/16/22 15:51	
Trichloroethene (TCE)	ND U	1.00	0.200	1	04/16/22 15:51	
Vinyl Chloride	ND U	1.00	0.200	1	04/16/22 15:51	
cis-1,2-Dichloroethene	ND U	1.00	0.230	1	04/16/22 15:51	
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	04/16/22 15:51	
m,p-Xylenes	ND U	2.00	0.200	1	04/16/22 15:51	
o-Xylene	ND U	1.00	0.200	1	04/16/22 15:51	
trans-1,2-Dichloroethene	ND U	1.00	0.200	1	04/16/22 15:51	
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	04/16/22 15:51	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 10:58
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-INF-041322 - Lab Comp	**Units:**	ug/L
Lab Code:	R2203407-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	109	73 - 125	04/16/22 15:51	
4-Bromofluorobenzene	94	85 - 122	04/16/22 15:51	
Toluene-d8	99	87 - 121	04/16/22 15:51	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R2203407-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.200	1	04/16/22 15:29	
1,1,2,2-Tetrachloroethane	ND U	1.00	0.200	1	04/16/22 15:29	
1,1,2-Trichloroethane	ND U	1.00	0.200	1	04/16/22 15:29	
1,1-Dichloroethane (1,1-DCA)	ND U	1.00	0.200	1	04/16/22 15:29	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.200	1	04/16/22 15:29	
1,2-Dichloroethane	ND U	1.00	0.200	1	04/16/22 15:29	
1,2-Dichloropropane	ND U	1.00	0.200	1	04/16/22 15:29	
2-Butanone (MEK)	ND U	5.00	0.780	1	04/16/22 15:29	
2-Hexanone	ND U	5.00	0.200	1	04/16/22 15:29	
4-Methyl-2-pentanone (MIBK)	ND U	5.00	0.200	1	04/16/22 15:29	
Acetone	ND U	5.00	2.10	1	04/16/22 15:29	
Acrolein	ND U	10.0	0.900	1	04/16/22 15:29	
Acrylonitrile	ND U	10.0	0.900	1	04/16/22 15:29	
Benzene	ND U	1.00	0.200	1	04/16/22 15:29	
Bromodichloromethane	ND U	1.00	0.200	1	04/16/22 15:29	
Bromoform	ND U	1.00	0.250	1	04/16/22 15:29	
Bromomethane	ND U	1.00	0.700	1	04/16/22 15:29	
Carbon Disulfide	ND U	10.0	0.420	1	04/16/22 15:29	
Carbon Tetrachloride	ND U	1.00	0.340	1	04/16/22 15:29	
Chlorobenzene	ND U	1.00	0.200	1	04/16/22 15:29	
Chloroethane	ND U	1.00	0.230	1	04/16/22 15:29	
Chloroform	ND U	1.00	0.240	1	04/16/22 15:29	
Chloromethane	ND U	1.00	0.280	1	04/16/22 15:29	
Dibromochloromethane	ND U	1.00	0.200	1	04/16/22 15:29	
Methylene Chloride	ND U	1.00	0.650	1	04/16/22 15:29	
Ethylbenzene	ND U	1.00	0.200	1	04/16/22 15:29	
Styrene	ND U	1.00	0.200	1	04/16/22 15:29	
Tetrachloroethene (PCE)	ND U	1.00	0.210	1	04/16/22 15:29	
Toluene	ND U	1.00	0.200	1	04/16/22 15:29	
Trichloroethene (TCE)	ND U	1.00	0.200	1	04/16/22 15:29	
Vinyl Chloride	ND U	1.00	0.200	1	04/16/22 15:29	
cis-1,2-Dichloroethene	ND U	1.00	0.230	1	04/16/22 15:29	
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	04/16/22 15:29	
m,p-Xylenes	ND U	2.00	0.200	1	04/16/22 15:29	
o-Xylene	ND U	1.00	0.200	1	04/16/22 15:29	
trans-1,2-Dichloroethene	ND U	1.00	0.200	1	04/16/22 15:29	
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	04/16/22 15:29	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R2203407-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	100	73 - 125	04/16/22 15:29	
4-Bromofluorobenzene	94	85 - 122	04/16/22 15:29	
Toluene-d8	93	87 - 121	04/16/22 15:29	

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 10:58
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-TW-041322 - Lab Comp	**Units:**	ug/L
Lab Code:	R2203407-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.200	1	04/16/22 16:13	
1,1,2,2-Tetrachloroethane	ND U	1.00	0.200	1	04/16/22 16:13	
1,1,2-Trichloroethane	ND U	1.00	0.200	1	04/16/22 16:13	
1,1-Dichloroethane (1,1-DCA)	**0.842 J**	1.00	0.200	1	04/16/22 16:13	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.200	1	04/16/22 16:13	
1,2-Dichloroethane	ND U	1.00	0.200	1	04/16/22 16:13	
1,2-Dichloropropane	ND U	1.00	0.200	1	04/16/22 16:13	
2-Butanone (MEK)	ND U	5.00	0.780	1	04/16/22 16:13	
2-Hexanone	ND U	5.00	0.200	1	04/16/22 16:13	
4-Methyl-2-pentanone (MIBK)	ND U	5.00	0.200	1	04/16/22 16:13	
Acetone	ND U	5.00	2.10	1	04/16/22 16:13	
Acrolein	ND U	10.0	0.900	1	04/16/22 16:13	
Acrylonitrile	ND U	10.0	0.900	1	04/16/22 16:13	
Benzene	ND U	1.00	0.200	1	04/16/22 16:13	
Bromodichloromethane	ND U	1.00	0.200	1	04/16/22 16:13	
Bromoform	ND U	1.00	0.250	1	04/16/22 16:13	
Bromomethane	ND U	1.00	0.700	1	04/16/22 16:13	
Carbon Disulfide	ND U	10.0	0.420	1	04/16/22 16:13	
Carbon Tetrachloride	ND U	1.00	0.340	1	04/16/22 16:13	
Chlorobenzene	ND U	1.00	0.200	1	04/16/22 16:13	
Chloroethane	ND U	1.00	0.230	1	04/16/22 16:13	
Chloroform	ND U	1.00	0.240	1	04/16/22 16:13	
Chloromethane	ND U	1.00	0.280	1	04/16/22 16:13	
Dibromochloromethane	ND U	1.00	0.200	1	04/16/22 16:13	
Methylene Chloride	ND U	1.00	0.650	1	04/16/22 16:13	
Ethylbenzene	ND U	1.00	0.200	1	04/16/22 16:13	
Styrene	ND U	1.00	0.200	1	04/16/22 16:13	
Tetrachloroethene (PCE)	ND U	1.00	0.210	1	04/16/22 16:13	
Toluene	ND U	1.00	0.200	1	04/16/22 16:13	
Trichloroethene (TCE)	ND U	1.00	0.200	1	04/16/22 16:13	
Vinyl Chloride	ND U	1.00	0.200	1	04/16/22 16:13	
cis-1,2-Dichloroethene	**0.369 J**	1.00	0.230	1	04/16/22 16:13	
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	04/16/22 16:13	
m,p-Xylenes	ND U	2.00	0.200	1	04/16/22 16:13	
o-Xylene	ND U	1.00	0.200	1	04/16/22 16:13	
trans-1,2-Dichloroethene	ND U	1.00	0.200	1	04/16/22 16:13	
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	04/16/22 16:13	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 10:58
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-TW-041322 - Lab Comp	**Units:**	ug/L
Lab Code:	R2203407-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	111	73 - 125	04/16/22 16:13	
4-Bromofluorobenzene	104	85 - 122	04/16/22 16:13	
Toluene-d8	99	87 - 121	04/16/22 16:13	

Metals

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METALS
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client:	Olin Corporation	**Service Request:**	PS-INF-041322 - Field Com
Project No.:	R2203407	**Date Collected:**	4/13/2022
Project Name:		**Date Received:**	4/15/2022
Matrix:	WATER	**Units:**	ug/L
		Basis:	

Sample Name: **PS-INF-041322 - Field Comp** **Lab Code:** **R2203407-002**

Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Antimony	**200.7**	**10.0**	**5.4**	**1.0**	**10.0**	**U**	
Boron	**200.7**	**200**	**19.0**	**1.0**	**45.3**	**J**	
Chromium	**200.7**	**10.0**	**0.910**	**1.0**	**10.0**	**U**	

% Solids: **0.0**

Comments:

METALS
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INORGANIC ANALYSIS DATA PACKAGE

Client:	Olin Corporation	**Service Request:**	PS-INF-041322 - Field Com
Project No.:	R2203407	**Date Collected:**	4/13/2022
Project Name:		**Date Received:**	4/15/2022
Matrix:	WATER	**Units:**	ug/L
		Basis:	

Sample Name: **PS-TW-041322 - Field Comp** **Lab Code:** **R2203407-008**

Analyte	Analysis Method	PQL	MDL	Dil. Factor	Result	C	Q
Antimony	**200.7**	**10.0**	**5.4**	**1.0**	**10.0**	**U**	
Boron	**200.7**	**200**	**19.0**	**1.0**	**58.6**	**J**	
Chromium	**200.7**	**10.0**	**0.910**	**1.0**	**10.0**	**U**	

% Solids: **0.0**

Comments:

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 10:03
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-INF-041322 - Grab	**Basis:**	NA
Lab Code:	R2203407-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Mercury, Total	1631E	**0.6 J**	ng/L	1.0	0.3	1	04/19/22 16:20	

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 10:06
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-INF-041322 DUP - Grab	**Basis:**	NA
Lab Code:	R2203407-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Mercury, Total	1631E	**0.4 J**	ng/L	1.0	0.3	1	04/19/22 16:28	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 09:55
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-INF-041322 Field Blank - Grab	**Basis:**	NA
Lab Code:	R2203407-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Mercury, Total	1631E	ND U	ng/L	1.0	0.3	1	04/21/22 11:49	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 10:08
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-TW-041322 - Grab	**Basis:**	NA
Lab Code:	R2203407-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Mercury, Total	1631E	**0.4 J**	ng/L	1.0	0.3	1	04/21/22 11:57	

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 10:10
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-TW-041322 DUP	**Basis:**	NA
Lab Code:	R2203407-010		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Mercury, Total	1631E	ND U	ng/L	1.0	0.3	1	04/21/22 12:05	

General Chemistry

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1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 10:58
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-INF-041322 - Lab Comp	**Basis:**	NA
Lab Code:	R2203407-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND	U	mg/L	0.0050	0.0040	1	04/22/22 15:57	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 11:02
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-INF-041322 - Field Comp	**Basis:**	NA
Lab Code:	R2203407-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Unit	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2001(2011)	NDU	mg/L	2.0	-	1	04/15/22 10:42	NA	
Phenolics, Total Recoverable	420.4	NDU	mg/L	0.005 0	0.002 9	1	04/19/22 03:01	NA	
Phosphorus, Total	365.1	**0.014**	**J** mg/L	0.050	0.013	1	04/18/22 18:43	04/16/22	
Solids, Total Suspended (TSS)	SM 2540 D-2015	**3.4**	mg/L	1.0	-	1	04/20/22 08:30	NA	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 10:58
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-TW-041322 - Lab Comp	**Basis:**	NA
Lab Code:	R2203407-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	0.0040	1	04/22/22 16:05	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22 11:03
Sample Matrix:	Water	**Date Received:**	04/15/22 09:25
Sample Name:	PS-TW-041322 - Field Comp	**Basis:**	NA
Lab Code:	R2203407-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Unit	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2001(2011)	**11.3**	mg/L	2.0	-	1	04/15/22 10:43	NA	
Phenolics, Total Recoverable	420.4	NDU	mg/L	0.005 0	0.002 9	1	04/19/22 03:13	NA	
Phosphorus, Total	365.1	NDU	mg/L	0.050	0.013	1	04/18/22 18:44	04/16/22	
Solids, Total Suspended (TSS)	SM 2540 D-2015	NDU	mg/L	1.0	-	1	04/20/22 08:30	NA	

QC Summary Forms

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Volatile Organic Compounds by GC/MS

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www.alsglobal.com

Client: Olin Corporation **Service Request:** R2203407

Project: Pendleton/1229

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Extraction Method:

Sample Name	Lab Code	1,2-Dichloroethane-d4 73-125	4-Bromofluorobenzene 85-122	Toluene-d8 87-121
PS-INF-041322 - Lab Comp	R2203407-001	109	94	99
Trip Blank	R2203407-006	100	94	93
PS-TW-041322 - Lab Comp	R2203407-007	111	104	99
Method Blank	RQ2203995-05	104	101	96
Lab Control Sample	RQ2203995-04	108	100	102

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2203995-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.200	1	04/16/22 12:12	
1,1,2,2-Tetrachloroethane	ND U	1.00	0.200	1	04/16/22 12:12	
1,1,2-Trichloroethane	ND U	1.00	0.200	1	04/16/22 12:12	
1,1-Dichloroethane (1,1-DCA)	ND U	1.00	0.200	1	04/16/22 12:12	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.200	1	04/16/22 12:12	
1,2-Dichloroethane	ND U	1.00	0.200	1	04/16/22 12:12	
1,2-Dichloropropane	ND U	1.00	0.200	1	04/16/22 12:12	
2-Butanone (MEK)	ND U	5.00	0.780	1	04/16/22 12:12	
2-Hexanone	ND U	5.00	0.200	1	04/16/22 12:12	
4-Methyl-2-pentanone (MIBK)	ND U	5.00	0.200	1	04/16/22 12:12	
Acetone	ND U	5.00	2.10	1	04/16/22 12:12	
Acrolein	ND U	10.0	0.900	1	04/16/22 12:12	
Acrylonitrile	ND U	10.0	0.900	1	04/16/22 12:12	
Benzene	ND U	1.00	0.200	1	04/16/22 12:12	
Bromodichloromethane	ND U	1.00	0.200	1	04/16/22 12:12	
Bromoform	ND U	1.00	0.250	1	04/16/22 12:12	
Bromomethane	ND U	1.00	0.700	1	04/16/22 12:12	
Carbon Disulfide	ND U	10.0	0.420	1	04/16/22 12:12	
Carbon Tetrachloride	ND U	1.00	0.340	1	04/16/22 12:12	
Chlorobenzene	ND U	1.00	0.200	1	04/16/22 12:12	
Chloroethane	ND U	1.00	0.230	1	04/16/22 12:12	
Chloroform	ND U	1.00	0.240	1	04/16/22 12:12	
Chloromethane	ND U	1.00	0.280	1	04/16/22 12:12	
Dibromochloromethane	ND U	1.00	0.200	1	04/16/22 12:12	
Methylene Chloride	ND U	1.00	0.650	1	04/16/22 12:12	
Ethylbenzene	ND U	1.00	0.200	1	04/16/22 12:12	
Styrene	ND U	1.00	0.200	1	04/16/22 12:12	
Tetrachloroethene (PCE)	ND U	1.00	0.210	1	04/16/22 12:12	
Toluene	ND U	1.00	0.200	1	04/16/22 12:12	
Trichloroethene (TCE)	ND U	1.00	0.200	1	04/16/22 12:12	
Vinyl Chloride	ND U	1.00	0.200	1	04/16/22 12:12	
cis-1,2-Dichloroethene	ND U	1.00	0.230	1	04/16/22 12:12	
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	04/16/22 12:12	
m,p-Xylenes	ND U	2.00	0.200	1	04/16/22 12:12	
o-Xylene	ND U	1.00	0.200	1	04/16/22 12:12	
trans-1,2-Dichloroethene	ND U	1.00	0.200	1	04/16/22 12:12	
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	04/16/22 12:12	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2203995-05	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	104	73 - 125	04/16/22 12:12	
4-Bromofluorobenzene	101	85 - 122	04/16/22 12:12	
Toluene-d8	96	87 - 121	04/16/22 12:12	

Client: Olin Corporation
Project: Pendleton/1229
Sample Matrix: Water

Service Request: R2203407
Date Analyzed: 04/16/22

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Units:ug/L
Basis:NA

Lab Control Sample
RQ2203995-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	624.1	20.9	20.0	104	70-130
1,1,2,2-Tetrachloroethane	624.1	19.8	20.0	99	60-140
1,1,2-Trichloroethane	624.1	19.8	20.0	99	70-130
1,1-Dichloroethane (1,1-DCA)	624.1	20.3	20.0	102	70-130
1,1-Dichloroethene (1,1-DCE)	624.1	20.6	20.0	103	50-150
1,2-Dichloroethane	624.1	21.0	20.0	105	70-130
1,2-Dichloropropane	624.1	18.7	20.0	94	35-165
2-Butanone (MEK)	624.1	18.5	20.0	92	61-137
2-Hexanone	624.1	20.0	20.0	100	63-124
4-Methyl-2-pentanone (MIBK)	624.1	21.8	20.0	109	66-124
Acetone	624.1	22.7	20.0	114	40-161
Acrolein	624.1	46.3	40.0	116	60-140
Acrylonitrile	624.1	102	100	102	60-140
Benzene	624.1	19.8	20.0	99	65-135
Bromodichloromethane	624.1	20.4	20.0	102	65-135
Bromoform	624.1	26.2	20.0	131 *	70-130
Bromomethane	624.1	17.0	20.0	85	15-185
Carbon Disulfide	624.1	20.3	20.0	102	66-128
Carbon Tetrachloride	624.1	20.1	20.0	101	70-130
Chlorobenzene	624.1	19.3	20.0	97	65-135
Chloroethane	624.1	24.9	20.0	124	40-160
Chloroform	624.1	20.1	20.0	100	70-135
Chloromethane	624.1	20.6	20.0	103	1-205
Dibromochloromethane	624.1	24.6	20.0	123	70-135
Methylene Chloride	624.1	20.9	20.0	104	60-140
Ethylbenzene	624.1	20.9	20.0	105	60-140
Styrene	624.1	20.1	20.0	101	80-124
Tetrachloroethene (PCE)	624.1	18.2	20.0	91	70-130
Toluene	624.1	20.7	20.0	103	70-130
Trichloroethene (TCE)	624.1	17.8	20.0	89	65-135
Vinyl Chloride	624.1	21.9	20.0	110	5-195
cis-1,2-Dichloroethene	624.1	20.8	20.0	104	80-117
cis-1,3-Dichloropropene	624.1	19.8	20.0	99	25-175

Client: Olin Corporation
Project: Pendleton/1229
Sample Matrix: Water

Service Request: R2203407
Date Analyzed: 04/16/22

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Units:ug/L
Basis:NA

Lab Control Sample
RQ2203995-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
m,p-Xylenes	624.1	39.3	40.0	98	80-126
o-Xylene	624.1	19.6	20.0	98	79-123
trans-1,2-Dichloroethene	624.1	18.8	20.0	94	70-130
trans-1,3-Dichloropropene	624.1	19.8	20.0	99	50-150

Metals

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METALS

-3-

BLANKS

Contract: R2203407

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: PS-INF-04132

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Antimony	9.80	J	5.80	J	5.40	U	6.40	J	5.400	U	P
Boron	19.00	U	19.00	U	19.00	U	19.00	U	19.000	U	P
Chromium	0.91	U	0.91	U	0.91	U	0.91	U	0.910	U	P

Comments:

METALS

-3-

BLANKS

Contract: R2203407

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: PS-INF-04132

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

Analyte	Initial Calib. Blank ug/L	C	Continuing Calibration Blank ug/L 1	C	2	C	3	C	Preparation Blank	C	M
Antimony			7.80	J	13.00						P
Boron			19.00	U	19.00	U					P
Chromium			0.91	U	0.91	U					P

Comments:

METALS

-7-

LABORATORY CONTROL SAMPLE

Contract: R2203407

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG NO.: PS-INF-04132

Solid LCS Source: _____

Aqueous LCS Source: CPI

Analyte	Aqueous (ug/L			Solid (mg/K				
	True	Found	%R	True	Found	C	Limits	%R
Antimony	500	473	95					
Boron	1000	989	99					
Chromium	200	206	103					

Comments: _____

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R2203407-MB1		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Mercury, Total	1631E	ND U	ng/L	1.0	0.3	1	04/19/22 12:44	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R2203407-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Mercury, Total	1631E	ND U	ng/L	1.0	0.3	1	04/21/22 11:25	

Client: Olin Corporation
Project: Pendleton/1229
Sample Matrix: Water

Service Request: R2203407
Date Analyzed: 04/21/22

Lab Control Sample Summary
Inorganic Parameters

Units:ng/L
Basis:NA

Lab Control Sample
R2203407-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Mercury, Total	1631E	4.82	5.0	96	77-128

Client: Olin Corporation
Project: Pendleton/1229
Sample Matrix: Water

Service Request: R2203407
Date Analyzed: 04/19/22

Lab Control Sample Summary
Inorganic Parameters

Units:ng/L
Basis:NA

Lab Control Sample
R2203407-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Mercury, Total	1631E	4.9	5.0	99	77-128

Client: Olin Corporation
Project: Pendleton/1229
Sample Matrix: Water

Service Request: R2203407
Date Analyzed: 04/21/22

Duplicate Lab Control Sample Summary
Inorganic Parameters

Units:ng/L
Basis:NA

			Lab Control Sample			Duplicate Lab Control Sample				
			R2203407-LCS1			R2203407-DLCS1				
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Mercury, Total	1631E	4.82	5.0	96	4.63	5.0	93	77-128	4	20

General Chemistry

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Analytical Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R2203407-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Unit	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2001(2011)	NDU	mg/L	2.0	-	1	04/15/22 17:55	NA	
Cyanide, Total	Kelada-01	NDU	mg/L	0.005	0.004	1	04/22/22 13:37	NA	
Phenolics, Total Recoverable	420.4	NDU	mg/L	0.005	0.002	1	04/19/22 00:53	NA	
Phosphorus, Total	365.1	NDU	mg/L	0.050	0.013	1	04/18/22 18:21	04/16/22	
Solids, Total Suspended (TSS)	SM 2540 D-2015	NDU	mg/L	1.0	-	1	04/20/22 08:30	NA	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Olin Corporation	**Service Request:**	R2203407
Project:	Pendleton/1229	**Date Collected:**	04/13/22
Sample Matrix:	Water	**Date Received:**	04/15/22
		Date Analyzed:	04/19/22

Duplicate Matrix Spike Summary
Phenolics, Total Recoverable

Sample Name:	PS-INF-041322 - Field Comp	**Units:**	mg/L
Lab Code:	R2203407-002	**Basis:**	NA
Analysis Method:	420.4		

		Matrix Spike R2203407-002MS			Duplicate Matrix Spike R2203407-002DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phenolics, Total Recoverable	ND U	0.0361	0.0400	90	0.0366	0.0400	92	90-110	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.

Client: Olin Corporation
Project: Pendleton/1229
Sample Matrix: Water

Service Request: R2203407
Date Analyzed: 04/15/22 - 04/22/22

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R2203407-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2001(2011)	185	198	93	85-115
Cyanide, Total	Kelada-01	0.0951	0.100	95	90-110
Phenolics, Total Recoverable	420.4	0.0387	0.0400	97	90-110
Phosphorus, Total	365.1	0.810	0.800	101	90-110
Solids, Total Suspended (TSS)	SM 2540 D-2015	188	214	88	80-120

Pre-Treated Water Data

September 29, 2022 Service Request No:R2208448

Adam Carringer
Olin Corporation
490 Stuart Road
Cleveland, TN 37312

Laboratory Results for: Olin - Pendleton Site

Dear Adam,

Enclosed are the results of the sample(s) submitted to our laboratory September 08, 2022
For your reference, these analyses have been assigned our service request number **R2208448.**

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
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Phone (585) 288-5380 Fax (585) 288-8475
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Client: Olin Corporation
Project: Olin - Pendleton Site
Sample Matrix: Water

Service Request: R2208448
Date Received: 09/08/2022

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:

Six water samples were received for analysis at ALS Environmental on 09/08/2022. 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.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

Method 624, 09/09/2022: The lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one analyte. There were no detections of the analyte in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples was not performed because the issue is with the stock standard; we are working with the vendor to correct it. The analyte affected is flagged in the LCS Summary.

SMO:

No significant anomalies were noted with this analysis.

Approved by _____ Date 09/29/2022

Sample Receipt Information

ALS Environmental—Rochester Laboratory
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www.alsglobal.com

Client: Olin Corporation **Service Request:**R2208448

Project: Olin - Pendleton Site/1283

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2208448-001	PS-INF-090822 - In-Lab Comp	9/8/2022	0943
R2208448-002	PS-INF-090822 - Field Comp	9/8/2022	0956
R2208448-003	Trip Blank	9/8/2022	
R2208448-004	PS-TW-090822 - In-Lab Comp	9/8/2022	0947
R2208448-005	PS-TW-090822 - Field Comp	9/8/2022	0956
R2208448-006	Trip Blank	9/8/2022	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

~~063292~~

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Project Name: Olin-Pendleton Site	Project Number: 1283
Project Manager: Adam Carringer	Report CC: Adam Carringer-Olin
Company/Address: Olin Corp 3855 North Ocoee Rd Cleveland, TN 39312	
Phone #: 423-336-4057	Email: ABCarringer@Olin.com
Sampler's Signature: Maxwell Liffton	Sampler's Printed Name: Maxwell Liffton

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ◦ 8260 ◦ 624 ◦ CLP	GC/MS SVOAs ◦ 8270 ◦ 625	GC VOAs ◦ 8021 ◦ 601/602	PESTICIDES ◦ 8081 ◦ 608	PCBs ◦ 8082 ◦ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Phenol	TCN	Trip Blank					REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE						0						2		3	4	0				
PS-INF-090822		9/8/22	0859	GW	3	3														grab in field
PS-INF-090822		9/8/22	0914	GW	3	3														grab in field
PS-INF-090822		9/8/22	0929	GW	3	3														grab in field
PS-INF-090822		9/8/22	0944	GW	3	3														grab in field
PS-INF-090822		9/8/22	0954	GW	1								1							comped in field
PS-INF-090822		9/8/22	0955	GW	1					1										comped in field
PS-INF-090822		9/8/22	0858	GW	1									1						*comp in lab
PS-INF-090822		9/8/22	0913	GW	1									1						*comp in lab
PS-INF-090822		9/8/22	0928	GW	1									1						*comp in lab
PS-INF-090822		9/8/22	0943	GW	1									1						*comp in lab
Trip Blank		—	—	—	3										3					provided by lab

Preservative Key
0. NONE
1. HCl
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals Antimony, Boron, Chromium
* CN samples to be composited in lab
See attached for sampling timeline
Shipped in 2 coolers.

See OAPP ☐

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day
X Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE: Std.

REPORT REQUIREMENTS
_____ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
_____ IV. Data Validation Report with Raw Data
Edata _____ Yes _____ No

INVOICE INFORMATION
PO # REIN003
BILL TO: Olin Corp.

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Maxwell Liffton	Signature:	Signature	Signature	Signature	
Printed Name: Max Liffton	Printed Name: Mathew Morley	Printed Name	Printed Name	Printed Name	
Firm: SES	Firm: ALS	Firm	Firm	Firm	
Date/Time: 9/8/22 1205	Date/Time: 9/6/22 12:05	Date/Time	Date/Time	Date/Time	Date/Time

R2208448 5
Olin Corporation
Olin - Pendleton Site

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

ALS

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 2

~~063~~

BOD

Project Name: Olin-Pendleton Site	Project Number: 1283
Project Manager: Adam Carringer	Report CC: Adam Carringer-Olin
Company/Address: Olin Corp 3855 North Ocoee Rd Cleveland, TN 39312	
Phone #: 423-336-4057	Email: ABCarringer@Olin.com
Sampler's Signature: Maxwell Liffton	Sampler's Printed Name: Maxwell Liffton

ANALYSIS REQUESTED (Include Method Number and Containe

PRESERVATIVE: 0 0 3

...y

8. Other ______

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs o 8260 o 624 o CLP	GC/MS SVOAs o 8270 o 625	GC VOAs o 8021 o 601/602	PESTICIDES o 8081 o 608	PCBs o 8082 o 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	TSS	CBOD	Tot. Phos.				REMARKS/ ALTERNATE DESCRIPTION
PS-INF-090822		9/8/22	0950	GW	1								1						comped in field
PS-INF-090822		9/8/22	0952	GW	1									1					comped in field
PS-INF-090822		9/8/22	0956	GW	1										1				comped in field
Temp Blank		—	—	—	1														provided by lab

SPECIAL INSTRUCTIONS/COMMENTS

Metals Antimony, Boron, chromium

* CN samples to be composited in lab.
See attached for sampling narrative.
Shipped in 2 coolers.

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)

____ 1 day ____ 2 day ____ 3 day

____ 4 day ____ 5 day

X Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: Std.

REPORT REQUIREMENTS

____ I. Results Only

X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION

PO # REIN003

BILL TO: Olin Corp.

	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Maxwell Liffton	[signature]				
Printed Name	Max Liffton	Matthew Mosley				
Firm	SES	ALS				
Date/Time	9/8/22 1205	9/8/22 1210				

R2208448
Olin Corporation
Olin - Pendleton Site

5

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

~~063292~~

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax)

Project Name: Olin-Pendleton Site	Project Number: 1283
Project Manager: Adam Carringer	Report CC: Adam Carringer-Olin
Company/Address: Olin Corp 3855 North Ocoee Rd Cleveland, TN 39312	
Phone #: 423-336-4057	Email: ABCarringer@Olin.com
Sampler's Signature: Maxwell Liffton	Sampler's Printed Name: Maxwell Liffton

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Phenol	TCN	Trip Blank					REMARKS/ ALTERNATE DESCRIPTION
PS-TW-090822		9/8/22	0902	GW	3	3														grab in field
PS-TW-090822		9/8/22	0917	GW	3	3														grab in field
PS-TW-090822		9/8/22	0932	GW	3	3														grab in field
PS-TW-090822		9/8/22	0947	GW	3	3														grab in field
PS-TW-090822		9/8/22	0954	GW	1								1							comped in field
PS-TW-090822		9/8/22	0955	GW	1						1									comped in field
PS-TW-090822		9/8/22	0901	GW	1									1						*comp in lab
PS-TW-090822		9/8/22	0916	GW	1									1						*comp in lab
PS-TW-090822		9/8/22	0931	GW	1									1						*comp in lab
PS-TW-090822		9/8/22	0946	GW	1									1						*comp in lab
Trip Blank		—	—	—	3										3					provided by lab

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other _____

PRESERVATIVE: 0 2 3 4 0

SPECIAL INSTRUCTIONS/COMMENTS

Metals Antimony, Boron, Chromium

* CN samples to be composited in lab

See attached for sampling timeline

Shipped in 2 coolers.

See OAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day

_____ 4 day _____ 5 day

X Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: Std.

REPORT REQUIREMENTS

_____ I. Results Only

X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

_____ IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION

PO # REINO03

BILL TO: Olin Corp.

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Maxwell Liffton	Signature:	Signature	Signature	Signature	
Printed Name: Max Liffton	Printed Name: Matthew Maley	Printed Name	Printed Name	Printed Name	
Firm: SES	Firm: ALS	Firm	Firm	Firm	
Date/Time: 9/8/22 1205	Date/Time: 9/8/22 12:05	Date/Time	Date/Time	Date/Time	

R2208448 5

Olin Corporation
Olin - Pendleton Site

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

~~063292~~

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 4 OF 4

Project Name: Olin-Pendleton Site	Project Number: 1283
Project Manager: Adam Carringer	Report CC: Adam Carringer-Olin
Company/Address: Olin Corp 3855 North Ocoee Rd Cleveland, TN 39312	
Phone #: 423-336-4057	Email: ABCarringer@Olin.com
Sampler's Signature: Maxwell Liffiton	Sampler's Printed Name: Maxwell Liffiton

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 0 0 3

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	TSS	CBOD	Tot. Phos.	REMARKS/ ALTERNATE DESCRIPTION
PS-TW-090822		9/8/22	0950	GW	1	1			comped in field
PS-TW-090822		9/8/22	0952	GW	1		1		comped in field
PS-TW-090822		9/8/22	0956	GW	1			1	comped in field
Temp Blank		—	—	—	1				provided by lab

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other _____

GC/MS VOAs ○ 8260 ○ 624 ○ CLP; GC/MS SVOAs ○ 8270 ○ 625; GC VOAs ○ 8021 ○ 601/602; PESTICIDES ○ 8081 ○ 608; PCBS ○ 8082 ○ 609; METALS, TOTAL (List in comments below); METALS, DISSOLVED (List in comments below)

SPECIAL INSTRUCTIONS/COMMENTS

Metals Antimony, Boron, chromium

* CN samples to be composited in lab.

see attached for sampling narrative.

Shipped in 2 coolers.

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)

____ 1 day ____ 2 day ____ 3 day

____ 4 day ____ 5 day

☒ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: Std.

REPORT REQUIREMENTS

____ I. Results Only

☒ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION

PO # KEIN003

BILL TO: Olin Corp.

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Maxwell Liffiton	Signature: Scott Ellis	Signature	Signature	Signature	
Printed Name: Max Liffiton	Printed Name: Matthew Manley	Printed Name	Printed Name	Printed Name	
Firm: SES	Firm: ALS	Firm	Firm	Firm	
Date/Time: 9/8/22 1205	Date/Time: 9/8/22 12:05	Date/Time	Date/Time	Date/Time	Date/Time

R2208448

Olin Corporation
Olin - Pendleton Site

5

Distribution: White - Lab Copy; Yellow - Return to Originator

9/8/22 Sample Timeline / Narrative

9/7/22

0845 - system turned off by SES

9/8/22

0856 - system restarted by SES

Influent samples		Treated Water Samples
~~0857~~	0857 composite jugs filled 1/4 full	0900
~~0858~~	0858 1st TCN samples taken	0901
	0859 1st VOA samples taken	0902
	0912 comp jars filled 1/2 full	0915
	0913 2nd TCN samples taken	0916
	0914 2nd VOA samples taken	0917
	0927 comp jars filled 3/4 full	0930
	0928 3rd TCN samples taken	0931
	0929 3rd VOA samples taken	0932
	0942 comp jars filled completely	0945
	0943 4th TCN samples taken	0946
	0944 4th VOA samples taken	0947

0950 TSS samples taken from comp jars
0952 CBODs samples taken from comp jars
0954 phenols samples taken from comp jars
0955 metals samples taken from comp jars
0956 tot phos samples taken from comp jars

Maxwell Tuttle

SAMPLE PREPARATION FORM

Project/Client Olin Corp **Submission Number** R2208448
Form initiated by: AL
Project Manager Approval_____ **Client consulted?** (Yes) No NA

COMPOSITING

Date: 09/09/22 Time: 1150 Analyst:_____

Field ID	Vol/wt used	Describe how composited*	Final Order #
PS-INF-090822	125 mL (4)	combined 4 125 mL into a 500mL	R2208448-001
		UP bottle	
PS-TW-090822	125 mL (4)	" "	R2208448-004

*Examples: mixed in metal bowl with metal spoon – shaken in 1 Liter plastic – mixed with wooden scoop in glass jar

PHASE SEPARATION

Date:_____ Time:_____ Analyst:_____

Location	layer extracted (describe)	Describe how separated**	Final Order #

**Examples: seperatory funnel – decanted – pipetted out

PARTICLE SIZE REDUCTION

Date:_____ Time:_____ Analyst:_____

Sample ID	Describe how reduced***

***Examples: scissors- hammer – tear by hand – mortar and pestle

OTHER DOCUMENTATION / INSTRUCTIONS (Example: limited volume priority instructions, instructions for special situations, irregular subsampling documentation)

Cooler Receipt and Preservat

R2208448 5
Olin Corporation
Olin - Pendleton Site

Project/Client Severson Folder Numbe

Cooler received on 9/8/22 by: MM

COURIER: ALS UPS FEDEX VELOCITY CLIENT

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

8. Temperature Readings Date: 9/8/22 Time: 12:15 ID: IR#7 (IR#11) From: Temp Blank (Sample Bottle)

Observed Temp (°C)	14.2	16.1					
Within 0-6°C?	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

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: cool by MM on 9/8/22 at 12:17
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 09/09/22 Time: 1150 by: 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 (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? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12	2016722	NaOH	X		223675	08/23				
≤2	2016722	HNO_3	X		2021803052	03/23				
≤2	2016722	H_2SO_4	X		L120-10	02/23				
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522	X		If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**						

Bottle lot numbers: 22-02-03, 22-03-04, 071122-1EKP
Explain all Discrepancies/ Other Comments:

HPROD	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 **Service Request:** R2208448
Project: Olin - Pendleton Site/1283

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2208448-001.01					
	Kelada-01				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1618	R-015 / ALUGO	
		9/9/2022	1620	RT000544 / ALUGO	
R2208448-001.05					
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-001.06					
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-001.07					
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-001.08					
	624				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
		9/9/2022	1430	In Lab / KRUEST	
R2208448-001.09					
		9/9/2022	1155	SMO / ALUGO	
R2208448-001.10					
		9/9/2022	1158	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-001.11					
		9/9/2022	1158	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-001.12					
		9/9/2022	1158	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-001.13					
		9/9/2022	1158	SMO / ALUGO	

Client: Olin Corporation **Service Request:** R2208448
Project: Olin - Pendleton Site/1283

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/9/2022	1200	R-001 / ALUGO	
R2208448-001.14					
		9/9/2022	1158	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-001.15					
		9/9/2022	1158	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-001.16					
		9/9/2022	1158	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-001.17					
		9/9/2022	1158	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-002.01					
	200.7,200.7,200.7				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-A01 / ALUGO	
		9/16/2022	1136	In Lab / CDISTEFANO	
R2208448-002.02					
	365.1				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1453	R-016 / ALUGO	
		9/9/2022	1454	RT000693 / ALUGO	
R2208448-002.03					
	420.4				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1618	R-015 / ALUGO	
		9/9/2022	1620	RT000544 / ALUGO	
R2208448-002.04					
	SM 2540 D-2015				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-002 / ALUGO	
R2208448-002.05					
	SM 5210 B-2016				
		9/9/2022	1155	SMO / ALUGO	

Client: Olin Corporation **Service Request:** R2208448
Project: Olin - Pendleton Site/1283

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	SM 5210 B-2016				
		9/9/2022	2109	R-002 / SMEDBURY	
		9/9/2022	2111	RT000196 / SMEDBURY	
R2208448-003.01					
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
		9/9/2022	1430	In Lab / KRUEST	
R2208448-003.02					
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-003.03					
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-003.04					
	624				
		9/12/2022	0818	SMO / MPEDRO	
R2208448-003.05					
		9/12/2022	0818	SMO / MPEDRO	
R2208448-003.06					
		9/12/2022	0818	SMO / MPEDRO	
R2208448-004.01					
	Kelada-01				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1618	R-015 / ALUGO	
		9/9/2022	1620	RT000544 / ALUGO	
R2208448-004.05					
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-004.06					
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-004.07					

Client: Olin Corporation **Service Request:** R2208448
Project: Olin - Pendleton Site/1283

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-004.08					
	624				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
		9/9/2022	1430	In Lab / KRUEST	
R2208448-004.09					
		9/9/2022	1155	SMO / ALUGO	
R2208448-004.10					
		9/9/2022	1159	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-004.11					
		9/9/2022	1159	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-004.12					
		9/9/2022	1159	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-004.13					
		9/9/2022	1159	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-004.14					
		9/9/2022	1159	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-004.15					
		9/9/2022	1159	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-004.16					
		9/9/2022	1159	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-004.17					

Client: Olin Corporation **Service Request:** R2208448
Project: Olin - Pendleton Site/1283

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		9/9/2022	1159	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-005.01					
	200.7,200.7,200.7				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-A01 / ALUGO	
		9/16/2022	1136	In Lab / CDISTEFANO	
R2208448-005.02					
	365.1				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1453	R-016 / ALUGO	
		9/9/2022	1454	RT000693 / ALUGO	
R2208448-005.03					
	420.4				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1618	R-015 / ALUGO	
		9/9/2022	1620	RT000544 / ALUGO	
R2208448-005.04					
	SM 2540 D-2015				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-002 / ALUGO	
		9/16/2022	0705	R-Dumpster / KAWONG	
R2208448-005.05					
	SM 5210 B-2016				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	2109	R-002 / SMEDBURY	
		9/9/2022	2111	RT000196 / SMEDBURY	
R2208448-006.01					
	624				
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
		9/9/2022	1430	In Lab / KRUEST	
R2208448-006.02					
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	
R2208448-006.03					
		9/9/2022	1155	SMO / ALUGO	
		9/9/2022	1200	R-001 / ALUGO	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation **Service Request:** R2208448
Project: Olin - Pendleton Site/1283

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On

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.
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/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
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.
*	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.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: 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 Accreditations[1]

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.

Client: Olin Corporation **Service Request:** R2208448
Project: Olin - Pendleton Site/1283

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
624.1	Water	2-Butanone (MEK)
624.1	Water	2-Hexanone
624.1	Water	Carbon Disulfide

Client: Olin Corporation **Service Request:** R2208448
Project: Olin - Pendleton Site/1283

Sample Name: PS-INF-090822 - In-Lab Comp **Date Collected:** 09/8/22
Lab Code: R2208448-001 **Date Received:** 09/8/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
624		KRUEST
Kelada-01		CWOODS

Sample Name: PS-INF-090822 - Field Comp **Date Collected:** 09/8/22
Lab Code: R2208448-002 **Date Received:** 09/8/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
200.7	CDISTEFANO	CKUTZER
365.1	KAWONG	GNITAJOUPPI
420.4		BBOWE
SM 2540 D-2015		KAWONG
SM 5210 B-2016		SMEDBURY

Sample Name: Trip Blank **Date Collected:** 09/8/22
Lab Code: R2208448-003 **Date Received:** 09/8/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
624		KRUEST

Sample Name: PS-TW-090822 - In-Lab Comp **Date Collected:** 09/8/22
Lab Code: R2208448-004 **Date Received:** 09/8/22
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
624		KRUEST
Kelada-01		CWOODS

Client: Olin Corporation
Project: Olin - Pendleton Site/1283
Service Request: R2208448

Sample Name: PS-TW-090822 - Field Comp
Lab Code: R2208448-005
Sample Matrix: Water
Date Collected: 09/8/22
Date Received: 09/8/22

Analysis Method	Extracted/Digested By	Analyzed By
200.7	CDISTEFANO	CKUTZER
365.1	KAWONG	GNITAJOUPPI
420.4		BBOWE
SM 2540 D-2015		KAWONG
SM 5210 B-2016		SMEDBURY

Sample Name: Trip Blank
Lab Code: R2208448-006
Sample Matrix: Water
Date Collected: 09/8/22
Date Received: 09/8/22

Analysis Method	Extracted/Digested By	Analyzed By
624		KRUEST

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

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22 09:43
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	PS-INF-090822 - In-Lab Comp	**Units:**	ug/L
Lab Code:	R2208448-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	**0.336**	**J**	1.00	0.200	1	09/09/22 17:04	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.200	1	09/09/22 17:04	
1,1,2-Trichloroethane	ND	U	1.00	0.200	1	09/09/22 17:04	
1,1-Dichloroethane (1,1-DCA)	**1.95**		1.00	0.200	1	09/09/22 17:04	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.200	1	09/09/22 17:04	
1,2-Dichloroethane	ND	U	1.00	0.200	1	09/09/22 17:04	
1,2-Dichloropropane	ND	U	1.00	0.200	1	09/09/22 17:04	
2-Butanone (MEK)	ND	U	5.00	0.780	1	09/09/22 17:04	
2-Hexanone	ND	U	5.00	0.200	1	09/09/22 17:04	
4-Methyl-2-pentanone (MIBK)	ND	U	5.00	0.200	1	09/09/22 17:04	
Acetone	ND	U	5.00	2.10	1	09/09/22 17:04	
Acrolein	ND	U	10.0	0.900	1	09/09/22 17:04	
Acrylonitrile	ND	U	10.0	0.900	1	09/09/22 17:04	
Benzene	ND	U	1.00	0.200	1	09/09/22 17:04	
Bromodichloromethane	ND	U	1.00	0.200	1	09/09/22 17:04	
Bromoform	ND	U	1.00	0.250	1	09/09/22 17:04	
Bromomethane	ND	U	1.00	0.700	1	09/09/22 17:04	
Carbon Disulfide	ND	U	10.0	0.420	1	09/09/22 17:04	
Carbon Tetrachloride	ND	U	1.00	0.340	1	09/09/22 17:04	
Chlorobenzene	ND	U	1.00	0.200	1	09/09/22 17:04	
Chloroethane	ND	U	1.00	0.230	1	09/09/22 17:04	
Chloroform	ND	U	1.00	0.240	1	09/09/22 17:04	
Chloromethane	ND	U	1.00	0.280	1	09/09/22 17:04	
Dibromochloromethane	ND	U	1.00	0.200	1	09/09/22 17:04	
Methylene Chloride	ND	U	1.00	0.650	1	09/09/22 17:04	
Ethylbenzene	ND	U	1.00	0.200	1	09/09/22 17:04	
Styrene	ND	U	1.00	0.200	1	09/09/22 17:04	
Tetrachloroethene (PCE)	**0.244**	**J**	1.00	0.210	1	09/09/22 17:04	
Toluene	ND	U	1.00	0.200	1	09/09/22 17:04	
Trichloroethene (TCE)	ND	U	1.00	0.200	1	09/09/22 17:04	
Vinyl Chloride	ND	U	1.00	0.200	1	09/09/22 17:04	
cis-1,2-Dichloroethene	ND	U	1.00	0.230	1	09/09/22 17:04	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	09/09/22 17:04	
m,p-Xylenes	ND	U	2.00	0.200	1	09/09/22 17:04	
o-Xylene	ND	U	1.00	0.200	1	09/09/22 17:04	
trans-1,2-Dichloroethene	ND	U	1.00	0.200	1	09/09/22 17:04	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	09/09/22 17:04	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22 09:43
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	PS-INF-090822 - In-Lab Comp	**Units:**	ug/L
Lab Code:	R2208448-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	108	73 - 125	09/09/22 17:04	
4-Bromofluorobenzene	102	85 - 122	09/09/22 17:04	
Toluene-d8	101	87 - 121	09/09/22 17:04	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22 09:47
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	PS-TW-090822 - In-Lab Comp	**Units:**	ug/L
Lab Code:	R2208448-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.200	1	09/09/22 17:25	
1,1,2,2-Tetrachloroethane	ND U	1.00	0.200	1	09/09/22 17:25	
1,1,2-Trichloroethane	ND U	1.00	0.200	1	09/09/22 17:25	
1,1-Dichloroethane (1,1-DCA)	**0.979 J**	1.00	0.200	1	09/09/22 17:25	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.200	1	09/09/22 17:25	
1,2-Dichloroethane	ND U	1.00	0.200	1	09/09/22 17:25	
1,2-Dichloropropane	ND U	1.00	0.200	1	09/09/22 17:25	
2-Butanone (MEK)	ND U	5.00	0.780	1	09/09/22 17:25	
2-Hexanone	ND U	5.00	0.200	1	09/09/22 17:25	
4-Methyl-2-pentanone (MIBK)	ND U	5.00	0.200	1	09/09/22 17:25	
Acetone	ND U	5.00	2.10	1	09/09/22 17:25	
Acrolein	ND U	10.0	0.900	1	09/09/22 17:25	
Acrylonitrile	ND U	10.0	0.900	1	09/09/22 17:25	
Benzene	ND U	1.00	0.200	1	09/09/22 17:25	
Bromodichloromethane	ND U	1.00	0.200	1	09/09/22 17:25	
Bromoform	ND U	1.00	0.250	1	09/09/22 17:25	
Bromomethane	ND U	1.00	0.700	1	09/09/22 17:25	
Carbon Disulfide	ND U	10.0	0.420	1	09/09/22 17:25	
Carbon Tetrachloride	ND U	1.00	0.340	1	09/09/22 17:25	
Chlorobenzene	ND U	1.00	0.200	1	09/09/22 17:25	
Chloroethane	ND U	1.00	0.230	1	09/09/22 17:25	
Chloroform	ND U	1.00	0.240	1	09/09/22 17:25	
Chloromethane	ND U	1.00	0.280	1	09/09/22 17:25	
Dibromochloromethane	ND U	1.00	0.200	1	09/09/22 17:25	
Methylene Chloride	ND U	1.00	0.650	1	09/09/22 17:25	
Ethylbenzene	ND U	1.00	0.200	1	09/09/22 17:25	
Styrene	ND U	1.00	0.200	1	09/09/22 17:25	
Tetrachloroethene (PCE)	ND U	1.00	0.210	1	09/09/22 17:25	
Toluene	ND U	1.00	0.200	1	09/09/22 17:25	
Trichloroethene (TCE)	ND U	1.00	0.200	1	09/09/22 17:25	
Vinyl Chloride	ND U	1.00	0.200	1	09/09/22 17:25	
cis-1,2-Dichloroethene	**0.342 J**	1.00	0.230	1	09/09/22 17:25	
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	09/09/22 17:25	
m,p-Xylenes	ND U	2.00	0.200	1	09/09/22 17:25	
o-Xylene	ND U	1.00	0.200	1	09/09/22 17:25	
trans-1,2-Dichloroethene	ND U	1.00	0.200	1	09/09/22 17:25	
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	09/09/22 17:25	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22 09:47
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	PS-TW-090822 - In-Lab Comp	**Units:**	ug/L
Lab Code:	R2208448-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	110	73 - 125	09/09/22 17:25	
4-Bromofluorobenzene	102	85 - 122	09/09/22 17:25	
Toluene-d8	102	87 - 121	09/09/22 17:25	

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R2208448-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.200	1	09/09/22 16:42	
1,1,2,2-Tetrachloroethane	ND U	1.00	0.200	1	09/09/22 16:42	
1,1,2-Trichloroethane	ND U	1.00	0.200	1	09/09/22 16:42	
1,1-Dichloroethane (1,1-DCA)	ND U	1.00	0.200	1	09/09/22 16:42	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.200	1	09/09/22 16:42	
1,2-Dichloroethane	ND U	1.00	0.200	1	09/09/22 16:42	
1,2-Dichloropropane	ND U	1.00	0.200	1	09/09/22 16:42	
2-Butanone (MEK)	ND U	5.00	0.780	1	09/09/22 16:42	
2-Hexanone	ND U	5.00	0.200	1	09/09/22 16:42	
4-Methyl-2-pentanone (MIBK)	ND U	5.00	0.200	1	09/09/22 16:42	
Acetone	ND U	5.00	2.10	1	09/09/22 16:42	
Acrolein	ND U	10.0	0.900	1	09/09/22 16:42	
Acrylonitrile	ND U	10.0	0.900	1	09/09/22 16:42	
Benzene	ND U	1.00	0.200	1	09/09/22 16:42	
Bromodichloromethane	ND U	1.00	0.200	1	09/09/22 16:42	
Bromoform	ND U	1.00	0.250	1	09/09/22 16:42	
Bromomethane	ND U	1.00	0.700	1	09/09/22 16:42	
Carbon Disulfide	ND U	10.0	0.420	1	09/09/22 16:42	
Carbon Tetrachloride	ND U	1.00	0.340	1	09/09/22 16:42	
Chlorobenzene	ND U	1.00	0.200	1	09/09/22 16:42	
Chloroethane	ND U	1.00	0.230	1	09/09/22 16:42	
Chloroform	ND U	1.00	0.240	1	09/09/22 16:42	
Chloromethane	ND U	1.00	0.280	1	09/09/22 16:42	
Dibromochloromethane	ND U	1.00	0.200	1	09/09/22 16:42	
Methylene Chloride	ND U	1.00	0.650	1	09/09/22 16:42	
Ethylbenzene	ND U	1.00	0.200	1	09/09/22 16:42	
Styrene	ND U	1.00	0.200	1	09/09/22 16:42	
Tetrachloroethene (PCE)	ND U	1.00	0.210	1	09/09/22 16:42	
Toluene	ND U	1.00	0.200	1	09/09/22 16:42	
Trichloroethene (TCE)	ND U	1.00	0.200	1	09/09/22 16:42	
Vinyl Chloride	ND U	1.00	0.200	1	09/09/22 16:42	
cis-1,2-Dichloroethene	ND U	1.00	0.230	1	09/09/22 16:42	
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	09/09/22 16:42	
m,p-Xylenes	ND U	2.00	0.200	1	09/09/22 16:42	
o-Xylene	ND U	1.00	0.200	1	09/09/22 16:42	
trans-1,2-Dichloroethene	ND U	1.00	0.200	1	09/09/22 16:42	
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	09/09/22 16:42	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R2208448-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	111	73 - 125	09/09/22 16:42	
4-Bromofluorobenzene	102	85 - 122	09/09/22 16:42	
Toluene-d8	104	87 - 121	09/09/22 16:42	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R2208448-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624.1

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	1	09/09/22 16:20	
1,1,2,2-Tetrachloroethane	ND U	1.00	1	09/09/22 16:20	
1,1,2-Trichloroethane	ND U	1.00	1	09/09/22 16:20	
1,1-Dichloroethane (1,1-DCA)	ND U	1.00	1	09/09/22 16:20	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	1	09/09/22 16:20	
1,2-Dichloroethane	ND U	1.00	1	09/09/22 16:20	
1,2-Dichloropropane	ND U	1.00	1	09/09/22 16:20	
2-Butanone (MEK)	ND U	5.00	1	09/09/22 16:20	
2-Hexanone	ND U	5.00	1	09/09/22 16:20	
Acetone	ND U	5.00	1	09/09/22 16:20	
Benzene	ND U	1.00	1	09/09/22 16:20	
Bromodichloromethane	ND U	1.00	1	09/09/22 16:20	
Bromoform	ND U	1.00	1	09/09/22 16:20	
Bromomethane	ND U	1.00	1	09/09/22 16:20	
Carbon Disulfide	ND U	10.0	1	09/09/22 16:20	
Carbon Tetrachloride	ND U	1.00	1	09/09/22 16:20	
Chlorobenzene	ND U	1.00	1	09/09/22 16:20	
Chloroethane	ND U	1.00	1	09/09/22 16:20	
Chloroform	ND U	1.00	1	09/09/22 16:20	
Chloromethane	ND U	1.00	1	09/09/22 16:20	
Dibromochloromethane	ND U	1.00	1	09/09/22 16:20	
Methylene Chloride	ND U	1.00	1	09/09/22 16:20	
Ethylbenzene	ND U	1.00	1	09/09/22 16:20	
Methyl tert-Butyl Ether	ND U	1.00	1	09/09/22 16:20	
Styrene	ND U	1.00	1	09/09/22 16:20	
Tetrachloroethene (PCE)	ND U	1.00	1	09/09/22 16:20	
Toluene	ND U	1.00	1	09/09/22 16:20	
Trichloroethene (TCE)	ND U	1.00	1	09/09/22 16:20	
Vinyl Chloride	ND U	1.00	1	09/09/22 16:20	
cis-1,2-Dichloroethene	ND U	1.00	1	09/09/22 16:20	
cis-1,3-Dichloropropene	ND U	1.00	1	09/09/22 16:20	
m,p-Xylenes	ND U	2.00	1	09/09/22 16:20	
o-Xylene	ND U	1.00	1	09/09/22 16:20	
trans-1,2-Dichloroethene	ND U	1.00	1	09/09/22 16:20	
trans-1,3-Dichloropropene	ND U	1.00	1	09/09/22 16:20	
4-Methyl-2-pentanone (MIBK)	ND U	5.00	1	09/09/22 16:20	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	R2208448-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	113	73 - 125	09/09/22 16:20	
4-Bromofluorobenzene	106	85 - 122	09/09/22 16:20	
Toluene-d8	103	87 - 121	09/09/22 16:20	

Metals

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Form 1

Inorganic Analysis Data Sheet

Metals by EPA 200.7

Workorder

R2208448

Client

Olin Corporation

Project

Olin - Pendleton Site

09/28/2022

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Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Olin - Pendleton Site

Workorder
R2208448

Metals by EPA 200.7

R2208448-002				Collected	Received	Matrix / Units	Prep Method	Prep Amount
PS-INF-090822 - Field Comp				09/08/22 0956	09/08/22 1205	Water ug/L	200.2	Initial 10mL Final 10mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Antimony, Total	P	6	U	6	60	1	09/19/22 21:29	RPAES06_778199	6SEP19A	09/16/22
Boron, Total	P	190	J	20	200	1	09/19/22 21:29	RPAES06_778199	6SEP19A	09/16/22
Chromium, Total	P	1	J	1.0	10	1	09/19/22 21:29	RPAES06_778199	6SEP19A	09/16/22

Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Olin - Pendleton Site

Workorder
R2208448

Metals by EPA 200.7

R2208448-005				Collected	Received	Matrix / Units	Prep Method	Prep Amount
PS-TW-090822 - Field Comp				09/08/22 0956	09/08/22 1205	Water ug/L	200.2	Initial 10mL Final 10mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Antimony, Total	P	6	U	6	60	1	09/19/22 21:38	RPAES06_778199	6SEP19A	09/16/22
Boron, Total	P	270		20	200	1	09/19/22 21:38	RPAES06_778199	6SEP19A	09/16/22
Chromium, Total	P	1.0	U	1.0	10	1	09/19/22 21:38	RPAES06_778199	6SEP19A	09/16/22

Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Olin - Pendleton Site

Workorder
R2208448

Metals by EPA 200.7

R2208448-MB

Method Blank

Matrix / Units	Prep Method	Prep Amount
Water ug/L	200.2	Initial 10mL Final 10mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Antimony, Total	P	8	J	6	60	1	09/19/22 21:01	RPAES06_778199	6SEP19A	09/16/22
Boron, Total	P	20	U	20	200	1	09/19/22 21:01	RPAES06_778199	6SEP19A	09/16/22
Chromium, Total	P	1.0	U	1.0	10	1	09/19/22 21:01	RPAES06_778199	6SEP19A	09/16/22

General Chemistry

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Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22 09:43
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	PS-INF-090822 - In-Lab Comp	**Basis:**	NA
Lab Code:	R2208448-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	0.0040	1	09/18/22 18:22	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22 09:56
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	PS-INF-090822 - Field Comp	**Basis:**	NA
Lab Code:	R2208448-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Q	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2016	ND	U	mg/L	2.0	1	09/09/22 11:06	NA	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	1	09/12/22 13:12	NA	
Phosphorus, Total	365.1	ND	U	mg/L	0.050	1	09/19/22 11:38	09/17/22	
Solids, Total Suspended (TSS)	SM 2540 D-2015	**4.2**		mg/L	2.0	1	09/15/22 12:25	NA	

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22 09:47
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	PS-TW-090822 - In-Lab Comp	**Basis:**	NA
Lab Code:	R2208448-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	0.0040	1	09/18/22 18:26	

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	09/08/22 09:56
Sample Matrix:	Water	**Date Received:**	09/08/22 12:05
Sample Name:	PS-TW-090822 - Field Comp	**Basis:**	NA
Lab Code:	R2208448-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2016	ND	U	mg/L	2.0	1	09/09/22 11:02	NA	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	1	09/12/22 13:32	NA	
Phosphorus, Total	365.1	ND	U	mg/L	0.050	1	09/19/22 11:41	09/17/22	
Solids, Total Suspended (TSS)	SM 2540 D-2015	ND	U	mg/L	1.0	1	09/15/22 12:25	NA	

QC Summary Forms

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Volatile Organic Compounds by GC/MS

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www.alsglobal.com

Client: Olin Corporation **Service Request:** R2208448

Project: Olin - Pendleton Site/1283

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Extraction Method:

Sample Name	Lab Code	1,2-Dichloroethane-d4 73-125	4-Bromofluorobenzene 85-122	Toluene-d8 87-121
PS-INF-090822 - In-Lab Comp	R2208448-001	108	102	101
PS-TW-090822 - In-Lab Comp	R2208448-004	110	102	102
Trip Blank	R2208448-006	111	102	104
Method Blank	RQ2210847-04	114	104	103
Lab Control Sample	RQ2210847-03	111	104	103

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2210847-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.200	1	09/09/22 12:37	
1,1,2,2-Tetrachloroethane	ND U	1.00	0.200	1	09/09/22 12:37	
1,1,2-Trichloroethane	ND U	1.00	0.200	1	09/09/22 12:37	
1,1-Dichloroethane (1,1-DCA)	ND U	1.00	0.200	1	09/09/22 12:37	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.200	1	09/09/22 12:37	
1,2-Dichloroethane	ND U	1.00	0.200	1	09/09/22 12:37	
1,2-Dichloropropane	ND U	1.00	0.200	1	09/09/22 12:37	
2-Butanone (MEK)	ND U	5.00	0.780	1	09/09/22 12:37	
2-Hexanone	ND U	5.00	0.200	1	09/09/22 12:37	
4-Methyl-2-pentanone (MIBK)	ND U	5.00	0.200	1	09/09/22 12:37	
Acetone	ND U	5.00	2.10	1	09/09/22 12:37	
Acrolein	ND U	10.0	0.900	1	09/09/22 12:37	
Acrylonitrile	ND U	10.0	0.900	1	09/09/22 12:37	
Benzene	ND U	1.00	0.200	1	09/09/22 12:37	
Bromodichloromethane	ND U	1.00	0.200	1	09/09/22 12:37	
Bromoform	ND U	1.00	0.250	1	09/09/22 12:37	
Bromomethane	ND U	1.00	0.700	1	09/09/22 12:37	
Carbon Disulfide	ND U	10.0	0.420	1	09/09/22 12:37	
Carbon Tetrachloride	ND U	1.00	0.340	1	09/09/22 12:37	
Chlorobenzene	ND U	1.00	0.200	1	09/09/22 12:37	
Chloroethane	ND U	1.00	0.230	1	09/09/22 12:37	
Chloroform	ND U	1.00	0.240	1	09/09/22 12:37	
Chloromethane	ND U	1.00	0.280	1	09/09/22 12:37	
Dibromochloromethane	ND U	1.00	0.200	1	09/09/22 12:37	
Methylene Chloride	ND U	1.00	0.650	1	09/09/22 12:37	
Ethylbenzene	ND U	1.00	0.200	1	09/09/22 12:37	
Styrene	ND U	1.00	0.200	1	09/09/22 12:37	
Tetrachloroethene (PCE)	ND U	1.00	0.210	1	09/09/22 12:37	
Toluene	ND U	1.00	0.200	1	09/09/22 12:37	
Trichloroethene (TCE)	ND U	1.00	0.200	1	09/09/22 12:37	
Vinyl Chloride	ND U	1.00	0.200	1	09/09/22 12:37	
cis-1,2-Dichloroethene	ND U	1.00	0.230	1	09/09/22 12:37	
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	09/09/22 12:37	
m,p-Xylenes	ND U	2.00	0.200	1	09/09/22 12:37	
o-Xylene	ND U	1.00	0.200	1	09/09/22 12:37	
trans-1,2-Dichloroethene	ND U	1.00	0.200	1	09/09/22 12:37	
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	09/09/22 12:37	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2210847-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	114	73 - 125	09/09/22 12:37	
4-Bromofluorobenzene	104	85 - 122	09/09/22 12:37	
Toluene-d8	103	87 - 121	09/09/22 12:37	

Client: Olin Corporation
Project: Olin - Pendleton Site/1283
Sample Matrix: Water

Service Request: R2208448
Date Analyzed: 09/09/22

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Units:ug/L
Basis:NA

Lab Control Sample
RQ2210847-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	624.1	21.4	20.0	107	70-130
1,1,2,2-Tetrachloroethane	624.1	17.9	20.0	90	60-140
1,1,2-Trichloroethane	624.1	21.1	20.0	106	70-130
1,1-Dichloroethane (1,1-DCA)	624.1	21.3	20.0	106	70-130
1,1-Dichloroethene (1,1-DCE)	624.1	22.2	20.0	111	50-150
1,2-Dichloroethane	624.1	21.8	20.0	109	70-130
1,2-Dichloropropane	624.1	20.2	20.0	101	35-165
2-Butanone (MEK)	624.1	16.4	20.0	82	61-137
2-Hexanone	624.1	16.1	20.0	81	63-124
4-Methyl-2-pentanone (MIBK)	624.1	17.0	20.0	85	66-124
Acetone	624.1	21.6	20.0	108	40-161
Acrolein	624.1	23.5	40.0	59 *	60-140
Acrylonitrile	624.1	96.2	100	96	60-140
Benzene	624.1	20.9	20.0	104	65-135
Bromodichloromethane	624.1	21.3	20.0	106	65-135
Bromoform	624.1	19.3	20.0	96	70-130
Bromomethane	624.1	20.0	20.0	100	15-185
Carbon Disulfide	624.1	19.3	20.0	97	66-128
Carbon Tetrachloride	624.1	20.2	20.0	101	70-130
Chlorobenzene	624.1	19.4	20.0	97	65-135
Chloroethane	624.1	18.3	20.0	92	40-160
Chloroform	624.1	22.0	20.0	110	70-135
Chloromethane	624.1	20.1	20.0	101	1-205
Dibromochloromethane	624.1	19.6	20.0	98	70-135
Methylene Chloride	624.1	20.2	20.0	101	60-140
Ethylbenzene	624.1	20.1	20.0	100	60-140
Styrene	624.1	20.5	20.0	103	80-124
Tetrachloroethene (PCE)	624.1	19.4	20.0	97	70-130
Toluene	624.1	20.8	20.0	104	70-130
Trichloroethene (TCE)	624.1	21.4	20.0	107	65-135
Vinyl Chloride	624.1	18.0	20.0	90	5-195
cis-1,2-Dichloroethene	624.1	20.1	20.0	101	80-117
cis-1,3-Dichloropropene	624.1	21.5	20.0	108	25-175

Client: Olin Corporation
Project: Olin - Pendleton Site/1283
Sample Matrix: Water

Service Request: R2208448
Date Analyzed: 09/09/22

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS with 3 Day Holding Time for Acrolein, Unpreserved

Units:ug/L
Basis:NA

Lab Control Sample
RQ2210847-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
m,p-Xylenes	624.1	40.6	40.0	102	80-126
o-Xylene	624.1	20.3	20.0	101	79-123
trans-1,2-Dichloroethene	624.1	21.3	20.0	107	70-130
trans-1,3-Dichloropropene	624.1	20.7	20.0	103	50-150

Client: Olin Corporation **Service Request:** R2208448

Project: Olin - Pendleton Site/1283

Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 624.1

Extraction Method:

Sample Name	Lab Code	1,2-Dichloroethane-d4 73-125	4-Bromofluorobenzene 85-122	Toluene-d8 87-121
Trip Blank	R2208448-003	113	106	103
Method Blank	RQ2210847-04	114	104	103
Lab Control Sample	RQ2210847-03	111	104	103

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2210847-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624.1

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	1.00	1	09/09/22 12:37	
1,1,2,2-Tetrachloroethane	ND U	1.00	1	09/09/22 12:37	
1,1,2-Trichloroethane	ND U	1.00	1	09/09/22 12:37	
1,1-Dichloroethane (1,1-DCA)	ND U	1.00	1	09/09/22 12:37	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	1	09/09/22 12:37	
1,2-Dichloroethane	ND U	1.00	1	09/09/22 12:37	
1,2-Dichloropropane	ND U	1.00	1	09/09/22 12:37	
2-Butanone (MEK)	ND U	5.00	1	09/09/22 12:37	
2-Hexanone	ND U	5.00	1	09/09/22 12:37	
Acetone	ND U	5.00	1	09/09/22 12:37	
Benzene	ND U	1.00	1	09/09/22 12:37	
Bromodichloromethane	ND U	1.00	1	09/09/22 12:37	
Bromoform	ND U	1.00	1	09/09/22 12:37	
Bromomethane	ND U	1.00	1	09/09/22 12:37	
Carbon Disulfide	ND U	10.0	1	09/09/22 12:37	
Carbon Tetrachloride	ND U	1.00	1	09/09/22 12:37	
Chlorobenzene	ND U	1.00	1	09/09/22 12:37	
Chloroethane	ND U	1.00	1	09/09/22 12:37	
Chloroform	ND U	1.00	1	09/09/22 12:37	
Chloromethane	ND U	1.00	1	09/09/22 12:37	
Dibromochloromethane	ND U	1.00	1	09/09/22 12:37	
Methylene Chloride	ND U	1.00	1	09/09/22 12:37	
Ethylbenzene	ND U	1.00	1	09/09/22 12:37	
Methyl tert-Butyl Ether	ND U	1.00	1	09/09/22 12:37	
Styrene	ND U	1.00	1	09/09/22 12:37	
Tetrachloroethene (PCE)	ND U	1.00	1	09/09/22 12:37	
Toluene	ND U	1.00	1	09/09/22 12:37	
Trichloroethene (TCE)	ND U	1.00	1	09/09/22 12:37	
Vinyl Chloride	ND U	1.00	1	09/09/22 12:37	
cis-1,2-Dichloroethene	ND U	1.00	1	09/09/22 12:37	
cis-1,3-Dichloropropene	ND U	1.00	1	09/09/22 12:37	
m,p-Xylenes	ND U	2.00	1	09/09/22 12:37	
o-Xylene	ND U	1.00	1	09/09/22 12:37	
trans-1,2-Dichloroethene	ND U	1.00	1	09/09/22 12:37	
trans-1,3-Dichloropropene	ND U	1.00	1	09/09/22 12:37	
4-Methyl-2-pentanone (MIBK)	ND U	5.00	1	09/09/22 12:37	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2210847-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 624.1

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	114	73 - 125	09/09/22 12:37	
4-Bromofluorobenzene	104	85 - 122	09/09/22 12:37	
Toluene-d8	103	87 - 121	09/09/22 12:37	

Client: Olin Corporation
Project: Olin - Pendleton Site/1283
Sample Matrix: Water

Service Request: R2208448
Date Analyzed: 09/09/22

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ2210847-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	624.1	21.4	20.0	107	70-130
1,1,2,2-Tetrachloroethane	624.1	17.9	20.0	90	60-140
1,1,2-Trichloroethane	624.1	21.1	20.0	106	70-130
1,1-Dichloroethane (1,1-DCA)	624.1	21.3	20.0	106	70-130
1,1-Dichloroethene (1,1-DCE)	624.1	22.2	20.0	111	50-150
1,2-Dichloroethane	624.1	21.8	20.0	109	70-130
1,2-Dichloropropane	624.1	20.2	20.0	101	35-165
2-Butanone (MEK)	624.1	16.4	20.0	82	61-137
2-Hexanone	624.1	16.1	20.0	81	63-124
Acetone	624.1	21.6	20.0	108	40-161
Benzene	624.1	20.9	20.0	104	65-135
Bromodichloromethane	624.1	21.3	20.0	106	65-135
Bromoform	624.1	19.3	20.0	96	70-130
Bromomethane	624.1	20.0	20.0	100	15-185
Carbon Disulfide	624.1	19.3	20.0	97	66-128
Carbon Tetrachloride	624.1	20.2	20.0	101	70-130
Chlorobenzene	624.1	19.4	20.0	97	65-135
Chloroethane	624.1	18.3	20.0	92	40-160
Chloroform	624.1	22.0	20.0	110	70-135
Chloromethane	624.1	20.1	20.0	101	1-205
Dibromochloromethane	624.1	19.6	20.0	98	70-135
Methylene Chloride	624.1	20.2	20.0	101	60-140
Ethylbenzene	624.1	20.1	20.0	100	60-140
Methyl tert-Butyl Ether	624.1	20.3	20.0	102	75-118
Styrene	624.1	20.5	20.0	103	80-124
Tetrachloroethene (PCE)	624.1	19.4	20.0	97	70-130
Toluene	624.1	20.8	20.0	104	70-130
Trichloroethene (TCE)	624.1	21.4	20.0	107	65-135
Vinyl Chloride	624.1	18.0	20.0	90	5-195
cis-1,2-Dichloroethene	624.1	20.1	20.0	101	80-117
cis-1,3-Dichloropropene	624.1	21.5	20.0	108	25-175
m,p-Xylenes	624.1	40.6	40.0	102	80-126
o-Xylene	624.1	20.3	20.0	101	79-123

Client: Olin Corporation
Project: Olin - Pendleton Site/1283
Sample Matrix: Water

Service Request: R2208448
Date Analyzed: 09/09/22

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ2210847-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
trans-1,2-Dichloroethene	624.1	21.3	20.0	107	70-130
trans-1,3-Dichloropropene	624.1	20.7	20.0	103	50-150
4-Methyl-2-pentanone (MIBK)	624.1	17.0	20.0	85	66-124

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

right solutions.
right partner.

Blanks

Metals by EPA 200.7

Workorder

R2208448

Client

Olin Corporation

Project

Olin - Pendleton Site

09/28/2022

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 - Pendleton Site

Workorder
R2208448

Metals by EPA 200.7

RPAES06_778199			ICB		CCB		CCB		MB406492		CCB		CCB	
		Run Date	09/19/22		09/19/22		09/19/22		09/19/22		09/19/22		09/19/22	
Units		Run Time	18:08		20:33		20:58		21:01		21:35		22:12	
ug/L		Data File	6SEP19A		6SEP19A		6SEP19A		6SEP19A		6SEP19A		6SEP19A	
Analyte	DL	LOQ	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Antimony	6	60	20	J	8	J	18	J	8	J	6	U	9	J
Boron	20	200	20	U	20	U	20	U	20	U	20	U	20	U
Chromium	1.0	10	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U

RPAES06_778199			CCB		CCB		CCB	
		Run Date	09/19/22		09/19/22		09/19/22	
Units		Run Time	22:49		22:58		23:14	
ug/L		Data File	6SEP19A		6SEP19A		6SEP19A	
Analyte	DL	LOQ	Result	Q	Result	Q	Result	Q
Antimony	6	60	11	J	6	U	8	J
Boron	20	200	20	U	20	U	20	U
Chromium	1.0	10	1.0	U	1.0	U	1.0	U

Form 7

Laboratory Control Sample

Metals by EPA 200.7

Workorder

R2208448

Client

Olin Corporation

Project

Olin - Pendleton Site

09/28/2022

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 - Pendleton Site

Workorder
R2208448

Metals by EPA 200.7

RPAES06_778199				R2208448-LCS			
QC Matrix	Water		Run Date	09/19/22			
Prep Method	EPA 200.2	Units	Run Time	21:04			
Prep Batch	406492 09/16/22	ug/L	Prep Amt	10 mL			
Analyte		%R Limits	Spike Added	LCS Result	%R	Q	
Antimony		85-115	500	439	88		
Boron		85-115	1000	925	92		
Chromium		85-115	200	190	95		

- %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

Client:	Olin Corporation	**Service Request:**	R2208448
Project:	Olin - Pendleton Site/1283	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R2208448-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2016	ND	U	mg/L	2.0	-	1	09/09/22 19:39	NA	
Cyanide, Total	Kelada-01	ND	U	mg/L	0.00500	0.0040	1	09/18/22 16:19	NA	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.00500	0.0029	1	09/12/22 12:24	NA	
Phosphorus, Total	365.1	ND	U	mg/L	0.050	0.013	1	09/19/22 11:31	09/17/22	
Solids, Total Suspended (TSS)	SM 2540 D-2015	ND	U	mg/L	1.0	-	1	09/15/22 12:25	NA	

Client: Olin Corporation
Project: Olin - Pendleton Site/1283
Sample Matrix: Water

Service Request: R2208448
Date Analyzed: 09/09/22 - 09/19/22

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R2208448-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Carbonaceous Biochemical Oxygen Demand (CBOD)	SM 5210 B-2016	201	198	102	85-115
Cyanide, Total	Kelada-01	0.100	0.100	100	90-110
Phenolics, Total Recoverable	420.4	0.0395	0.0400	99	90-110
Phosphorus, Total	365.1	0.779	0.800	97	90-110
Solids, Total Suspended (TSS)	SM 2540 D-2015	196	214	91	80-120

Groundwater Data

September 29, 2022 Service Request No:R2207804

Adam Carringer
Olin Corporation
490 Stuart Road
Cleveland, TN 37312

Laboratory Results for: Pendleton

Dear Adam,

Enclosed are the results of the sample(s) submitted to our laboratory August 19, 2022
For your reference, these analyses have been assigned our service request number **R2207804.**

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: Pendleton
Sample Matrix: Water

Service Request: R2207804
Date Received: 08/19/2022

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:

Twelve water samples were received for analysis at ALS Environmental on 08/19/2022. 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.

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 _____ Date 09/01/2022

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 **Service Request:**R2207804
Project: Pendleton/1229-21

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2207804-001	8812D-081622	8/16/2022	1220
R2207804-002	8812C-081622	8/16/2022	1235
R2207804-003	URS14D-081622	8/16/2022	1440
R2207804-004	URS14I-081622	8/16/2022	1524
R2207804-005	URS9I-081722	8/17/2022	1015
R2207804-006	URS9D-081722	8/17/2022	1117
R2207804-007	BLIND DUPX-081722	8/17/2022	
R2207804-008	857R-081722	8/17/2022	1448
R2207804-009	URS7D-081722	8/17/2022	1543
R2207804-010	URS5D-081722	8/17/2022	1603
R2207804-011	855R-081722	8/17/2022	1613
R2207804-012	TRIP BLANK	8/16/2022	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

~~063292~~

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 2

Project Name: Olin-Pendleton	Project Number: 1229-21
Project Manager: Adam Carringer	Report CC: Adam Carringer
Company/Address: Olin Corp 3855 North Ocoee Road Cleveland TN 37312	
Phone #: 423-336-4057	Email: ABCarringer@Olin.com
Sampler's Signature: Maxwell Lifflton	Sampler's Printed Name: Maxwell Liffiton

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 0 | 2 | 4

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS		GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	TCN							REMARKS/ ALTERNATE DESCRIPTION
8812D-081622		8/16/22	1220	GW	5	3						1		1							
8812C-081622		8/16/22	1235	GW	5	3						1		1							
URS14D-081622		8/16/22	1440	GW	15	9						3		3							MS/MSD Volumes
URS14I-081622		8/16/22	1524	GW	5	3						1		1							
URS9I-081722		8/17/22	1015	GW	5	3						1		1							
URS9D-081722		8/17/22	1117	GW	5	3						1		1							
BLIND DUPX-081722		8/17/22	—	GW	5	3						1		1							
857R-081722		8/17/22	1448	GW	5	3						1		1							
URS7D-081722		8/17/22	1543	GW	5	3						1		1							
URS5D-081722		8/17/22	1603	GW	5	3						1		1							
855R-081722		8/17/22	1613	GW	5	3						1		1							

Preservative Key
0. NONE
1. HCl
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

Metals K, As, Cr

shipped in one cooler.

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED NY

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)

____ 1 day ____ 2 day ____ 3 day

____ 4 day ____ 5 day

✓ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: Std.

REPORT REQUIREMENTS

____ I. Results Only

✓ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

Edata ____ Yes ____ No

INVOICE INFORMATION

PO #

BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Max Liffiton	UPS	Signature:	Signature:	Signature	
Printed Name: Maxwell Liffiton	Printed Name	Printed Name: Sarah Schwartzbauer	Printed Name	Printed Name	
Firm: Stevenson	Firm	Firm: ALS RDC	Firm	Firm	
Date/Time: 8/18/22 1300	Date/Time	Date/Time: 8/19/22 920	Date/Time	Date/Time	

R2207804 5
Olin Corporation
Pendleton

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

~~063292~~

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 2 OF 2

Project Name: Olin Pendleton	Project Number: 1229-21
Project Manager: Adam Carringer	Report CC: Adam Carringer
Company/Address: Olin Corp, 3855 North Ocoee Road, Cleveland TN 37312	
Phone #: 423-336-4057	Email: ABCarringer@Olin.com
Sampler's Signature: Maxwell Liffiton	Sampler's Printed Name: Maxwell Liftiton

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE

Preservative Key: 0. NONE 1. HCL 2. HNO_3 3. H_2SO_4 4. NaOH 5. Zn. Acetate 6. MeOH 7. $NaHSO_4$ 8. Other ____

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ○ 8260 ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)								REMARKS/ ALTERNATE DESCRIPTION
TRIP BLANKS		—	—	—	3															Provided by Lab
TEMP BLANK		—	—	—	1															Provided by Lab

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day ____ 5 day
____ Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE ____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
		UPS				
Signature	Max Liffiton			[signature]		
Printed Name	Maxwell Liffiton			Sarah Schwartzbau		
Firm	Sevenson			ALS ROC		
Date/Time	8/18/22 1300			8/19/22 920		

Distribution: White - Lab Copy; Yellow - Return to Originator

R2207804 5
Olin Corporation
Pendleton

Cooler Receipt and Preservation Check Form

Project/Client Olin Corp Folder Number

Cooler received on 8/19/22 by: SES

COURIER: ALS (UPS) FEDEX VELOCITY CLIENT

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

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

8. Temperature Readings Date 8/19/22 Time: 935 ID: IR#7 (IR#11) From: (Temp Blank) Sample Bottle

Observed Temp (°C)	4.1						
Within 0-6°C?	(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

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 SES on 8/19/22 at 940
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 8/19/22 Time: 1400 by: SES

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? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12	225320	NaOH	✓	✓	190440	4/25	**	2 pellets	223675	all >12
≤2	↓	HNO_3	✓	~~✓~~	1122031	5/23				
≤2		H_2SO_4			8/19/22					
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For (CN), Phenol, 625, 608pest, 522	✓		If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**						

Bottle lot numbers: 22-05-27 041122-3AWA 071122-3EGY

Explain all Discrepancies/ Other Comments:

* COC filled out in pencil
** All locations except for C004

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

Client: Olin Corporation **Service Request:** R2207804
Project: Pendleton/1229-21

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2207804-001.01					
	6010C,6010C,6010C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1420	R-A01 / GESMERIAN	
		8/22/2022	1404	In Lab / CDISTEFANO	
R2207804-001.02					
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1556	In Lab / FNAEGLER	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-001.03					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-001.04					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-001.05					
	Kelada-01				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-002 / GESMERIAN	
		8/25/2022	1625	R-015 / ALUGO	
		8/25/2022	1626	RT000065 / ALUGO	
		9/27/2022	1956	R-002 / ALUGO	
R2207804-001.06					
		9/27/2022	1043	SMO / MPEDRO	
R2207804-002.01					
	6010C,6010C,6010C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1420	R-A01 / GESMERIAN	
		8/22/2022	1405	In Lab / CDISTEFANO	
R2207804-002.02					
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1556	In Lab / FNAEGLER	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-002.03					

Client: Olin Corporation **Service Request:** R2207804
Project: Pendleton/1229-21

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-002.04					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-002.05					
	Kelada-01				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-002 / GESMERIAN	
		8/25/2022	1625	R-015 / ALUGO	
		8/25/2022	1626	RT000065 / ALUGO	
		9/27/2022	1956	R-002 / ALUGO	
R2207804-003.01					
	6010C,6010C,6010C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1420	R-A01 / GESMERIAN	
		8/22/2022	1405	In Lab / CDISTEFANO	
R2207804-003.02					
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1556	In Lab / FNAEGLER	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-003.03					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-003.04					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-003.05					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-002 / GESMERIAN	
		8/24/2022	1138	R-015 / GESMERIAN	
		8/24/2022	1140	RT000092 / GESMERIAN	
		9/26/2022	1616	R-002 / GESMERIAN	
R2207804-003.06					

Client: Olin Corporation **Service Request:** R2207804
Project: Pendleton/1229-21

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	Kelada-01				
		8/19/2022	1447	SMO / GESMERIAN	
		8/25/2022	1625	R-015 / ALUGO	
		8/25/2022	1626	RT000065 / ALUGO	
		9/27/2022	1956	R-002 / ALUGO	
R2207804-003.07					
		8/19/2022	1447	SMO / GESMERIAN	
		8/24/2022	1138	R-015 / GESMERIAN	
		8/24/2022	1140	RT000092 / GESMERIAN	
		9/26/2022	1616	R-002 / GESMERIAN	
R2207804-003.08					
		8/19/2022	1447	SMO / GESMERIAN	
		8/19/2022	1448	R-001 / GESMERIAN	
R2207804-003.09					
		8/19/2022	1447	SMO / GESMERIAN	
		8/19/2022	1448	R-001 / GESMERIAN	
R2207804-003.10					
		8/19/2022	1447	SMO / GESMERIAN	
		8/19/2022	1448	R-001 / GESMERIAN	
R2207804-003.11					
		8/19/2022	1447	SMO / GESMERIAN	
		8/19/2022	1448	R-001 / GESMERIAN	
R2207804-003.12					
		8/19/2022	1447	SMO / GESMERIAN	
		8/19/2022	1448	R-001 / GESMERIAN	
R2207804-003.13					
		8/19/2022	1447	SMO / GESMERIAN	
		8/19/2022	1448	R-001 / GESMERIAN	
R2207804-004.01					
	6010C,6010C,6010C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1420	R-A01 / GESMERIAN	
		8/22/2022	1405	In Lab / CDISTEFANO	

Client: Olin Corporation **Service Request:** R2207804
Project: Pendleton/1229-21

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2207804-004.02					
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1556	In Lab / FNAEGLER	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-004.03					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-004.04					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-004.05					
	Kelada-01				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-002 / GESMERIAN	
		8/25/2022	1625	R-015 / ALUGO	
		8/25/2022	1627	RT000065 / ALUGO	
		9/27/2022	1956	R-002 / ALUGO	
R2207804-005.01					
	6010C,6010C,6010C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1420	R-A01 / GESMERIAN	
		8/22/2022	1405	In Lab / CDISTEFANO	
R2207804-005.02					
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1556	In Lab / FNAEGLER	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-005.03					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-005.04					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-005.05					

Client: Olin Corporation **Service Request:** R2207804
Project: Pendleton/1229-21

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	Kelada-01				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-002 / GESMERIAN	
		8/25/2022	1625	R-015 / ALUGO	
		8/25/2022	1626	RT000065 / ALUGO	
		9/27/2022	1956	R-002 / ALUGO	
R2207804-006.01					
	6010C,6010C,6010C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1420	R-A01 / GESMERIAN	
		8/22/2022	1405	In Lab / CDISTEFANO	
R2207804-006.02					
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1556	In Lab / FNAEGLER	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-006.03					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-006.04					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-006.05					
	Kelada-01				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-002 / GESMERIAN	
		8/25/2022	1625	R-015 / ALUGO	
		8/25/2022	1627	RT000065 / ALUGO	
		9/27/2022	1956	R-002 / ALUGO	
R2207804-007.01					
	6010C,6010C,6010C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1420	R-A01 / GESMERIAN	
		8/22/2022	1405	In Lab / CDISTEFANO	
R2207804-007.02					
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	

Client: Olin Corporation **Service Request:** R2207804
Project: Pendleton/1229-21

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	8260C				
		8/23/2022	1556	In Lab / FNAEGLER	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-007.03					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-007.04					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-007.05					
	Kelada-01				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-002 / GESMERIAN	
		8/25/2022	1625	R-015 / ALUGO	
		8/25/2022	1627	RT000065 / ALUGO	
		9/27/2022	1956	R-002 / ALUGO	
R2207804-008.01					
	6010C,6010C,6010C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1420	R-A01 / GESMERIAN	
		8/22/2022	1405	In Lab / CDISTEFANO	
R2207804-008.02					
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1556	In Lab / FNAEGLER	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-008.03					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-008.04					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-008.05					
	Kelada-01				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-002 / GESMERIAN	

Client: Olin Corporation **Service Request:** R2207804
Project: Pendleton/1229-21

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	Kelada-01				
		8/25/2022	1625	R-015 / ALUGO	
		8/25/2022	1627	RT000065 / ALUGO	
		9/27/2022	1956	R-002 / ALUGO	
R2207804-009.01					
	6010C,6010C,6010C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1420	R-A01 / GESMERIAN	
		8/22/2022	1405	In Lab / CDISTEFANO	
R2207804-009.02					
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1556	In Lab / FNAEGLER	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-009.03					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-009.04					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-009.05					
	Kelada-01				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-002 / GESMERIAN	
		8/25/2022	1625	R-015 / ALUGO	
		8/25/2022	1627	RT000065 / ALUGO	
		9/27/2022	1956	R-002 / ALUGO	
R2207804-010.01					
	6010C,6010C,6010C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1420	R-A01 / GESMERIAN	
		8/22/2022	1405	In Lab / CDISTEFANO	
R2207804-010.02					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-010.03					

Client: Olin Corporation **Service Request:** R2207804
Project: Pendleton/1229-21

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1556	In Lab / FNAEGLER	
R2207804-010.04					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-010.05					
	Kelada-01				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-002 / GESMERIAN	
		8/25/2022	1625	R-015 / ALUGO	
		8/25/2022	1627	RT000065 / ALUGO	
		9/27/2022	1956	R-002 / ALUGO	
R2207804-011.01					
	6010C,6010C,6010C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1420	R-A01 / GESMERIAN	
		8/22/2022	1405	In Lab / CDISTEFANO	
R2207804-011.02					
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1556	In Lab / FNAEGLER	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-011.03					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-011.04					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-011.05					
	Kelada-01				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-002 / GESMERIAN	
		8/25/2022	1625	R-015 / ALUGO	
		8/25/2022	1627	RT000065 / ALUGO	
		9/27/2022	1956	R-002 / ALUGO	

ALS Group USA, Corp.
dba ALS Environmental

Internal Chain of Custody Report

Client: Olin Corporation **Service Request:** R2207804
Project: Pendleton/1229-21

Bottle ID	Methods	Date	Time	Sample Location / User	Disposed On
R2207804-012.01					
	8260C				
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
		8/23/2022	1556	In Lab / FNAEGLER	
		8/23/2022	1559	R-001-S10 / FNAEGLER	
R2207804-012.02					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / GESMERIAN	
R2207804-012.03					
		8/19/2022	1417	SMO / GESMERIAN	
		8/19/2022	1422	R-001 / 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.
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/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
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.
*	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.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: 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 Accreditations[1]

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.

Client: Olin Corporation
Project: Pendleton/1229-21
Service Request: R2207804

Sample Name: 8812D-081622
Lab Code: R2207804-001
Sample Matrix: Water
Date Collected: 08/16/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CDISTEFANO	CKUTZER
8260C		FNAEGLER
Kelada-01		MROGERSON

Sample Name: 8812C-081622
Lab Code: R2207804-002
Sample Matrix: Water
Date Collected: 08/16/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CDISTEFANO	CKUTZER
8260C		FNAEGLER
Kelada-01		MROGERSON

Sample Name: URS14D-081622
Lab Code: R2207804-003
Sample Matrix: Water
Date Collected: 08/16/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CDISTEFANO	CKUTZER
8260C		FNAEGLER
Kelada-01		MROGERSON

Sample Name: URS14I-081622
Lab Code: R2207804-004
Sample Matrix: Water
Date Collected: 08/16/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CDISTEFANO	CKUTZER
8260C		FNAEGLER
Kelada-01		MROGERSON

Client: Olin Corporation
Project: Pendleton/1229-21
Service Request: R2207804

Sample Name: URS9I-081722
Lab Code: R2207804-005
Sample Matrix: Water
Date Collected: 08/17/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CDISTEFANO	CKUTZER
8260C		FNAEGLER
Kelada-01		MROGERSON

Sample Name: URS9D-081722
Lab Code: R2207804-006
Sample Matrix: Water
Date Collected: 08/17/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CDISTEFANO	CKUTZER
8260C		FNAEGLER
Kelada-01		MROGERSON

Sample Name: BLIND DUPX-081722
Lab Code: R2207804-007
Sample Matrix: Water
Date Collected: 08/17/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CDISTEFANO	CKUTZER
8260C		FNAEGLER
Kelada-01		MROGERSON

Sample Name: 857R-081722
Lab Code: R2207804-008
Sample Matrix: Water
Date Collected: 08/17/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CDISTEFANO	CKUTZER
8260C		FNAEGLER
Kelada-01		MROGERSON

Client: Olin Corporation
Project: Pendleton/1229-21
Service Request: R2207804

Sample Name: URS7D-081722
Lab Code: R2207804-009
Sample Matrix: Water
Date Collected: 08/17/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CDISTEFANO	CKUTZER
8260C		FNAEGLER
Kelada-01		MROGERSON

Sample Name: URS5D-081722
Lab Code: R2207804-010
Sample Matrix: Water
Date Collected: 08/17/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CDISTEFANO	CKUTZER
8260C		FNAEGLER
Kelada-01		MROGERSON

Sample Name: 855R-081722
Lab Code: R2207804-011
Sample Matrix: Water
Date Collected: 08/17/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CDISTEFANO	CKUTZER
8260C		FNAEGLER
Kelada-01		MROGERSON

Sample Name: TRIP BLANK
Lab Code: R2207804-012
Sample Matrix: Water
Date Collected: 08/16/22
Date Received: 08/19/22

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER

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
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Volatile Organic Compounds by GC/MS

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Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/16/22 12:20
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	8812D-081622	**Units:**	ug/L
Lab Code:	R2207804-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 20:35	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 20:35	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 20:35	
Chloroethane	ND U	1.0	0.23	1	08/23/22 20:35	
Chloroform	ND U	1.0	0.24	1	08/23/22 20:35	
Chloromethane	ND U	1.0	0.28	1	08/23/22 20:35	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 20:35	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 20:35	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 20:35	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 20:35	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 20:35	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 20:35	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 20:35	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 20:35	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 20:35	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 20:35	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 20:35	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 20:35	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 20:35	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 20:35	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 20:35	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 20:35	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	08/23/22 20:35	
Toluene-d8	107	87 - 121	08/23/22 20:35	
Dibromofluoromethane	111	80 - 116	08/23/22 20:35	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/16/22 12:35
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	8812C-081622	**Units:**	ug/L
Lab Code:	R2207804-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 20:57	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 20:57	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 20:57	
Chloroethane	ND U	1.0	0.23	1	08/23/22 20:57	
Chloroform	ND U	1.0	0.24	1	08/23/22 20:57	
Chloromethane	ND U	1.0	0.28	1	08/23/22 20:57	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 20:57	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 20:57	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 20:57	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 20:57	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 20:57	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 20:57	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 20:57	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 20:57	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 20:57	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 20:57	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 20:57	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 20:57	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 20:57	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 20:57	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 20:57	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 20:57	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	08/23/22 20:57	
Toluene-d8	105	87 - 121	08/23/22 20:57	
Dibromofluoromethane	109	80 - 116	08/23/22 20:57	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/16/22 14:40
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS14D-081622	**Units:**	ug/L
Lab Code:	R2207804-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 21:19	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 21:19	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 21:19	
Chloroethane	ND U	1.0	0.23	1	08/23/22 21:19	
Chloroform	ND U	1.0	0.24	1	08/23/22 21:19	
Chloromethane	ND U	1.0	0.28	1	08/23/22 21:19	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 21:19	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 21:19	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 21:19	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 21:19	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 21:19	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 21:19	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 21:19	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 21:19	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 21:19	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 21:19	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 21:19	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 21:19	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 21:19	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 21:19	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 21:19	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 21:19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85 - 122	08/23/22 21:19	
Toluene-d8	105	87 - 121	08/23/22 21:19	
Dibromofluoromethane	111	80 - 116	08/23/22 21:19	

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/16/22 15:24
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS14I-081622	**Units:**	ug/L
Lab Code:	R2207804-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 21:41	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 21:41	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 21:41	
Chloroethane	ND U	1.0	0.23	1	08/23/22 21:41	
Chloroform	ND U	1.0	0.24	1	08/23/22 21:41	
Chloromethane	ND U	1.0	0.28	1	08/23/22 21:41	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 21:41	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 21:41	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 21:41	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 21:41	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 21:41	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 21:41	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 21:41	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 21:41	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 21:41	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 21:41	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 21:41	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 21:41	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 21:41	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 21:41	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 21:41	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 21:41	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85 - 122	08/23/22 21:41	
Toluene-d8	107	87 - 121	08/23/22 21:41	
Dibromofluoromethane	106	80 - 116	08/23/22 21:41	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 10:15
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS9I-081722	**Units:**	ug/L
Lab Code:	R2207804-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 22:03	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 22:03	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 22:03	
Chloroethane	ND U	1.0	0.23	1	08/23/22 22:03	
Chloroform	ND U	1.0	0.24	1	08/23/22 22:03	
Chloromethane	ND U	1.0	0.28	1	08/23/22 22:03	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 22:03	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 22:03	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 22:03	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 22:03	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 22:03	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 22:03	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 22:03	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 22:03	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 22:03	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 22:03	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 22:03	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 22:03	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 22:03	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 22:03	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 22:03	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 22:03	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	08/23/22 22:03	
Toluene-d8	109	87 - 121	08/23/22 22:03	
Dibromofluoromethane	108	80 - 116	08/23/22 22:03	

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 11:17
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS9D-081722	**Units:**	ug/L
Lab Code:	R2207804-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 22:24	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 22:24	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 22:24	
Chloroethane	ND U	1.0	0.23	1	08/23/22 22:24	
Chloroform	ND U	1.0	0.24	1	08/23/22 22:24	
Chloromethane	ND U	1.0	0.28	1	08/23/22 22:24	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 22:24	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 22:24	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 22:24	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 22:24	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 22:24	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 22:24	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 22:24	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 22:24	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 22:24	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 22:24	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 22:24	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 22:24	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 22:24	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 22:24	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 22:24	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 22:24	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 122	08/23/22 22:24	
Toluene-d8	108	87 - 121	08/23/22 22:24	
Dibromofluoromethane	112	80 - 116	08/23/22 22:24	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	BLIND DUPX-081722	**Units:**	ug/L
Lab Code:	R2207804-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 22:46	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 22:46	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 22:46	
Chloroethane	ND U	1.0	0.23	1	08/23/22 22:46	
Chloroform	ND U	1.0	0.24	1	08/23/22 22:46	
Chloromethane	ND U	1.0	0.28	1	08/23/22 22:46	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 22:46	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 22:46	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 22:46	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 22:46	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 22:46	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 22:46	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 22:46	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 22:46	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 22:46	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 22:46	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 22:46	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 22:46	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 22:46	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 22:46	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 22:46	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 22:46	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	08/23/22 22:46	
Toluene-d8	107	87 - 121	08/23/22 22:46	
Dibromofluoromethane	108	80 - 116	08/23/22 22:46	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 14:48
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	857R-081722	**Units:**	ug/L
Lab Code:	R2207804-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 23:08	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 23:08	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 23:08	
Chloroethane	ND U	1.0	0.23	1	08/23/22 23:08	
Chloroform	ND U	1.0	0.24	1	08/23/22 23:08	
Chloromethane	ND U	1.0	0.28	1	08/23/22 23:08	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 23:08	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 23:08	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 23:08	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 23:08	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 23:08	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 23:08	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 23:08	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 23:08	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 23:08	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 23:08	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 23:08	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 23:08	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 23:08	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 23:08	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 23:08	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 23:08	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	08/23/22 23:08	
Toluene-d8	106	87 - 121	08/23/22 23:08	
Dibromofluoromethane	110	80 - 116	08/23/22 23:08	

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 15:43
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS7D-081722	**Units:**	ug/L
Lab Code:	R2207804-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 23:30	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 23:30	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 23:30	
Chloroethane	ND U	1.0	0.23	1	08/23/22 23:30	
Chloroform	ND U	1.0	0.24	1	08/23/22 23:30	
Chloromethane	ND U	1.0	0.28	1	08/23/22 23:30	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 23:30	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 23:30	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 23:30	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 23:30	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 23:30	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 23:30	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 23:30	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 23:30	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 23:30	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 23:30	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 23:30	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 23:30	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 23:30	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 23:30	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 23:30	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 23:30	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	85 - 122	08/23/22 23:30	
Toluene-d8	106	87 - 121	08/23/22 23:30	
Dibromofluoromethane	108	80 - 116	08/23/22 23:30	

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 16:03
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS5D-081722	**Units:**	ug/L
Lab Code:	R2207804-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 23:52	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 23:52	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 23:52	
Chloroethane	ND U	1.0	0.23	1	08/23/22 23:52	
Chloroform	ND U	1.0	0.24	1	08/23/22 23:52	
Chloromethane	ND U	1.0	0.28	1	08/23/22 23:52	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 23:52	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 23:52	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 23:52	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 23:52	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 23:52	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 23:52	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 23:52	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 23:52	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 23:52	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 23:52	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 23:52	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 23:52	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 23:52	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 23:52	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 23:52	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 23:52	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	85 - 122	08/23/22 23:52	
Toluene-d8	103	87 - 121	08/23/22 23:52	
Dibromofluoromethane	106	80 - 116	08/23/22 23:52	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 16:13
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	855R-081722	**Units:**	ug/L
Lab Code:	R2207804-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/24/22 00:14	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/24/22 00:14	
Chlorobenzene	ND U	1.0	0.20	1	08/24/22 00:14	
Chloroethane	ND U	1.0	0.23	1	08/24/22 00:14	
Chloroform	ND U	1.0	0.24	1	08/24/22 00:14	
Chloromethane	ND U	1.0	0.28	1	08/24/22 00:14	
Dibromochloromethane	ND U	1.0	0.20	1	08/24/22 00:14	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/24/22 00:14	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/24/22 00:14	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/24/22 00:14	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/24/22 00:14	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/24/22 00:14	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/24/22 00:14	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/24/22 00:14	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/24/22 00:14	
Methylene Chloride	ND U	1.0	0.65	1	08/24/22 00:14	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/24/22 00:14	
Tetrachloroethene	ND U	1.0	0.21	1	08/24/22 00:14	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/24/22 00:14	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/24/22 00:14	
Trichloroethene	ND U	1.0	0.20	1	08/24/22 00:14	
Vinyl Chloride	**0.23 J**	1.0	0.20	1	08/24/22 00:14	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	85 - 122	08/24/22 00:14	
Toluene-d8	105	87 - 121	08/24/22 00:14	
Dibromofluoromethane	110	80 - 116	08/24/22 00:14	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/16/22
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	TRIP BLANK	**Units:**	ug/L
Lab Code:	R2207804-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 20:13	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 20:13	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 20:13	
Chloroethane	ND U	1.0	0.23	1	08/23/22 20:13	
Chloroform	ND U	1.0	0.24	1	08/23/22 20:13	
Chloromethane	ND U	1.0	0.28	1	08/23/22 20:13	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 20:13	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 20:13	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 20:13	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 20:13	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 20:13	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 20:13	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 20:13	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 20:13	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 20:13	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 20:13	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 20:13	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 20:13	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 20:13	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 20:13	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 20:13	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 20:13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	08/23/22 20:13	
Toluene-d8	109	87 - 121	08/23/22 20:13	
Dibromofluoromethane	110	80 - 116	08/23/22 20:13	

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

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Inorganic Analysis Data Sheet

Metals by EPA 6010C

Workorder

R2207804

Client

Olin Corporation

Project

Pendleton

09/29/2022

ALS Environmental–Rochester Laboratory

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

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Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-001	Collected	Received	Matrix / Units	Prep Method	Prep Amount
8812D-081622	08/16/22 1220	08/19/22 0920	Water ug/L	3010A	Initial 50mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	6	U	6	10	1	08/23/22 23:15	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	10	J	2	10	1	08/23/22 23:15	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	11500		400	2000	1	08/23/22 23:15	RPAES06_775135	6AUG23A	08/22/22

Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-002		Collected	Received	Matrix / Units	Prep Method	Prep Amount
8812C-081622		08/16/22 1235	08/19/22 0920	Water ug/L	3010A	Initial 50mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	15		6	10	1	08/23/22 23:18	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	6	J	2	10	1	08/23/22 23:18	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	3500		400	2000	1	08/23/22 23:18	RPAES06_775135	6AUG23A	08/22/22

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Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-003			Collected	Received	Matrix / Units	Prep Method	Prep Amount
URS14D-081622			08/16/22 1440	08/19/22 0920	Water ug/L	3010A	Initial 50mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	6	U	6	10	1	08/23/22 23:21	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	2	J	2	10	1	08/23/22 23:21	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	3100		400	2000	1	08/23/22 23:21	RPAES06_775135	6AUG23A	08/22/22

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Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-004	Collected	Received	Matrix / Units	Prep Method	Prep Amount
URS14I-081622	08/16/22 1524	08/19/22 0920	Water ug/L	3010A	Initial 50mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	10		6	10	1	08/23/22 23:37	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	30		2	10	1	08/23/22 23:37	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	9800		400	2000	1	08/23/22 23:37	RPAES06_775135	6AUG23A	08/22/22

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Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-005	Collected	Received	Matrix / Units	Prep Method	Prep Amount
URS9I-081722	08/17/22 1015	08/19/22 0920	Water ug/L	3010A	Initial 50mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	6	U	6	10	1	08/23/22 23:41	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	2	U	2	10	1	08/23/22 23:41	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	2800		400	2000	1	08/23/22 23:41	RPAES06_775135	6AUG23A	08/22/22

Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-006				Collected	Received	Matrix / Units	Prep Method	Prep Amount
URS9D-081722				08/17/22 1117	08/19/22 0920	Water ug/L	3010A	Initial 50mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	6	U	6	10	1	08/23/22 23:44	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	2	U	2	10	1	08/23/22 23:44	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	3300		400	2000	1	08/23/22 23:44	RPAES06_775135	6AUG23A	08/22/22

Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-007	Collected	Received	Matrix / Units	Prep Method	Prep Amount
BLIND DUPX-081722		08/19/22 0920	Water ug/L	3010A	Initial 50mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	6	U	6	10	1	08/23/22 23:54	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	2	U	2	10	1	08/23/22 23:54	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	2800		400	2000	1	08/23/22 23:54	RPAES06_775135	6AUG23A	08/22/22

Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-008	Collected	Received	Matrix / Units	Prep Method	Prep Amount
857R-081722	08/17/22 1448	08/19/22 0920	Water ug/L	3010A	Initial 50mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	6	U	6	10	1	08/23/22 23:57	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	10		2	10	1	08/23/22 23:57	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	8900		400	2000	1	08/23/22 23:57	RPAES06_775135	6AUG23A	08/22/22

Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-009	Collected	Received	Matrix / Units	Prep Method	Prep Amount
URS7D-081722	08/17/22 1543	08/19/22 0920	Water ug/L	3010A	Initial 50mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	6	U	6	10	1	08/24/22 00:00	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	2	J	2	10	1	08/24/22 00:00	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	6300		400	2000	1	08/24/22 00:00	RPAES06_775135	6AUG23A	08/22/22

Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-010	Collected	Received	Matrix / Units	Prep Method	Prep Amount
URS5D-081722	08/17/22 1603	08/19/22 0920	Water ug/L	3010A	Initial 50mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	10	J	6	10	1	08/24/22 00:03	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	5	J	2	10	1	08/24/22 00:03	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	2700		400	2000	1	08/24/22 00:03	RPAES06_775135	6AUG23A	08/22/22

Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-011	Collected	Received	Matrix / Units	Prep Method	Prep Amount
855R-081722	08/17/22 1613	08/19/22 0920	Water ug/L	3010A	Initial 50mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	6	U	6	10	1	08/24/22 00:07	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	2	U	2	10	1	08/24/22 00:07	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	1900	J	400	2000	1	08/24/22 00:07	RPAES06_775135	6AUG23A	08/22/22

Form 1 - Inorganic Analysis Data Sheet

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

R2207804-MB

Method Blank

Matrix / Units	Prep Method	Prep Amount
Water ug/L	3010A	Initial 50.0mL Final 50mL

Analyte	MC	Result	Q	DL	LOQ	DF	Analysis Date	Run ID	DataFile	PrepDate
Arsenic, Total	P	6	U	6	10	1	08/23/22 22:16	RPAES06_775135	6AUG23A	08/22/22
Chromium, Total	P	2	U	2	10	1	08/23/22 22:16	RPAES06_775135	6AUG23A	08/22/22
Potassium, Total	P	400	U	400	2000	1	08/23/22 22:16	RPAES06_775135	6AUG23A	08/22/22

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

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/16/22 12:20
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	8812D-081622	**Basis:**	NA
Lab Code:	R2207804-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 20:36	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/16/22 12:35
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	8812C-081622	**Basis:**	NA
Lab Code:	R2207804-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 20:40	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/16/22 14:40
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS14D-081622	**Basis:**	NA
Lab Code:	R2207804-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 20:44	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/16/22 15:24
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS14I-081622	**Basis:**	NA
Lab Code:	R2207804-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 20:56	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 10:15
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS9I-081722	**Basis:**	NA
Lab Code:	R2207804-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 21:00	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 11:17
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS9D-081722	**Basis:**	NA
Lab Code:	R2207804-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 21:04	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	BLIND DUPX-081722	**Basis:**	NA
Lab Code:	R2207804-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 21:08	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 14:48
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	857R-081722	**Basis:**	NA
Lab Code:	R2207804-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 21:28	

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 15:43
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS7D-081722	**Basis:**	NA
Lab Code:	R2207804-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 21:32	

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 16:03
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	URS5D-081722	**Basis:**	NA
Lab Code:	R2207804-010		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 21:36	

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/17/22 16:13
Sample Matrix:	Water	**Date Received:**	08/19/22 09:20
Sample Name:	855R-081722	**Basis:**	NA
Lab Code:	R2207804-011		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 21:40	

QC Summary Forms

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Volatile Organic Compounds by GC/MS

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Client: Olin Corporation **Service Request:** R2207804
Project: Pendleton/1229-21
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85-122	Toluene-d8 87-121	Dibromofluoromethane 80-116
8812D-081622	R2207804-001	94	107	111
8812C-081622	R2207804-002	93	105	109
URS14D-081622	R2207804-003	94	105	111
URS14I-081622	R2207804-004	95	107	106
URS9I-081722	R2207804-005	98	109	108
URS9D-081722	R2207804-006	92	108	112
BLIND DUPX-081722	R2207804-007	93	107	108
857R-081722	R2207804-008	93	106	110
URS7D-081722	R2207804-009	92	106	108
URS5D-081722	R2207804-010	90	103	106
855R-081722	R2207804-011	93	105	110
TRIP BLANK	R2207804-012	96	109	110
Method Blank	RQ2210093-04	96	107	109
Lab Control Sample	RQ2210093-03	96	106	110
URS14D-081622 MS	RQ2210093-05	99	107	109
URS14D-081622 DMS	RQ2210093-06	101	108	112

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/16/22
Sample Matrix:	Water	**Date Received:**	08/19/22
		Date Analyzed:	08/24/22
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	URS14D-081622	**Units:**	ug/L
Lab Code:	R2207804-003	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ2210093-05			Duplicate Matrix Spike RQ2210093-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Bromodichloromethane	ND U	55.4	50.0	111	54.2	50.0	108	78-133	2	30
Carbon Tetrachloride	ND U	59.3	50.0	119	58.3	50.0	117	65-135	2	30
Chlorobenzene	ND U	47.5	50.0	95	47.5	50.0	95	76-125	<1	30
Chloroethane	ND U	49.9	50.0	100	48.1	50.0	96	48-146	4	30
Chloroform	ND U	55.1	50.0	110	53.8	50.0	108	75-130	2	30
Chloromethane	ND U	58.5	50.0	117	54.7	50.0	109	55-160	7	30
Dibromochloromethane	ND U	57.0	50.0	114	59.4	50.0	119	72-128	4	30
1,1-Dichloroethane	ND U	53.2	50.0	106	51.3	50.0	103	74-132	4	30
1,2-Dichloroethane	ND U	50.1	50.0	100	49.0	50.0	98	68-130	2	30
1,1-Dichloroethene	ND U	57.8	50.0	116	55.9	50.0	112	71-118	3	30
cis-1,2-Dichloroethene	ND U	53.3	50.0	107	52.7	50.0	105	77-127	1	30
trans-1,2-Dichloroethene	ND U	56.0	50.0	112	51.3	50.0	103	73-118	9	30
1,2-Dichloropropane	ND U	46.9	50.0	94	47.3	50.0	95	79-124	<1	30
cis-1,3-Dichloropropene	ND U	47.6	50.0	95	48.8	50.0	98	52-134	2	30
trans-1,3-Dichloropropene	ND U	45.7	50.0	91	46.9	50.0	94	71-133	3	30
Methylene Chloride	ND U	52.9	50.0	106	50.4	50.0	101	73-122	5	30
1,1,2,2-Tetrachloroethane	ND U	45.7	50.0	91	44.0	50.0	88	72-122	4	30
Tetrachloroethene	ND U	50.4	50.0	101	50.7	50.0	101	72-125	<1	30
1,1,1-Trichloroethane	ND U	57.1	50.0	114	55.5	50.0	111	74-127	3	30
1,1,2-Trichloroethane	ND U	52.0	50.0	104	50.9	50.0	102	82-121	2	30
Trichloroethene	ND U	53.0	50.0	106	51.2	50.0	102	74-122	4	30
Vinyl Chloride	ND U	45.5	50.0	91	46.1	50.0	92	74-159	1	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.

Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2210093-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Bromodichloromethane	ND U	1.0	0.20	1	08/23/22 16:56	
Carbon Tetrachloride	ND U	1.0	0.34	1	08/23/22 16:56	
Chlorobenzene	ND U	1.0	0.20	1	08/23/22 16:56	
Chloroethane	ND U	1.0	0.23	1	08/23/22 16:56	
Chloroform	ND U	1.0	0.24	1	08/23/22 16:56	
Chloromethane	ND U	1.0	0.28	1	08/23/22 16:56	
Dibromochloromethane	ND U	1.0	0.20	1	08/23/22 16:56	
1,1-Dichloroethane	ND U	1.0	0.20	1	08/23/22 16:56	
1,2-Dichloroethane	ND U	1.0	0.20	1	08/23/22 16:56	
1,1-Dichloroethene	ND U	1.0	0.20	1	08/23/22 16:56	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	08/23/22 16:56	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	08/23/22 16:56	
1,2-Dichloropropane	ND U	1.0	0.20	1	08/23/22 16:56	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	08/23/22 16:56	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	08/23/22 16:56	
Methylene Chloride	ND U	1.0	0.65	1	08/23/22 16:56	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	08/23/22 16:56	
Tetrachloroethene	ND U	1.0	0.21	1	08/23/22 16:56	
1,1,1-Trichloroethane	ND U	1.0	0.20	1	08/23/22 16:56	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	08/23/22 16:56	
Trichloroethene	ND U	1.0	0.20	1	08/23/22 16:56	
Vinyl Chloride	ND U	1.0	0.20	1	08/23/22 16:56	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	08/23/22 16:56	
Toluene-d8	107	87 - 121	08/23/22 16:56	
Dibromofluoromethane	109	80 - 116	08/23/22 16:56	

Client: Olin Corporation
Project: Pendleton/1229-21
Sample Matrix: Water

Service Request: R2207804
Date Analyzed: 08/23/22

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ2210093-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Bromodichloromethane	8260C	23.9	20.0	119	81-123
Carbon Tetrachloride	8260C	23.5	20.0	117	70-127
Chlorobenzene	8260C	20.1	20.0	100	80-121
Chloroethane	8260C	19.7	20.0	99	62-131
Chloroform	8260C	22.2	20.0	111	79-120
Chloromethane	8260C	25.6	20.0	128	65-135
Dibromochloromethane	8260C	25.0	20.0	125	72-128
1,1-Dichloroethane	8260C	21.3	20.0	106	80-124
1,2-Dichloroethane	8260C	19.4	20.0	97	71-127
1,1-Dichloroethene	8260C	22.6	20.0	113	71-118
cis-1,2-Dichloroethene	8260C	22.6	20.0	113	80-121
trans-1,2-Dichloroethene	8260C	22.3	20.0	111	73-118
1,2-Dichloropropane	8260C	19.2	20.0	96	80-119
cis-1,3-Dichloropropene	8260C	20.8	20.0	104	77-122
trans-1,3-Dichloropropene	8260C	21.9	20.0	110	71-133
Methylene Chloride	8260C	21.6	20.0	108	73-122
1,1,2,2-Tetrachloroethane	8260C	19.2	20.0	96	78-126
Tetrachloroethene	8260C	20.8	20.0	104	72-125
1,1,1-Trichloroethane	8260C	22.8	20.0	114	75-125
1,1,2-Trichloroethane	8260C	20.8	20.0	104	82-121
Trichloroethene	8260C	21.7	20.0	108	74-122
Vinyl Chloride	8260C	19.0	20.0	95	74-159

Metals

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Form 3

right solutions.
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Blanks

Metals by EPA 6010C

Workorder

R2207804

Client

Olin Corporation

Project

Pendleton

09/29/2022

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Form 3 - Blanks

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

RPAES06_775135			ICB		CCB		CCB		MB404990		CCB		CCB	
		Run Date	08/23/22		08/23/22		08/23/22		08/23/22		08/23/22		08/23/22	
Units		Run Time	17:04		21:57		22:13		22:16		22:52		23:11	
ug/L		Data File	6AUG23A		6AUG23A		6AUG23A		6AUG23A		6AUG23A		6AUG23A	
Analyte	DL	LOQ	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Arsenic	6	10	6	U	6	U	6	U	6	U	6	U	6	U
Chromium	2	10	2	U	2	U	2	U	2	U	2	U	2	U
Potassium	400	2000	400	U	400	U	400	U	400	U	400	U	400	U

RPAES06_775135			CCB		CCB		CCB		CCB	
		Run Date	08/23/22		08/24/22		08/24/22		08/24/22	
Units		Run Time	23:50		00:29		00:42		00:59	
ug/L		Data File	6AUG23A		6AUG23A		6AUG23A		6AUG23A	
Analyte	DL	LOQ	Result	Q	Result	Q	Result	Q	Result	Q
Arsenic	6	10	6	U	6	U	6	U	6	U
Chromium	2	10	2	U	2	U	2	U	2	U
Potassium	400	2000	400	U	400	U	400	U	400	U

Form 5A

right solutions.
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Matrix Spike Sample Recovery

Metals by EPA 6010C

Workorder

R2207804

Client

Olin Corporation

Project

Pendleton

09/29/2022

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Form 5A - Matrix Spike Sample Recovery

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

URS14D-081622				R2207804-003			R2207804-003MS			R2207804-003DMS					
Samp Matrix	Water		**Run Date**	08/23/22			08/23/22			08/23/22					
Prep Method	EPA 3005A/3010A	**Units**	**Run Time**	23:21			23:24			23:28					
Prep Batch	404990 08/22/22	ug/L	**Prep Amt**	50 mL			50 mL			50 mL					
Analyte	%R Limits	Spike Added	DF	Sample Result	Q	MS Result	%R	Q	MSD Result	%R	Q	RPD Limit	RPD	Q
Arsenic, Total	75-125	40	1	0	U	40	99		39	98		20	<1	
Chromium, Total	75-125	200	1	2	J	206	102		206	102		20	<1	
Potassium, Total	75-125	20000	1	3100		22900	99		22900	99		20	<1	

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

Form 7

Laboratory Control Sample

Metals by EPA 6010C

Workorder

R2207804

Client

Olin Corporation

Project

Pendleton

09/29/2022

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Form 7 - Laboratory Control Sample

Client Olin Corporation

Project Pendleton

Workorder
R2207804

Metals by EPA 6010C

RPAES06_775135				R2207804-LCS			
QC Matrix	Water		Run Date	08/23/22			
Prep Method	EPA 3005A/3010A	Units	Run Time	22:19			
Prep Batch	404990 08/22/22	ug/L	Prep Amt	50.0 mL			
Analyte		%R Limits	Spike Added	LCS Result	%R	Q	
Arsenic		80-120	40	37.8	95		
Chromium		80-120	200	205	103		
Potassium		80-120	20000	18600	93		

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

General Chemistry

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Analytical Report

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R2207804-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Cyanide, Total	Kelada-01	ND U	mg/L	0.0050	1	08/23/22 19:23	

Client:	Olin Corporation	**Service Request:**	R2207804
Project:	Pendleton/1229-21	**Date Collected:**	08/16/22
Sample Matrix:	Water	**Date Received:**	08/19/22
		Date Analyzed:	08/23/22

Duplicate Matrix Spike Summary
Cyanide, Total

Sample Name:	URS14D-081622	**Units:**	mg/L
Lab Code:	R2207804-003	**Basis:**	NA
Analysis Method:	Kelada-01		

		Matrix Spike R2207804-003MS			Duplicate Matrix Spike R2207804-003DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	ND U	0.0998	0.100	100	0.103	0.100	103	90-110	3	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.

Client: Olin Corporation
Project: Pendleton/1229-21
Sample Matrix: Water

Service Request: R2207804
Date Analyzed: 08/23/22

Lab Control Sample Summary
General Chemistry Parameters

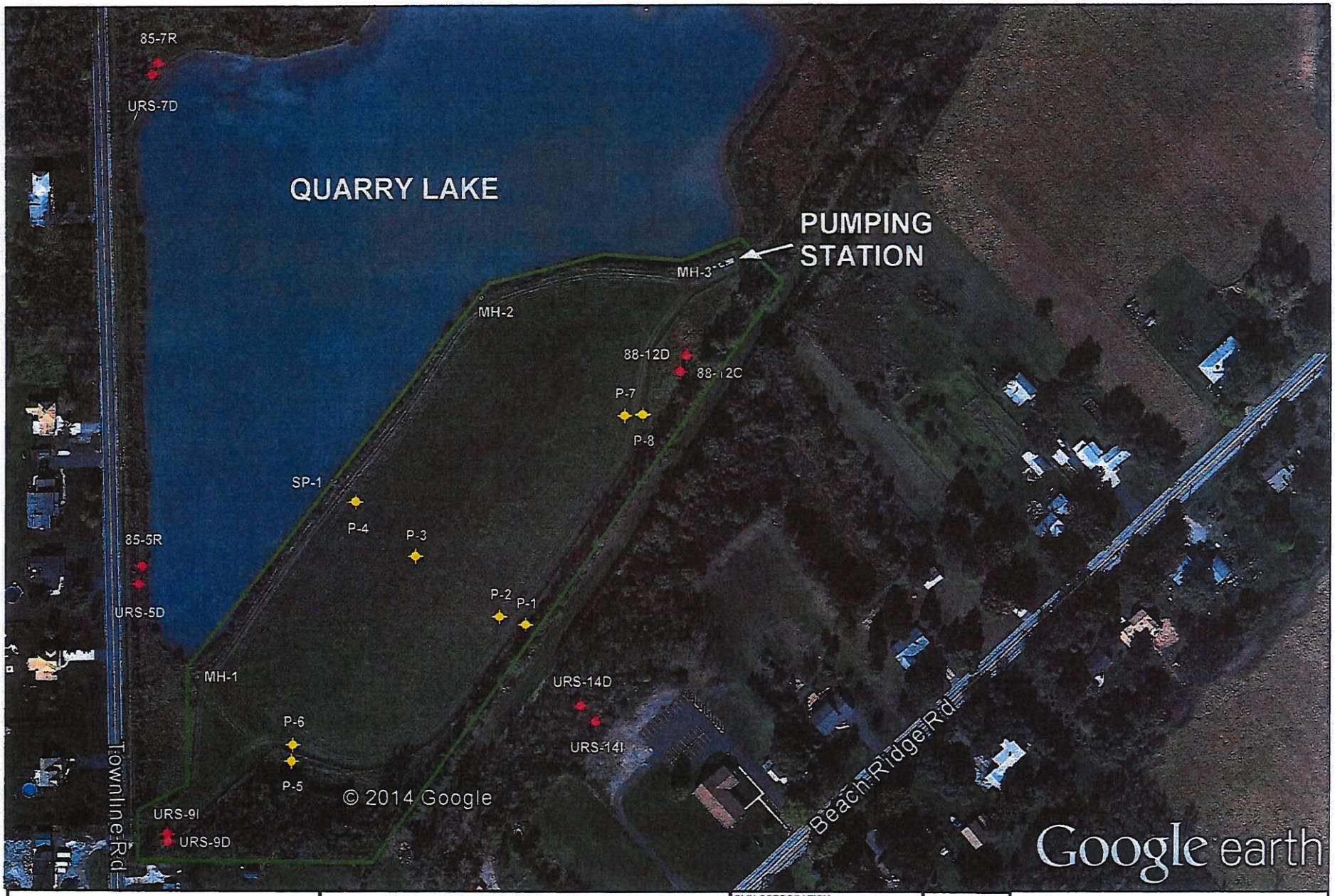
Units:mg/L
Basis:NA

Lab Control Sample
R2207804-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	Kelada-01	0.0992	0.100	99	90-110

ATTACHMENT D

Well Location Map and Groundwater Elevations



Olin	**OLIN CORPORATION** Environmental Remediation Group 3855 N. Ocoee St., Ste. 200 Cleveland, tennessee 37312 423/336-4000		OLIN CORPORATION FRONTIER CHEMICAL PENDLETON SITE PENDLETON, NY	N	SCALE: 1 INCH = 200 FEET PIEZOMETER WELL MONITORING WELL SITE BOUNDRY MH = MANHOLE SP = STAND PIPE
	SCALE: NOTED	DRAWN BY: JRH / DATE: 8-29-2019 CHKD. BY: ABC / DATE: 9-5-2019	SITE MAP MONITORING WELL/PEIZOMETER LOCATIONS APRIL 2019	FIG. NO. 1	

Summary of Groundwater Elevations
Spring 2022 - Fall 2022
Pendleton Site

	POSITION	LOCATION	Top of Riser Elevation FT	Depth to Water FT	8998 4/12/2022	9126 8/18/2022
P-1	(O)	EASTERN PORTION OF	583.21	9.34	583.21	573.87
P-2	(I)	CAPPED AREA	582.90	5.99	579.09	576.91
P-3	(I)	CENTER OF CAPPED AREA	606.33	29.42	577.22	576.91
P-4	(I)	ADJACENT TO QUARRY	582.31	8.84	572.52	573.47
SP-1	(T)	LAKE	579.86		564.9	
P-5	(O)	SOUTHERN PORTION OF	583.05	8.32	580.16	574.73
P-6	(I)	CAPPED AREA	584.45	9.89	575.55	574.56
P-7	(I)	NORTHERN PORTION OF	580.97	5.20	577.91	575.77
P-8	(O)	CAPPED AREA	582.83	7.53	580.62	575.3
URS-14I		UPGRADIENT WELL NEST	581.14	4.71	580.44	576.43
URS-14D		IN CHURCH PARKING LOT	580.71	6.38	575.91	574.33
URS-9I		SOUTHERN WELL NEST	581.68	7.47	575.86	574.21
URS-9D		ALONG TOWN LINE ROAD	580.80	6.81	575.68	573.99
85-5R		MIDDLE WELL NEST ALONG	580.84	7.32	577.47	573.52
URS-5D		TOWN LINE ROAD	580.60	6.80	575.69	573.8
85-7R		NORTH WELL NEST ALONG	577.90	3.40	575.79	574.5
URS-7D		TOWN LINE ROAD	579.35	5.57	575.87	573.78
88-12C		WELL NEST OUTSIDE	583.12	8.81	576.92	574.31
88-12D		NORTHEAST PORTION OF	582.87	8.21	576.12	574.66
QUARRY LAKE					578.52	576.84

Notes:
Elevation based on USGS Datum.
O = piezometer located outside of capped area.
I = piezometer located inside capped area.
T = standpipe located within the ground water collection trench.

ATTACHMENT E

Semi-Annual Field Observation Report and
Monthly Inspection Checklist

GLYNN GROUP
ENGINEERING & ARCHITECTURE, PLLC

FIELD OBSERVATION REPORT

Civil • Structural • Architecture
Material Testing • Consulting

PROJECT NO.: 94-1014-O REPORT NO.: 22-01 DATE: 4/12/22 PAGE: 1 OF 2

PROJECT: Pendleton – Frontier Chemical Site DAY: Tuesday

SUBJECT: Lake Level Survey, Semi-Annual Insp. PROJECT TIME: 10:15 am – 12:00 pm

CLIENT: Sevenson Environmental Services, Inc. SITE TIME: 10:30 am – 11:45 am

WEATHER: Mild, Sunny (63°F) PHOTOS: Yes X No

- As notified by Mike Walker (Sevenson Environmental), visit the Pendleton site to record the surface water elevation of the lake to coincide with the semi-annual site inspection event.
- The Quarry Lake surface water level near the pre-treatment vault is recorded by level survey using the top of the pre-treatment vault benchmark El. 580.50'. The lake water elevation is recorded at El. 578.52'.
- Max and Greg (SES) are on site for the semi-annual inspection and to provide site access.
- Following are cursory observations made while on site:
  - The capped area is noted to be in generally good condition. An active rodent burrow is noted at the east end of the capped area just above P-7. SES is aware of the active burrow.
  - The overflow weir is inundated with approx. 1.4' of water.
  - There is standing water in the Zone "D" wetlands along the northeast side of the site.
  - The site access roads are generally in fair condition, with some standing water wet some localized rutting.
  - SES notes that other annual inspection items (pinch valve operation, cleanout riser inspections, etc.) will be completed as part of this inspection event.
- Leave site at approx. 11:45 pm, returning to GGE's Lockport office to prepare this report.

PERSONNEL ON SITE / CONTACTED:

Max, Greg – Sevenson

DISTRIBUTION:

Mike Walker – Sevenson
David Share, P.E. – Pendleton PRP Group
Adam Carringer – Pendleton PRP Grp
DAILY MANHOURS: 2.0 + report

Jesse E. Grossman, P.E. - Engineering Manager

Mark W. Glynn, P.E.

GLYNN GROUP ENGINEERING & ARCHITECTURE, PLLC
415 South Transit Street, Lockport, New York 14094
voice 716.625.6933 / fax 716.625.6983
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FIELD OBSERVATION REPORT

PROJECT NO.: 94-1014-O REPORT NO.: 22-01 DATE: 4/12/22 PAGE: 2 OF 2

PROJECT: Pendleton – Frontier Chemical Site DAY: Tuesday

SUBJECT: Lake Level Survey, Semi-Annual Insp. PROJECT TIME: 10:15 am – 12:00 pm

CLIENT: Sevenson Environmental Services, Inc. SITE TIME: 10:30 am – 11:45 am

4.12.22 Site Photos:

Inundated Overflow Weir

Rodent Burrow at East End of Cap above P7

Frontier Chemical – Pendleton
Site No. 932043
Semi-Annual Inspection Checklist

Date: 4/12/21 Time In: 0830 Time Out:

Inspector: Max Liffiton, Greg Ernst

Inspector Signature Max Liffiton

Weather:	Sunny, 50°F

Item	Task	Response		Comments
		Yes	No	
Low-Permeability Cover:	**Visually Inspect Surface Conditions**			
	1. Erosion problem?		✓	
	2. Lack or thinning of vegetation?		✓	
	3. Mowing required?		✓	
	4. Drainage problems?		✓	
	5. Areas of settlement?		✓	
	6. Areas of slope instability?		✓	
	7. Areas of damage?	✓		Groundhog burrow near P-7 on landfill cap.
Ground Water Collection and Conveyance System:	**Visually Inspect Manholes and Cleanouts**			
	1. Buildup of solids/precipitates to the extent that the flow of groundwater is affected?		✓	
	2. Measure water levels in manholes and Quarry Lake a. MH-1? DRY b. MH-2 DRY c. MH-3? 16.25 578.52 d. Quarry Lake? ~~572.78'~~			• level measured ~~578.31'~~ 578.31 ~~577.~~ on 9/17/21. • level measured at 578.52 on 4/12/22
	3. Closed and opened pinch valve?	✓		

Frontier Chemical – Pendleton
Site No. 932043
Semi-Annual Inspection Checklist

Item	Task	Response		Comments
		Yes	No	
	4. Leakage, degradation or corrosion of valves, pipes or appurtenances?		✓	
	5. Areas of damage?		✓	
Ground Water Pre-Treatment System (including Dry Vault and Wet Well):	Perform Inspection in accordance with Pre-Treatment System Operations Plan	✓		
Surface Water Runoff Facilities:	Visually Inspect Ditches and Culverts			
	1. Accumulation of debris?		✓	
	2. Excessive scouring?		✓	
	3. Areas of damage?		✓	
Perimeter Berm, Containment Berm, and Outlet Weir:	Visually Inspect Condition			
	1. Erosion problems?		✓	
	2. Areas of settlement?		✓	
	3. Areas of slope instability?		✓	
	4. Areas of damage?		✓	
Ground Water Monitoring Wells and Piezometers:	Visually Inspect Condition			
	1. Casings secured and locked?	✓		
	2. Areas of damage?		✓	
Access Road:	Visually Inspect Surface Condition			
	1. Rutting?	✓		Standing water on road
	2. Potholes?		✓	
	3. Settlement?		✓	
	4. Areas of damage?		✓	

Frontier Chemical – Pendleton
Site No. 932043
Semi-Annual Inspection Checklist

Item	Task	Response		Comments
		Yes	No	
Physical Site Security:	Visually Inspect Fences and Gates			
	1. Signs intact?	✓		
	2. Fence breached?		✓	
	3. Access gates locked?	✓		
	4. Areas of damage?		✓	
Note any additional comments:				
Jesse Grossman onsite 4/12/22 for lake level readings and site inspection. (Glynn Geotechnical)				

Frontier Chemical – Pendleton
Site No. 932043

Site Visitor Sign-In Sheet

Signature	Printed Name	Organization	Date	Reason for Visit
Maxwell Liffiton	Maxwell Liffiton	SES	4/12/22	Site inspection + sampling
JG	Jesse Grossman	GGE	4/12/22	"
Greg Ernst	Greg Ernst	SES	4/12/22	Site inspection
Max Liffiton	Maxwell Liffiton	SES	4/13/22	site sampling
GE	Greg Ernst	SES	4/13/22	site Sampling
Michael Walker	Michael Walker	SES	3/8/22	Site inspection

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Hart & Max Lifter
Inspector Signature [signature]

Well Identification: P-1

WELL SPECIFICATIONS:

Protective Casing	X	Above Ground		Flush Mounted
Well Construction	X	PVC		Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	1.85	FT		
Well Depth	16.96	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?		X
9. Is the stand pipe vented at the base to allow drainage?	X	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Standing water around standpipe

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg East & Max Liffit—
Inspector Signature GE & ML

Well Identification: P-2

WELL SPECIFICATIONS:

Protective Casing		Above Ground	X	Flush Mounted
Well Construction		PVC	X	Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	3.81	FT		
Well Depth	15.79	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?	X	
9. Is the stand pipe vented at the base to allow drainage?	NA	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Grant & Max Lifton
Inspector Signature GL & ML

Well Identification: P-3

WELL SPECIFICATIONS:

Protective Casing		Above Ground	X	Flush Mounted
Well Construction	X	PVC		Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	29.11	FT		
Well Depth	39.80	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?		X
9. Is the stand pipe vented at the base to allow drainage?	NA	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Ecraft & Max Lifflin
Inspector Signature GE & ML

Well Identification: P-4

WELL SPECIFICATIONS:

Protective Casing		Above Ground	X	Flush Mounted
Well Construction	X	PVC		Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	9.79	FT		
Well Depth	16.98	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?	X	(X)
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?	X	
9. Is the stand pipe vented at the base to allow drainage?	NA	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12

Inspector: Greg Ernst & Max Liffit.

Inspector Signature GE & ML

Well Identification: P-5

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	2.89	FT		
Well Depth	15.61	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?		X
9. Is the stand pipe vented at the base to allow drainage?		X
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Grant & Mark Loffler
Inspector Signature GG & ML

Well Identification: P-6

WELL SPECIFICATIONS:

Protective Casing		Above Ground	X	Flush Mounted
Well Construction	X	PVC		Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	8.95	FT		
Well Depth	16.21	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?		X
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?		X
9. Is the stand pipe vented at the base to allow drainage?	N/A	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Sloped toward landfill (#3)

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Frost & Nick Lippitt
Inspector Signature Greg L

Well Identification: P-7

WELL SPECIFICATIONS:

Protective Casing		Above Ground	X	Flush Mounted
Well Construction	X	PVC		Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	3.06	FT		
Well Depth	16.71	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?	X	
9. Is the stand pipe vented at the base to allow drainage?	NA	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Gast & Max Liffl
Inspector Signature GE & MC

Well Identification: P-8

WELL SPECIFICATIONS:

Protective Casing	X	Above Ground		Flush Mounted
Well Construction	X	PVC		Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	2.21	FT		
Well Depth	17.28	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?		X
9. Is the stand pipe vented at the base to allow drainage?	X	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Enos & Max Liffiton
Inspector Signature GEtML

Well Identification: URS-5D

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	4.91	FT		
Well Depth	49.79	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?		✓
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Max Liffiton
Inspector Signature

Well Identification: URS -7D

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	3.48	FT		
Well Depth	39.86	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	✓
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?	✓	
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Well cover is not secure and can be removed w/o removing lock.

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Ent + Max Liffiton
Inspector Signature GE & ML

Well Identification: URS-9D

WELL SPECIFICATIONS:

Protective Casing	X	Above Ground		Flush Mounted
Well Construction		PVC	X	Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	5.12	FT		
Well Depth	50.96	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?	X	
9. Is the stand pipe vented at the base to allow drainage?	X	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Standing water around well casing

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Einst & Mark Griffith
Inspector Signature GE & MG

Well Identification: ORS-9I

WELL SPECIFICATIONS:

Protective Casing	X	Above Ground		Flush Mounted
Well Construction		PVC	X	Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	5.82	FT		
Well Depth	45.99	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?		X
9. Is the stand pipe vented at the base to allow drainage?	X	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Standing Water around well casing

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Ernst & Max Liffiton
Inspector Signature GE & ML

Well Identification: URS-14D

WELL SPECIFICATIONS:

Protective Casing		Above Ground	X	Flush Mounted
Well Construction		PVC	X	Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	4.80	FT		
Well Depth	42.73	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?	X	
9. Is the stand pipe vented at the base to allow drainage?	NA	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Ernst & Max Liffiton
Inspector Signature GE & ML

Well Identification: URS-14I

WELL SPECIFICATIONS:

Protective Casing		Above Ground	X	Flush Mounted
Well Construction		PVC	X	Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	0.70	FT		
Well Depth	31.60	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?	X	
9. Is the stand pipe vented at the base to allow drainage?	N/A	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Gast & Max Lilfit
Inspector Signature GE&AL

Well Identification: 85 - 5R

WELL SPECIFICATIONS:

Protective Casing	X	Above Ground		Flush Mounted
Well Construction	X	PVC		Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	3.37	FT		
Well Depth	39.07	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	Y	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?		X
9. Is the stand pipe vented at the base to allow drainage?		X
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date:

Inspector:
Inspector Signature

Well Identification: 85-7R

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	2.11	FT		
Well Depth	27.72	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?	✓	
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Ernst & Mark Liffiton
Inspector Signature GE & ML

Well Identification: 98-12L

WELL SPECIFICATIONS:

Protective Casing	X	Above Ground		Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	6.20	FT		
Well Depth	31.26	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	X	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?		X
9. Is the stand pipe vented at the base to allow drainage?	X	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Girsta Max Lifton
Inspector Signature GG & ML

Well Identification: 98-12D

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction		PVC	X	Stainless Steel
Well Diameter	X	2-Inch		4-Inch
Depth to Ground Water	6.75	FT		
Well Depth	51.25	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?		✓
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Rust / hole on side of stand pipe cover (#6)

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Grist & Max Liffiton
Inspector Signature

Well Identification: SP-1

WELL SPECIFICATIONS:

Protective Casing		Above Ground	X	Flush Mounted
Well Construction	X	PVC		Stainless Steel
Well Diameter		2-Inch	X	4-Inch
Depth to Ground Water	Not taken	FT		
Well Depth	Not taken	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?		X
3. Is the well stand pipe vertically aligned and secure?		X
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?	X	
9. Is the stand pipe vented at the base to allow drainage?		X
10. Does the total sounded depth correspond to the original well completion depth?	—	—
11. Is the access down the well impeded or blocked?	X	
Explain:		

COMMENTS / RECOMMENDATIONS:

Top of stand pipe has shifted under the lip of the well casing and the well plug is not able to be removed.

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date:

Inspector:
Inspector Signature

Well Identification: MW-1

WELL SPECIFICATIONS:

Protective Casing		Above Ground	X	Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	—	2-Inch	—	4-Inch
Depth to Ground Water	dry	FT		
Well Depth	12.71	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	NA	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date:

Inspector:
Inspector Signature

Well Identification: MW-2

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	—	2-Inch	—	4-Inch
Depth to Ground Water	dry	FT		
Well Depth	15.82	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?		✓
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/12/22

Inspector: Greg Finstad MacLittle
Inspector Signature Greg

Well Identification: MH-3

WELL SPECIFICATIONS:

Protective Casing		Above Ground	X	Flush Mounted
Well Construction NA		PVC	X	Stainless Steel
Well Diameter NA	—	2-Inch	—	4-Inch
Depth to Ground Water	16.25	FT		
Well Depth	19.10	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	X	
2. Well covers and locks in good condition and secure?	X	
3. Is the well stand pipe vertically aligned and secure?	NA	
4. Is the concrete pad and surface seal in good condition?	X	
5. Are soils surrounding the well pad eroded?		X
6. Is the well casing in good condition?	X	
7. Is the measuring point on casing well marked?	X	
8. Is there standing water in the annular space?	NA	
9. Is the stand pipe vented at the base to allow drainage?	NA	
10. Does the total sounded depth correspond to the original well completion depth?	X	
11. Is the access down the well impeded or blocked?		X
Explain:		

COMMENTS / RECOMMENDATIONS:

GLYNN GROUP
ENGINEERING & ARCHITECTURE, PLLC

FIELD OBSERVATION REPORT

Structural • Architecture
Material Testing • Consulting

PROJECT NO.: 94-1014-O REPORT NO.: 22-02 DATE: 8/18/22 PAGE: 1 OF 2

PROJECT: Pendleton – Frontier Chemical Site DAY: Wednesday

SUBJECT: Lake Level Survey, Semi-Annual Insp. PROJECT TIME: 10:45 am – 12:00 pm

CLIENT: Sevenson Environmental Services, Inc. SITE TIME: 11:00 am – 11:45 am

WEATHER: Sunny, Warm (80°F) PHOTOS: Yes X No

- As notified by Max Liffiton (Sevenson Environmental), visit the Pendleton site to record the surface water elevation of the lake to coincide with the semi-annual site inspection event.
- Max Liffiton (SES) is on site for inspection/maintenance and to provide site access. SES is completing monitoring well sampling and other semi-annual inspection items.
- The Quarry Lake surface water level near the pre-treatment vault is recorded by level survey using the top of the pre-treatment vault benchmark El. 580.50'. The lake water elevation is recorded at El. 576.84'.
- Following are cursory observations made while on site:
  - The capped area is noted to be in good condition and has recently been mowed. An active rodent burrow is noted at the east end of the capped area just above P-7. SES is aware of the active burrow.
  - The weir is dry due to low water level in the lake.
  - Site conditions are dry with the lake level approx. 1.7' lower than the level recorded in April '22.
  - Note heavy brush/vegetative growth in areas outside of perimeter fence
  - Site access roads are in good condition with some rutting.
- Leave site at approx. 11:45 pm, returning to GGEA's Lockport office to prepare this report.

PERSONNEL ON SITE / CONTACTED:
Max Liffiton – Sevenson

DISTRIBUTION:
Mike Walker – Sevenson Environmental
Adam Carringer – Pendleton PRP Group

DAILY MANHOURS: 1.5 + report

Jessé E. Grossman, P.E. – Engineering Manager

Mark W. Glynn, P.E.

GLYNN GROUP ENGINEERING & ARCHITECTURE, PLLC
415 South Transit Street, Lockport, New York 14094
voice 716.625.6933 / fax 716.625.6983
www.glynngroup.com

DOCFILE:22FOR

FIELD OBSERVATION REPORT

PROJECT NO.: 94-1014-O REPORT NO.: 22-02 DATE: 8/18/22 PAGE: 2 OF 2

PROJECT: Pendleton – Frontier Chemical Site DAY: Wednesday

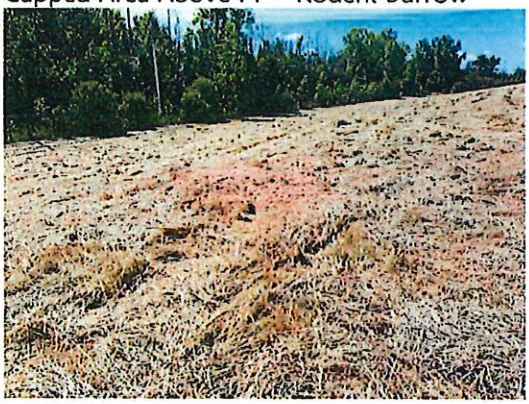
SUBJECT: Lake Level Survey, Semi-Annual Insp. PROJECT TIME: 10:45 am – 12:00 pm

CLIENT: Sevenson Environmental Services, Inc. SITE TIME: 11:00 am – 11:45 am

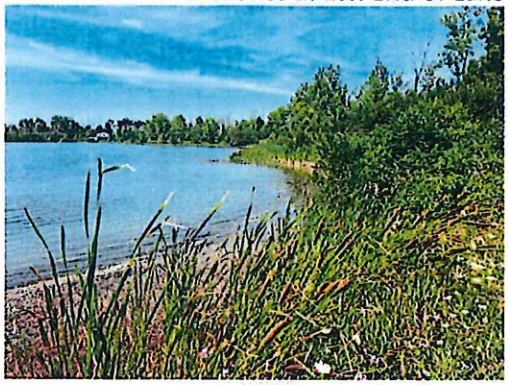
8.18.22 Site Photos:

Overflow Weir

Capped Area Above P7 – Rodent Burrow



Wetlands at East End of Lake



Frontier Chemical – Pendleton
Site No. 932043
Semi-Annual Inspection Checklist

Date: 8/18/22 Time In: 0830 Time Out: 1630

Inspector: Max Liffiter
Inspector Signature: Max Liffiter

Weather:	Sunny 75°F

Item	Task	Response		Comments
		Yes	No	
Low-Permeability Cover:	Visually Inspect Surface Conditions			
	1. Erosion problem?		✓	
	2. Lack or thinning of vegetation?		✓	
	3. Mowing required?		✓	
	4. Drainage problems?		✓	
	5. Areas of settlement?		✓	
	6. Areas of slope instability?		✓	
	7. Areas of damage?		✓	Previous groundhog hole filled in with topsoil.
Ground Water Collection and Conveyance System:	Visually Inspect Manholes and Cleanouts			
	1. Buildup of solids/precipitates to the extent that the flow of groundwater is affected?		✓	
	2. Measure water levels in manholes and Quarry Lake a. MH-1? DRY b. MH-2 DRY c. MH-3? DRY d. Quarry Lake? 576.84			Quarry lake level measured @ 1124 on 8/18/22 to be 576.84' by Jesse Grossman w/ Glynn Geotech Previous level measured to be 578.31' on 9/17/21.
	3. Closed and opened pinch valve?	✓		

Frontier Chemical – Pendleton
Site No. 932043
Semi-Annual Inspection Checklist

Item	Task	Response		Comments
		Yes	No	
	4. Leakage, degradation or corrosion of valves, pipes or appurtenances?		✓	
	5. Areas of damage?		✓	
Ground Water Pre-Treatment System (including Dry Vault and Wet Well):	Perform Inspection in accordance with Pre-Treatment System Operations Plan	✓		
Surface Water Runoff Facilities:	Visually Inspect Ditches and Culverts			
	1. Accumulation of debris?		✓	
	2. Excessive scouring?		✓	
	3. Areas of damage?		✓	
Perimeter Berm, Containment Berm, and Outlet Weir:	Visually Inspect Condition			
	1. Erosion problems?		✓	
	2. Areas of settlement?		✓	
	3. Areas of slope instability?		✓	
	4. Areas of damage?		✓	
Ground Water Monitoring Wells and Piezometers:	Visually Inspect Condition			
	1. Casings secured and locked?	✓		
	2. Areas of damage?		✓	Rust hole on 88-120 standpipe
Access Road:	Visually Inspect Surface Condition			
	1. Rutting?		✓	
	2. Potholes?		✓	
	3. Settlement?		✓	
	4. Areas of damage?		✓	

Frontier Chemical – Pendleton
Site No. 932043

Site Visitor Sign-In Sheet

Signature	Printed Name	Organization	Date	Reason for Visit
Maxwell Liffiton	Maxwell Liffiton	SES	8/16/22	Groundwater Sampling
Maxwell Liffiton	Maxwell Liffiton	SES	8/17/22	Groundwater Sampling
Maxwell Liffiton	Maxwell Liffiton	SES	8/18/22	System Inf/Eff Sampling
[illegible]	JESSE GROSSMAN	GGEA	8.18.22	SITE INSPECTION

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/18/22

Inspector: Max Liffiton

Inspector Signature Max Liffiton

Well Identification: P-1

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	9.34	FT		
Well Depth	16.45	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/18/22

Inspector: Max Liffiton

Inspector Signature Max Liffiton

Well Identification: P-2

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	5.99	FT		
Well Depth	15.78	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	—	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/18/22

Inspector: Max Liffiton
Inspector Signature Max Liffiton

Well Identification: P-3

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	29.42	FT		
Well Depth	38.0	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 4/18/22

Inspector: Max Lifftor
Inspector Signature Max Lifftor

Well Identification: R-4

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	8.84	FT		
Well Depth	16.98	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	—	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/18/22

Inspector: Max Liffiton
Inspector Signature Max Liffiton

Well Identification: P-5

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	8.32	FT		
Well Depth	15.60	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?		✓
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/18/22

Inspector: Max Liffton
Inspector Signature Max Liffton

Well Identification: P-6

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	9.89	FT		
Well Depth	16.21	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?		✓
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	—	—
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Well is sloped towards landfill.

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/18/22

Inspector: Max Uffton
Inspector Signature Max Uffton

Well Identification: P-7

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	5.20	FT		
Well Depth	16.77	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/18/22

Inspector: Max Lifflton

Inspector Signature Max Lifflton

Well Identification: P-8

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	7.53	FT		
Well Depth	17.24	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/17/22

Inspector: Max Liffton
Inspector Signature Max Liffton

Well Identification: URS-5D

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	6.80	FT		
Well Depth	6.80 / 19.89	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?		✓
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/17/22

Inspector: Max Liffiton
Inspector Signature Max Liffiton

Well Identification: URS-7D

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	5.57	FT		
Well Depth	40.86	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/17/22

Inspector: Max Liffiton
Inspector Signature [signature]

Well Identification: URS-9D

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	6.81	FT		
Well Depth	50.95	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/17/22

Inspector: Max Lifflton
Inspector Signature Max Lifflton

Well Identification: URS-91

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	7.47	FT		
Well Depth	45.97	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/16/22

Inspector: Max Liffton
Inspector Signature Max Liffton

Well Identification: URS-14D

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	6.38	FT		
Well Depth	41.62	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	—	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/16/22

Inspector: Max Liffiton
Inspector Signature Max Liffiton

Well Identification: URS-14I

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	4.71	FT		
Well Depth	31.14	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?	✓	✓
9. Is the stand pipe vented at the base to allow drainage?	—	—
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/17/22

Inspector: Max Lifflton
Inspector Signature Max Lifflton

Well Identification: 85-5R

WELL SPECIFICATIONS:

Protective Casing	√	Above Ground		Flush Mounted
Well Construction	√	PVC		Stainless Steel
Well Diameter	√	2-Inch		4-Inch
Depth to Ground Water	7.32	FT		
Well Depth	39.02	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	√	
2. Well covers and locks in good condition and secure?	√	
3. Is the well stand pipe vertically aligned and secure?	√	
4. Is the concrete pad and surface seal in good condition?	√	
5. Are soils surrounding the well pad eroded?		√
6. Is the well casing in good condition?	√	
7. Is the measuring point on casing well marked?	√	
8. Is there standing water in the annular space?		√
9. Is the stand pipe vented at the base to allow drainage?		√
10. Does the total sounded depth correspond to the original well completion depth?	√	
11. Is the access down the well impeded or blocked?		√
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/17/22

Inspector: Max Liffton

Inspector Signature Max Liffton

Well Identification: 85-7R

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	3.40	FT		
Well Depth	27.70	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/16/22

Inspector: Max Lifftor
Inspector Signature Max Lifftor

Well Identification: 88-12C

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	8.81	FT		
Well Depth	31.30	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/16/22

Inspector: Max Liffton
Inspector Signature Max Liffton

Well Identification: 88-12D

WELL SPECIFICATIONS:

Protective Casing	✓	Above Ground		Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	✓	2-Inch		4-Inch
Depth to Ground Water	8.21	FT		
Well Depth	48.55	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?		✓
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	✓	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

4" Rust hole on side of standpipe

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 9/18/22

Inspector: Max Lifton
Inspector Signature Max Lifton

Well Identification: SP1

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter		2-Inch	✓	4-Inch
Depth to Ground Water	Not measured	FT		
Well Depth	Not measured	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?		✓
3. Is the well stand pipe vertically aligned and secure?		✓
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?	✓	
9. Is the stand pipe vented at the base to allow drainage?		✓
10. Does the total sounded depth correspond to the original well completion depth?	—	—
11. Is the access down the well impeded or blocked?	✓	
Explain:		

COMMENTS / RECOMMENDATIONS:

Top of stand pipe has shifted under the lip of the well casing and the well plug is not able to be removed.

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/18/22

Inspector: Max Lifflton
Inspector Signature Max Lifflton

Well Identification: MW-1

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	—	2-Inch	—	4-Inch
Depth to Ground Water	DRY	FT		
Well Depth	12.72	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	—	
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/18/22

Inspector: Max Lifton
Inspector Signature Max Lifton

Well Identification: MH-2

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction	✓	PVC		Stainless Steel
Well Diameter	—	2-Inch	—	4-Inch
Depth to Ground Water	DRY	FT		
Well Depth	15.68	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	—	—
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

Frontier Chemical – Pendleton
Site No. 932043
Monitoring Well Integrity Checklist

Date: 8/18/22

Inspector: Max Lifton
Inspector Signature Max Lifton

Well Identification: MH-3

WELL SPECIFICATIONS:

Protective Casing		Above Ground	✓	Flush Mounted
Well Construction		PVC	✓	Stainless Steel
Well Diameter	—	2-Inch	—	4-Inch
Depth to Ground Water	DRY	FT		
Well Depth	18.65	FT		

WELL INTEGRITY

	Yes	No
1. Well identification clearly marked?	✓	
2. Well covers and locks in good condition and secure?	✓	
3. Is the well stand pipe vertically aligned and secure?	✓	
4. Is the concrete pad and surface seal in good condition?	✓	
5. Are soils surrounding the well pad eroded?		✓
6. Is the well casing in good condition?	✓	
7. Is the measuring point on casing well marked?	✓	
8. Is there standing water in the annular space?		✓
9. Is the stand pipe vented at the base to allow drainage?	—	—
10. Does the total sounded depth correspond to the original well completion depth?	✓	
11. Is the access down the well impeded or blocked?		✓
Explain:		

COMMENTS / RECOMMENDATIONS:

ATTACHMENT F

Pre-Treatment Flows

Pendleton Site Flow Summary
January 2021 - August 2022

	Month	Year	Monthly Flow (gal)	Avg gal/day	Days/month
	January*	2021	-16,516	-533	31
	February	2021	7,972	285	28
	March	2021	22,951	740	31
	April	2021	3,869	129	30
	May	2021	7,548	243	31
	June	2021	3,502	117	30
	July	2021	5,271	170	31
	August	2021	2,563	83	31
	September	2021	4,740	158	30
	October	2021	4,987	161	31
	November	2021	4,423	147	30
Current	December	2021	4,434	143	31
Report	January	2022	4,022	130	31
	February	2022	9,419	336	28
	March	2022	4,013	129	31
	April	2022	3,572	119	30
	May	2022	3,370	109	31
	June	2022	3,386	113	30
	July	2022	2,492	80	31
	August	2022	1,175	38	31
Total Current Report			40,306	133	304

*Sump reading is not accurate due to flow meter being submerged during the flood event. Instrumentation sub recalbrated during start up.

Pendleton Site
September 2021 Flows

Olin/PRP Group Pendleton Site

1" Discharge Flow Meter	18,916	Gallons
1/2" Sump Flow Meter	14,176	Gallons
Actual Treated Leachate	**4,740**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Sump Flow Meter
9/1/2021	0:53:51	0	168
9/2/2021	0:53:55	0	174
9/3/2021	0:53:51	0	56
9/4/2021	0:53:50	0	182
9/5/2021	0:53:52	1766	162
9/6/2021	0:53:54	194	28
9/7/2021	0:53:53	237	93
9/8/2021	0:53:51	612	463
9/9/2021	0:53:54	711	597
9/10/2021	0:53:52	750	575
9/11/2021	0:53:53	585	469
9/12/2021	0:53:50	445	334
9/13/2021	0:53:48	196	353
9/14/2021	0:53:52	0	512
9/15/2021	0:53:51	1824	771
9/16/2021	0:53:52	990	794
9/17/2021	0:53:48	507	411
9/18/2021	0:53:51	660	497
9/19/2021	0:53:55	665	533
9/20/2021	0:53:54	629	485
9/21/2021	0:53:50	613	433
9/22/2021	0:53:54	595	485
9/23/2021	0:53:53	1366	1134
9/24/2021	0:53:51	1283	1077
9/25/2021	0:53:50	819	685
9/26/2021	0:53:54	778	592
9/27/2021	0:53:49	721	572
9/28/2021	0:53:54	492	366
9/29/2021	0:53:53	747	610
9/30/2021	0:53:49	731	565
Total Discharge for September 2021		**18,916**	
Groundwater through the sump			**14,176**

Pendleton Site
October 2021 Flows

Olin/PRP Group Pendleton Site

1" Discharge Flow Meter	25,217	Gallons
1/2" Sump Flow Meter	20,230	Gallons
Actual Treated Leachate	**4,987**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Sump Flow Meter
10/1/2021	0:53:55	648	523
10/2/2021	0:53:50	446	337
10/3/2021	0:53:51	790	627
10/4/2021	0:53:53	1078	875
10/5/2021	0:53:51	1137	940
10/6/2021	0:53:52	629	506
10/7/2021	0:53:55	858	683
10/8/2021	0:53:51	365	280
10/9/2021	0:53:51	787	642
10/10/2021	0:53:51	734	539
10/11/2021	0:53:52	578	463
10/12/2021	0:53:54	698	514
10/13/2021	0:53:59	652	513
10/14/2021	0:53:55	652	511
10/15/2021	6:53:54	695	510
10/16/2021	0:53:54	1164	984
10/17/2021	0:53:52	1123	943
10/18/2021	0:53:52	567	413
10/19/2021	0:53:50	903	724
10/20/2021	0:53:54	581	467
10/21/2021	0:53:53	876	699
10/22/2021	0:53:52	504	371
10/23/2021	0:53:55	905	751
10/24/2021	0:53:51	445	317
10/25/2021	0:53:54	870	723
10/26/2021	0:53:49	1080	901
10/27/2021	0:53:52	1248	1028
10/28/2021	0:53:55	624	481
10/29/2021	0:53:51	843	703
10/30/2021	0:53:51	1557	1315
10/31/2021	0:53:50	1180	947
Total Discharge for October 2021		**25,217**	
Groundwater through the sump			**20,230**

Pendleton Site
November 2021 Flows

Olin/PRP Group Pendleton Site

1" Discharge Flow Meter	22,631	Gallons
1/2" Sump Flow Meter	18,208	Gallons
Actual Treated Leachate	**4,423**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Sump Flow Meter
11/1/2021	0:53:50	539	386
11/2/2021	0:53:50	990	798
11/3/2021	0:53:50	453	337
11/4/2021	0:53:58	965	789
11/5/2021	0:53:54	402	294
11/6/2021	0:53:50	957	768
11/7/2021	0:53:50	604	459
11/8/2021	0:25:00	628	508
11/9/2021	0:53:52	883	690
11/10/2021	0:53:50	705	569
11/11/2021	0:53:52	634	492
11/12/2021	0:53:51	461	344
11/13/2021	0:53:50	936	765
11/14/2021	0:53:51	1162	983
11/15/2021	0:53:50	1091	892
11/16/2021	0:53:52	987	837
11/17/2021	0:53:53	639	492
11/18/2021	0:53:50	603	447
11/19/2021	0:53:52	942	808
11/20/2021	0:53:52	444	313
11/21/2021	0:53:52	748	599
11/22/2021	0:53:51	843	696
11/23/2021	0:53:49	915	767
11/24/2021	0:53:53	799	674
11/25/2021	0:54:15	692	538
11/26/2021	0:54:01	490	378
11/27/2021	0:53:53	786	650
11/28/2021	0:53:51	924	766
11/29/2021	0:53:59	743	625
11/30/2021	0:53:49	666	544
Total Discharge for November 2021		**22,631**	
Groundwater through the sump			**18,208**

Pendleton Site
December 2021 Flows

Olin/PRP Group Pendleton Site

1" Discharge Flow Meter	22,348	Gallons
1/2" Sump Flow Meter	17,914	Gallons
Actual Treated Leachate	**4,434**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Sump Flow Meter
12/1/2021	0:53:55	668	536
12/2/2021	0:53:52	700	557
12/3/2021	0:53:50	749	612
12/4/2021	0:53:54	751	621
12/5/2021	0:53:52	695	559
12/6/2021	0:53:52	727	581
12/7/2021	0:53:54	1129	964
12/8/2021	0:53:55	804	670
12/9/2021	0:53:52	553	402
12/10/2021	0:53:51	556	437
12/11/2021	0:53:53	709	562
12/12/2021	0:53:51	235	2
12/13/2021	0:53:53	502	405
12/14/2021	0:53:53	1454	1282
12/15/2021	0:53:51	623	466
12/16/2021	0:53:51	552	423
12/17/2021	0:53:56	698	561
12/18/2021	0:53:51	757	612
12/19/2021	0:53:51	755	619
12/20/2021	0:53:53	685	569
12/21/2021	0:53:53	714	545
12/22/2021	0:53:51	608	490
12/23/2021	0:53:51	728	576
12/24/2021	0:53:49	630	506
12/25/2021	0:53:55	899	738
12/26/2021	0:53:51	1178	1034
12/27/2021	0:53:55	816	643
12/28/2021	0:53:49	456	339
12/29/2021	0:53:58	659	524
12/30/2021	0:53:55	701	562
12/31/2021	0:53:52	657	517
Total Discharge for December 2021		**22,348**	
Groundwater through the sump			**17,914**

Pendleton Site
January 2022 Flows

Olin/PRP Group Pendleton Site

1" Discharge Flow Meter	20,567	Gallons
1/2" Sump Flow Meter	16,545	Gallons
Actual Treated Leachate	**4,022**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Sump Flow Meter
1/1/2022	0:53:53	653	541
1/2/2022	0:53:49	755	615
1/3/2022	0:53:50	875	702
1/4/2022	0:53:50	683	589
1/5/2022	0:53:50	613	472
1/6/2022	0:53:52	671	508
1/7/2022	0:53:56	769	654
1/8/2022	0:53:52	772	641
1/9/2022	0:53:55	742	596
1/10/2022	0:53:50	713	571
1/11/2022	0:53:55	606	475
1/12/2022	0:53:52	569	428
1/13/2022	0:53:55	604	484
1/14/2022	0:53:52	606	491
1/15/2022	0:53:50	604	509
1/16/2022	0:53:55	607	466
1/17/2022	0:53:50	604	468
1/18/2022	0:53:48	599	481
1/19/2022	0:53:53	646	493
1/20/2022	0:53:55	858	718
1/21/2022	0:53:51	754	652
1/22/2022	0:53:56	578	464
1/23/2022	0:53:58	560	393
1/24/2022	0:53:51	552	448
1/25/2022	0:53:53	650	501
1/26/2022	0:53:50	593	498
1/27/2022	0:53:51	822	688
1/28/2022	0:53:52	861	708
1/29/2022	0:53:52	494	374
1/30/2022	0:53:54	559	433
1/31/2022	0:53:51	595	484
Total Discharge for January 2022		**20,567**	
Groundwater through the sump			**16,545**

Pendleton
February 2022 Flows

Olin/PRP Group Pendleton Site

1" Discharge Flow Meter	32,184	Gallons
1/2" Sump Flow Meter	22,765	Gallons
Actual Treated Leachate	**9,419**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Sump Flow Meter
2/1/2022	0:53:49	611	491
2/2/2022	0:53:50	592	449
2/3/2022	0:53:53	784	652
2/4/2022	0:53:50	695	572
2/5/2022	0:54:14	655	548
2/6/2022	0:53:55	703	547
2/7/2022	0:53:55	764	675
2/8/2022	0:53:51	690	548
2/9/2022	0:53:48	623	495
2/10/2022	0:53:53	616	499
2/11/2022	0:53:52	692	535
2/12/2022	0:53:48	1207	1025
2/13/2022	0:53:52	1077	933
2/14/2022	0:53:50	929	755
2/15/2022	0:53:52	771	617
2/16/2022	0:53:51	644	507
2/17/2022	0:53:48	1285	1001
2/18/2022	0:53:51	2929	1533
2/19/2022	0:53:49	1958	1498
2/20/2022	0:53:53	1968	1216
2/21/2022	0:53:52	1967	997
2/22/2022	0:53:50	1962	915
2/23/2022	0:53:56	1950	1332
2/24/2022	0:53:51	1943	1188
2/25/2022	0:53:50	1428	1004
2/26/2022	0:53:52	1068	870
2/27/2022	0:53:54	895	740
2/28/2022	0:53:50	778	623
Total Discharge for February 2022		**32,184**	
Groundwater through the sump			**22,765**

Pendleton Site
March 2022 Flows

Olin/PRP Group Pendleton Site

1" Discharge Flow Meter	22,930	Gallons
1/2" Sump Flow Meter	18,917	Gallons
Actual Treated Leachate	**4,013**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Sump Flow Meter
3/1/2022	0:53:51	688	568
3/2/2022	0:53:56	684	533
3/3/2022	0:53:50	634	533
3/4/2022	0:53:54	691	535
3/5/2022	0:53:50	634	539
3/6/2022	0:53:54	762	603
3/7/2022	0:53:51	853	725
3/8/2022	0:53:53	870	721
3/9/2022	0:53:57	788	672
3/10/2022	0:53:51	776	612
3/11/2022	0:53:53	684	588
3/12/2022	0:53:52	689	545
3/13/2022	0:53:51	690	566
3/14/2022	1:53:43	696	555
3/15/2022	0:53:50	826	700
3/16/2022	0:53:53	828	690
3/17/2022	0:53:56	785	621
3/18/2022	0:53:52	698	596
3/19/2022	0:53:49	720	551
3/20/2022	0:53:52	685	579
3/21/2022	0:53:50	707	578
3/22/2022	0:53:50	661	553
3/23/2022	0:53:50	688	567
3/24/2022	0:53:56	848	687
3/25/2022	0:53:51	878	747
3/26/2022	0:53:51	786	664
3/27/2022	0:53:56	737	634
3/28/2022	0:53:52	750	625
3/29/2022	0:53:52	747	628
3/30/2022	0:54:01	738	610
3/31/2022	0:53:50	709	592
Total Discharge for March		**22,930**	
Groundwater through the sump			**18,917**

Pendleton
April 2022 Flows

Olin/PRP Group Pendleton Site

1" Discharge Flow Meter	22,963	Gallons
1/2" Sump Flow Meter	19,391	Gallons
Actual Treated Leachate	**3,572**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Sump Flow Meter
4/1/2022	0:53:54	696	590
4/2/2022	0:53:50	701	592
4/3/2022	0:53:59	652	572
4/4/2022	0:53:49	702	567
4/5/2022	0:53:53	649	549
4/6/2022	0:53:54	649	550
4/7/2022	0:53:55	683	558
4/8/2022	0:53:49	698	580
4/9/2022	0:53:54	749	607
4/10/2022	0:53:54	710	599
4/11/2022	0:53:55	402	592
4/12/2022	0:53:53	0	586
4/13/2022	0:53:52	1652	595
4/14/2022	0:53:52	757	604
4/15/2022	0:53:53	752	610
4/16/2022	0:53:50	756	614
4/17/2022	0:53:53	769	644
4/18/2022	0:53:54	800	652
4/19/2022	0:53:50	891	767
4/20/2022	0:53:52	912	790
4/21/2022	0:53:52	832	721
4/22/2022	0:53:54	880	721
4/23/2022	0:53:53	827	706
4/24/2022	0:54:19	796	687
4/25/2022	0:53:49	796	664
4/26/2022	0:53:53	791	687
4/27/2022	0:53:55	889	757
4/28/2022	0:53:53	887	775
4/29/2022	0:53:49	840	738
4/30/2022	0:53:50	845	717
Total Discharge for April		**22,963**	
Groundwater through the sump			**19,391**

Pendleton Site
May 2022 Flows

Olin/PRP Group Pendleton Site

1" Discharge Flow Meter	24,907	Gallons
1/2" Sump Flow Meter	21,537	Gallons
Actual Treated Leachate	**3,370**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Sump Flow Meter
5/1/2022	0:53:49	752	654
5/2/2022	0:53:56	794	662
5/3/2022	0:53:49	754	673
5/4/2022	0:53:54	797	695
5/5/2022	0:53:52	862	737
5/6/2022	0:53:51	916	775
5/7/2022	0:53:56	849	769
5/8/2022	0:53:53	900	752
5/9/2022	0:53:49	814	740
5/10/2022	0:53:54	815	717
5/11/2022	0:53:52	745	645
5/12/2022	0:53:56	759	648
5/13/2022	0:53:52	773	653
5/14/2022	0:53:50	734	653
5/15/2022	0:53:52	762	658
5/16/2022	0:54:13	785	657
5/17/2022	0:53:56	747	661
5/18/2022	0:53:50	743	659
5/19/2022	0:53:50	753	659
5/20/2022	0:53:50	746	656
5/21/2022	0:54:04	752	653
5/22/2022	0:53:52	946	824
5/23/2022	0:53:51	942	823
5/24/2022	0:54:11	899	781
5/25/2022	0:53:56	885	745
5/26/2022	0:53:52	802	686
5/27/2022	0:53:51	710	602
5/28/2022	0:53:52	760	621
5/29/2022	0:54:43	796	691
5/30/2022	0:53:52	841	722
5/31/2022	0:53:53	774	666
Total Discharge for May 2022		**24,907**	
Groundwater through the sump			**21,537**

Pendleton Site
June 2022 Flows

Olin/PRP Group Pendleton Site

1" Discharge Flow Meter	20,930	Gallons
1/2" Sump Flow Meter	17,544	Gallons
Actual Treated Leachate	**3,386**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Sump Flow Meter
6/1/2022	0:53:54	734	621
6/2/2022	0:53:58	730	584
6/3/2022	0:53:57	734	611
6/4/2022	0:54:26	788	688
6/5/2022	0:53:50	747	655
6/6/2022	0:53:51	736	626
6/7/2022	0:53:53	735	591
6/8/2022	0:53:53	929	767
6/9/2022	0:53:49	745	646
6/10/2022	0:53:50	862	747
6/11/2022	0:53:50	876	753
6/12/2022	0:53:54	847	711
6/13/2022	0:53:51	801	673
6/14/2022	0:53:52	758	639
6/15/2022	0:53:55	702	613
6/16/2022	0:53:56	749	599
6/17/2022	0:53:56	700	589
6/18/2022	0:53:54	701	580
6/19/2022	0:53:50	695	569
6/20/2022	0:53:53	652	562
6/21/2022	0:53:51	693	554
6/22/2022	0:54:02	663	547
6/23/2022	0:53:50	641	540
6/24/2022	0:53:52	632	533
6/25/2022	0:53:52	640	528
6/26/2022	0:53:54	643	519
6/27/2022	0:53:54	596	508
6/28/2022	0:53:55	556	475
6/29/2022	0:53:51	399	279
6/30/2022	0:53:53	246	237
Total Discharge for June 2022		**20,930**	
Groundwater through the sump			**17,544**

Pendleton Site
July 2022 Flows

Olin/PRP Group Pendleton Site

1" Discharge Flow Meter	4,385	Gallons
1/2" Vault Sump Flow Meter	1,893	Gallons
Actual Treated Leachate	**2,492**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Vault Sump Flow Meter
7/1/2022	0:53:52	300	211
7/2/2022	0:53:51	246	138
7/3/2022	0:53:51	145	103
7/4/2022	0:53:53	238	136
7/5/2022	0:53:52	244	171
7/6/2022	0:53:51	245	169
7/7/2022	0:53:57	245	159
7/8/2022	0:53:50	244	151
7/9/2022	0:53:55	196	142
7/10/2022	0:53:50	237	133
7/11/2022	0:53:54	194	123
7/12/2022	0:53:53	199	113
7/13/2022	0:53:52	147	92
7/14/2022	0:53:50	142	9
7/15/2022	0:53:54	128	0
7/16/2022	0:53:55	50	0
7/17/2022	0:53:54	94	0
7/18/2022	0:53:56	97	1
7/19/2022	0:53:56	147	32
7/20/2022	0:53:51	95	0
7/21/2022	0:53:55	94	0
7/22/2022	0:53:52	93	0
7/23/2022	0:53:56	47	0
7/24/2022	0:53:50	95	4
7/25/2022	0:53:51	47	0
7/26/2022	0:53:50	47	0
7/27/2022	0:53:52	95	6
7/28/2022	0:53:51	93	0
7/29/2022	0:53:58	48	0
7/30/2022	0:53:55	46	0
7/31/2022	0:53:50	47	0
Total Discharge for July 2022		**4,385**	
Groundwater through the sump			**1,893**

Pendleton Site
August 2022 Flows

Olin/PRP Group Pendleton Site

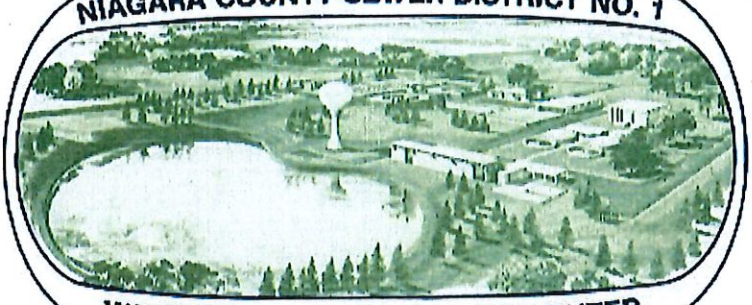
1" Discharge Flow Meter	1,190	Gallons
1/2" Vault Sump Flow Meter	15	Gallons
Actual Treated Leachate	**1,175**	**Gallons**

Date	Time	1" Discharge Flow Meter	1/2" Sump Flow Meter
8/1/2022	0:53:53	94	0
8/2/2022	0:53:51	47	0
8/3/2022	0:53:51	46	0
8/4/2022	0:53:52	102	15
8/5/2022	0:53:51	47	0
8/6/2022	0:53:52	48	0
8/7/2022	0:53:49	95	0
8/8/2022	0:53:59	48	0
8/9/2022	0:53:51	46	0
8/10/2022	0:53:55	94	0
8/11/2022	0:53:50	48	0
8/12/2022	0:53:52	46	0
8/13/2022	0:53:53	47	0
8/14/2022	0:53:51	92	0
8/15/2022	0:53:52	48	0
8/16/2022	0:53:53	46	0
8/17/2022	0:53:55	46	0
8/18/2022	2:53:51	0	0
8/19/2022	0:53:53	0	0
8/20/2022	0:53:56	0	0
8/21/2022	0:53:49	45	0
8/22/2022	0:53:50	0	0
8/23/2022	0:53:49	32	0
8/24/2022	0:53:53	0	0
8/25/2022	0:53:49	0	0
8/26/2022	0:53:49	0	0
8/27/2022	0:54:09	0	0
8/28/2022	0:54:09	0	0
8/29/2022	0:54:17	0	0
8/30/2022	0:54:09	73	0
8/31/2022	0:54:11	0	0
Total Discharge for August 2022		**1,190**	
Groundwater through the sump			**15**

ATTACHMENT G

Industrial Wastewater Discharge Permit

NIAGARA COUNTY SEWER DISTRICT NO. 1



WATER POLLUTION CONTROL CENTER

7346 Liberty Drive
Niagara Falls, NY 14304-3762
Phone: 716-693-0001
Fax: 716-693-8759

August 30, 2021

Pendleton Site PRP Group
c/o Olin Corporation
490 Stuart Rd. N.E.
Cleveland, TN 37312

ATTN: Mr. Dave Share
Vice President, Environmental Remediation

Re: Pendleton Site PRP Group Industrial Waste Permit

Mr. Share:

Please find enclosed District Permit No. 21-11, issued by Niagara County Sewer District #1 to Pendleton Site PRP Group, c/o Olin Corporation. This permit is effective August 30, 2021 for the discharge of contaminated groundwater.

Please note the following changes have been made:

- Part 1 (Wastewater Discharge Limitations and Monitoring Requirements) was updated to include $CBOD_5$ and Total Phosphorous monitoring semi-annually. These analytes do not have discharge limitations but will be surcharged in the instance(s) of abnormal strength waste. See Part 1.
- Updated average daily discharge volume in Schedule A.
- Clarified discharge limitations and sampling requirements in Part I.
- Added Chief Operator's name to Part III.6, self-monitoring report submission.
- Minor changes to Sampling Measurement and Analytical Guidelines language.

Additionally, per Part IV.11., Pendleton Site PRP Group has the duty to reapply for reissuance of their permit ninety (90) days prior to expiration. The District Permit No. 18-11, issued to Pendleton Site PRP Group, expired August 28, 2021. NCSD #1 received the Industrial Wastewater Renewal Form on August 24, 2021. Please be aware that enforcement may follow should review of the daily flow for August 29, 2021 indicate that Pendleton Site PRP Group discharged to the sanitary sewer when Pendleton Site PRP Group did not have an Industrial Waste Permit.

If there are any questions, please feel free to contact Elizabeth Lesold, Sanitary Chemist, at this office.

Best regards,

NIAGARA COUNTY SEWER DISTRICT #1

Aaron T. Earsing
Chief Operator

Enclosure

cc: Adam Carringer

Niagara County Sewer District #1

Industrial Waste Permit

Industrial User: Pendleton Site PRP Group
(Permittee)

Division Name (if Applicable): c/o Olin Corporation

Mailing Address: 3855 Ocoee Street, Suite 200
Street or P.O. Box

Cleveland, TN 37312
City, State and Zip Code

Site Address: Pendleton Site, Townline Road
Street Address

Pendleton, New York
City, State

The above Industrial User is authorized to discharge contaminated groundwater to the Niagara County Sewer District #1 sewer system in compliance with the District's Sewer Use Law, Local Law No. 1, Revision 1, April 4, 2017, any applicable provisions of Federal or State law or regulation, and in accordance with discharge points(s), effluent limitations, monitoring requirements, and other conditions set forth herein.

Effective Date: August 30, 2021

Expiration Date: August 30, 2024

(Application for renewal shall be submitted 90 days prior to expiration)

District Permit No. 21-11

Date: 8/30/2021 Signed:

(Direct discharge to Niagara County Sewer District #1 manhole. Discharge does not enter Town of Pendleton sewer system.)

Schedule A – Listing of Discharged Wastestreams

Industry Name: Pendleton (Frontier Chemical) Site
Groundwater Remediation

The following wastestreams are discharged to sanitary sewer system tributary of Niagara County Sewer District #1.

Waste-Streams	Nature of Waste	Volume gallons per day	Discharge Point
WS 001	Groundwater Remediation	103 (Avg.)	D 002

PART I – WASTEWATER DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

Industry Name: Pendleton (Frontier Chemical) Site
Sample Point: Sample Point A: Groundwater Pump Station Discharge
Description: Contaminated Groundwater Discharge to NCSD #1 Manhole East of Site
Classification: Non-SIU

Parameter	Discharge Limitations[1]	Monitoring Requirements: Sampling Frequency	Monitoring Requirements: Sample Type
Flow		Continuous	
a.) Groundwater Remediation	2500 GPD, Daily Maximum		
Pollutants	**Discharge Limit**		
Volitile Organics by EPA 624	0.100 mg/L (Sum of all EPA 624 analyte values 0.01mg/L or greater)	Semi-Annual	24 hour composite[2] [3]
Antimony	0.1 mg/L	Semi-Annual	24 hour composite[2]
Boron	4.0 mg/L	Semi-Annual	24 hour composite[2]
Chromium	5.33 mg/L	Semi-Annual	24 hour composite[2]
Cyanide (T)	2.0 mg/L	Semi-Annual	24 hour composite[2] [3]
Total Phenolics (4AAP)	Surveillance Only	Semi-Annual	24 hour composite[2]
Total Suspended Solids	300 mg/L	Semi-Annual	24 hour composite[2]
Low Level Mercury by USEPA method 1631	0.001 mg/L	Once annually, no later than Sept 30 of each year	Grab
$CBOD_5$	See (4) below	Semi-Annual	24 hour composite[2]
Total Phosphorous	See (5) below	Semi-Annual	24 hour composite[2]

These Limitations shall be effective immediately.

Notes:

(1) All other limitations as set forth in the District's Sewer Use Law shall also apply.

(2) If period of normal operations on day of monitoring is less than 24 hours, the composite shall cover the period of normal operation only.

PART I WASTEWATER DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

(3) See Sampling Measurement & Analytical Guidelines, to determine the number of grab samples required for laboratory composite.

(4) $CBOD_5$ will be surcharged when the concentration exceeds 300 mg/L per the Niagara County Sewer District #1 Rules and Regulations Governing Abnormal Pollution Surcharges.

(5) Total Phosphorous will be surcharged when the concentration exceeds 10 mg/L per the Niagara County Sewer District #1 Rules and Regulations Governing Abnormal Pollution Surcharges.

PART II – SPECIAL CONDITIONS/COMPLIANCE SCHEDULE

1. Compliance Schedules: If additional pretreatment and/or operation and maintenance are required to meet discharge limitation and/or Pretreatment Regulations, the User will immediately advise District of the shortest schedule by which the User provide such additional pretreatment or reduction in flow discharged. The completion date in this schedule shall not be later than the compliance date established for any applicable Pretreatment Regulations.

PART III – REPORTING REQUIREMENTS

1. The Industrial User shall notify the District immediately upon any accidental or slug discharge to the sanitary sewer system. Formal written notification discussing circumstances of the event and remedies to prevent recurrence shall be submitted to the District within 3 days of occurrence.

2. The Industrial User shall notify the District and apply for a revised permit 30 days prior to the introduction of new wastewater or pollutants or any substantial change in the volume or characteristics of the wastewater being introduced into the POTW from the User's industrial processes.

3. Any upset experienced by the Industrial User of its treatment that places it in a temporary state of non-compliance with wastewater discharge limitations contained in this permit or other limitations specified in the District's Sewer Use Law shall be reported to the District within 24 hours of first awareness of the commencement of the upset. A detailed report shall be filed within 5 days.

4. Self-monitoring reports are due at the NCSD #1 office no greater than 60 days after the date of sampling. When reporting results, the following information shall be provided:

   a.) 1. The date, exact place, and time of sampling or measurements;
   2. The individual(s) who performed the sampling or measurements;
   3. The date(s) analyses were performed;
   4. The individual(s) who performed the analyses;
   5. The analytical techniques or methods used;
   6. The results of such analyses

   b.) A copy of the original lab report(s) as provided by the certified testing lab(s), including properly completed chain(s) of custody.

   c.) The original data from the lab report shall be transcribed into a table comparing the permit requirements to the obtained results. In cases where the permit contains requirements for daily maximum and maximum monthly average, columns for both of these shall be included in the table. When a single value applies to both daily max. and max. mo. avg. (because monitoring was only performed once during a month), separate columns shall still be included in the table, clearly indicating that the value is both the daily maximum and the monthly average.

   d.) All daily flows obtained since the previous reporting period, as well as the maximum and average daily flow for each month.

   e.) A certification statement as to whether the Industrial User is in compliance with the permit limitations. If the permit contains limitations for both daily max. and max. mo. avg., the statement must specify whether the User is in compliance with both limitations.

PART III – REPORTING REQUIREMENTS (cont'd)

f.) A certification statement that all normally operated (applicable) processes were operating (and discharging) during the monitoring period. Any processes not in operation shall be cited together with a listing of pollutants which might normally be present in said process discharge.

5. Additional Monitoring by Permittee - If the permittee monitors any pollutants at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified herein, the results of such monitoring shall be included in the calculation and reporting of values required under Part I. Such increased frequency shall also be indicated.

6. All self-monitoring reports prepared shall be submitted to:

Aaron T. Earsing, Chief Operator
Niagara County Sewer District #1 Water Pollution Control Center
7346 Liberty Drive
Niagara Falls, New York 14304

7. Signatory Requirements - All reports required by this permit shall be signed by an authorized representative of the Industrial User.

8. If sampling performed by the Industrial User indicates a violation, the Industrial User is required to repeat the sampling and analysis and submit the results to the District within thirty (30) days after becoming aware of the violation.

Additionally, applicable quality control is mandatory in cases where the Industrial User is conducting additional self-monitoring as a result of non-compliance. (See Sampling Measurement and Analytical Guidelines, Item #19 "Quality Control.")

9. Toxic Organic Management Plan - For Industrial Users who are required to monitor for Total Toxic Organics (TTO), and who are implementing a District-Approved, Toxic Organic Management Plan in lieu of this monitoring, the following certification shall be included with each self-monitoring report:

> "Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for total toxic organics, I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic management plan submitted to the control authority."

PART IV - STANDARD CONDITIONS

1. PROHIBITED DISCHARGES

The Industrial User shall comply with all the general prohibitive discharge standards.

2. INSPECTION/RIGHT-OF-ENTRY

The administrator and/or other duly authorized employees of the District, NYSDEC and/or USEPA, bearing proper credentials and identification, shall be permitted to enter all industrial properties without advance notice for the purpose of inspection, observation, measurement, sampling, monitoring, and testing in accordance with the provisions of its Sewer Use Law. The District shall also have the right to inspect and copy records pertaining to the Industry's self-monitoring procedures.

3. RECORDS RETENTION

The Industrial User shall retain and preserve for no less than (3) years any records, books, documents, memoranda, reports, correspondence, records of calibration and maintenance of instrumentation, recordings from continuous monitoring instrumentation, and any summaries thereof, relating to monitoring, sampling and chemical analysis made by or in behalf of the user in connection with its discharge. All records that pertain to matters that are the subject of special orders, or any other enforcement or litigation activities brought by the District, shall be retained and observed by the Industrial User until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

PART IV – STANDARD CONDITIONS (cont'd.)

4. CONFIDENTIAL INFORMATION

Except for data determined to be confidential under Section 5.15 of the District's Sewer Use Law, all reports required by this permit shall be available for public inspection at the office of the Pretreatment Administrator, 7346 Liberty Drive, Niagara Falls, New York 14304.

5. DILUTION

No Industrial User shall increase the use of potable or process water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in this permit.

6. PROPER DISPOSAL OF PRETREATMENT SLUDGES AND SPENT CHEMICALS

The disposal of sludges and spent chemicals generated shall be done in a manner such as to prevent the pollutants from such material from entering the NCSD #1 sewer system. Said disposal shall also conform to all applicable State/Federal regulations.

7. REVOCATION OF PERMIT

The permit issued to the Industrial User by the District may be revoked when after inspection, monitoring or analysis, it is determined that the discharge of wastewater to the sanitary sewer is in violation of Federal, State, or local laws, ordinances, or regulations. Additionally, falsification or intentional misrepresentation of data or statements pertaining to the permit application or any other required reporting form, shall be cause for permit revocation, revocation of sewer discharges privileges, and/or imposition of criminal penalties.

8. LIMITATION ON PERMIT TRANSFER

Wastewater discharge permits are issued to a specific user for a specific operation and are not assignable to another user or transferrable to any other location without the prior written approval of the District. Sale of a facility by a User shall obligate the purchaser to seek prior written approval of the District for continued discharge to the sewerage system.

9. PERMIT AVAILABILITY

The original signed permit must be available upon request at all times for review at the Industrial User's address stated on the first page of this permit.

10. MODIFICATION OR REVISION OF THE PERMIT

a. The terms and conditions of this permit may be subject to modification by the District at any time as limitations or requirements, as identified in the District Sewer Use Law, are modified or other just cause exists.

b. This permit may also be modified to incorporate special conditions resulting from the issuance of a special order by NYSDEC or EPA.

c. The terms and conditions may be modified as a result of EPA promulgating a new federal pretreatment standard. If a pretreatment standard or prohibition (including Schedule of Compliance specified in such pretreatment standard or prohibition) is established under Section 807 (b) of the Act for a pollutant which is present, the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in permit, this permit shall be revised or modified in accordance with such pretreatment standard or prohibition.

d. The terms and conditions of this permit shall remain in effect until the permit is terminated or replaced by a subsequent permit.

11. DUTY TO REAPPLY

Ninety (90) days prior to expiration, the User shall reapply for reissuance of the permit. Application forms are available from the District upon request.

PART IV – STANDARD CONDITIONS (cont'd).

12. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

13. ENFORCEMENT AND PENALTIES

Any violation of Section 2 or 3 of the Niagara County Sewer Use Law (adopted January 18, 1994) is declared a violation except as otherwise provided by law. Any violation of Section 4, 5 or 6 of the Niagara County Sewer Use Law is thereby a misdemeanor except as otherwise provided by law. A User who is found to have violated any provision of the Niagara County Sewer Use Law (or permits and orders issued thereunder) and/or applicable pretreatment standards and requirements, shall be subject to applicable civil and criminal penalties including but not limited to fines not to exceed five thousand dollars ($5,000) per violation per day for each day on which non-compliance shall occur or continue.

14. CLARIFICATION OF TERMS: SAMPLING/REPORTING INTERVALS

Monthly-unless otherwise stated, monthly means each calendar month.

Quarterly-unless otherwise stated, quarterly means occurring in each quarter of a calendar year.

Each quarter of a calendar year is defined as follows:
1st quarter-January through March;
2nd quarter-April through June;
3rd quarter-July through September;
4th quarter-October through December;

Semi-annual-unless otherwise stated, semi-annual means twice per calendar year.

Annual or Annually-unless otherwise stated, annual and/or annually means each calendar year.

15. CLARIFICATION OF 24-HOUR COMPOSITING PERIOD

24 hour compositing period (24C period)- The collection of a 24-hour composite does not necessarily have to begin at 12 midnight. It may be collected over any 24-hour interval over which a true and representative sample can be collected, in conjunction with the requirements of this permit. For example, the compositing period may begin at 10:00 AM on Tuesday and end on 10:00 AM Wednesday. Please see the "SAMPLING MEASUREMENT ANDANALYTICAL GUIDELINES" section of this permit for a definition of a composite and additional information.

PART V - SPECIFIC CONDITIONS

NONE

NIAGARA COUNTY SEWER DISTRICT #1

SAMPLING MEASUREMENT AND ANALYTICAL GUIDELINES

1. Prior to implementing the self-monitoring sampling and analyses, the Industrial User must submit the following information to the District.

   a. The name(s) and address(es) of the laboratory or laboratories proposed to perform each of the chemical analyses.
   b. A description of the equipment and test methods proposed for the chemical analyses for each parameter.
   c. A list of the lower level of detectability expected for each parameter.
   d. A description of the overall recovery efficiency of the prepared sample, where applicable.
   e. A description of the quality control procedures used by the laboratory or laboratories to ensure reliable test results.
   f. A description of the sample collection point and sample collection procedures.
   g. A description of the compositing technique and equipment.
   h. A description of the sample preservation methods used for each parameter.

2. Before commencement of any sampling or flow monitoring, Niagara County Sewer District #1 Water Pollution Control Center shall be notified in writing at least seventy-two (72) hours in advance by the firm or designee. The District will give a twenty-four (24) hour verbal notification to the firm or District designee of whether split sampling will be initiated.

3. Before sampling is done, the sample points must be approved by the District.

4. All discharge lines from one (1) building, or all discharge lines from only one (1) single process must be sampled at the same time.

5. Sampling record must be used and submitted with monitoring reports. The sampling report shall contain the following minimum information:

   a. Date of each sample day.
   b. Exact location of sampling points - attach drawing for reference.
   c. If done manually, time of each grab sample with sampler's initials each time.
   d. Type of auto-sampler used. Size and type of tubing and sampling interval.
   e. Record all physical observation (sight, smell etc.) of the discharge at start-up, during inspections and changing of samples.
   f. Note weather conditions.
   g. Signature of immediate sampling supervisor at the bottom of page.

6. If an auto-sampler is used, new tubing must be at least 1/4 I.D. If visibly contaminated after sampling, it must be cleaned with detergent or methanol and deionized water each day. Proper refrigeration of the sample must be maintained during entire sampling period, when necessary. The intake hose velocity must be at least 2.0 f.p.s. with a maximum lift of twenty (20) feet.

7. All sampling shall be taken at the highest velocity, greatest turbulence and center of flow.

8. All sampling must be done on normal work days. If there is a process discharge after normal working hours, sampling must continue until no further discharge.

9. "COMPOSITE SAMPLE" "Composite" shall mean a combination of individual (or continuously taken) samples obtained at regular intervals over the entire discharge day. The volume of each sample shall be proportional to the discharge flow rate, when possible. For a continuous discharge, a minimum of forty-eight (48) individual grab samples (at half hour intervals shall be collected and combined to constitute a twenty-four (24) hour composite sample. For intermittent discharges of less than four hours duration equal to or greater than one hour, grab samples shall be taken at a minimum of fifteen (15) minute intervals. A batch discharge less than one hour can be sampled with a single grab when the batch is continuously stirred or well mixed and the pollutants can be assumed to be uniformly dispersed.

   Composite samples for purgeable halocarbons (Method 601/8010), purgeable aromatics (Method 602/8020), acrolein/acrylonitrile (Method 603), volatile organics (Method 624/8240), or cyanide shall be lab composited from grab samples taken at regular intervals over the entire discharge day utilizing the appropriate special sample containers, preservatives and collection techniques. The number of grabs collected is dependent on the length of the sampling period, and shall be determined the following:

   For a discharge period of less than one hour, a single grab sample may be collected for analysis of the above parameters.

   For a discharge period between one and 24 hours, a minimum of four (4) grabs will be taken at regular intervals and lab composited for analysis of the above parameters.

SAMPLING MEASUREMENT AND ANALYTICAL GUIDELINES (cont'd.)

Proper sample collection containers and techniques must be used.

"SPLIT SAMPLE" - must be done on site with both parties present before preservatives are added.

"DAILY" - each operating day

"DAILY MAXIMUM" - shall mean the highest allowable discharge of a pollutant and/or flow measured during any twenty-four (24) hour sampling period. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the daily discharge is calculated as the average measurement of the pollutant over the day.

"GRAB" - shall mean an individual sample which is taken from a wastestream on a one (1) time basis with no regard to the flow in the wastestream and without consideration of time.

"MONTHLY" on day each month (the same day each month) and a normal operating day (i.e. the 2nd Tuesday of each month).

"MONTHLY AVERAGE" - discharge limitation means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month, divided by the number of daily discharges measured during that month.

"WEEKLY" - every seventh day (the same day each week) and a normal operating day.

10. Total water consumption shall be recorded for each day's composite using the water meters. Water consumption method must be explained in report.

11. All discharges shall be flow-monitored whenever possible. If flow monitoring cannot be done, flow determination should be a best practical engineering estimate without being economically burdensome to the firm involved. Results and procedure used to determine flow must be included with the analysis report.

12. Sample Collection Techniques for Single Discharge Lines

On single discharge lines (all regulated wastes discharge through one outlet), sample collection for the required parameters will be collected according to the following:

a. The following parameters should only be analyzed on manually taken grab samples:

pH	Fecal Coliforms
Temperature	Oil and Grease
Chlorine Residual	Low Level Mercury
Dissolved Oxygen	

b. The following parameters should only be analyzed on composite samples made from manually collected grab samples:

Purgeable Halocarbons (EPA 601)
Purgeable Aromatics (EPA 602)
Acrolein/Acrylonitrile (EPA 603)
Purgeables (EPA 624)
Cyanide

For a discharge period of less than one hour, a single grab sample may be collected for analysis of the above parameters.

For a discharge period between one and 24 hours, a minimum of four (4) grabs will be taken at regular intervals and lab composited for analysis of the above parameters.

Proper sample collection containers and techniques must be used.

c. The following parameters should be analyzed on an automatically collected composite sample or, if an auto sampler is unavailable, a manually collected composite sample:

Metals (except Low Level Mercury)	Total Phosphorus
Phenol-4AAP	TKN/Ammonia
BOD	Base/Neutral Acids (EPA 625)
Total Suspended Solids	EPA Methods 604-614

(For a continuous discharge, a minimum of forty-eight (48) individual grab samples (at half-hour intervals) shall be collected and combined to constitute a twenty-four (24) hour composite sample. For intermittent discharges of less than four (4) hours duration, grab samples shall be taken at a minimum of fifteen (15) minute intervals.)

SAMPLING MEASUREMENT AND ANALYTICAL GUIDELINES (cont'd.)

13. Sample Collection Techniques for Multiple Discharge Lines

For multiple discharge lines (all regulated wastes discharge through more than one outlet), sample collection for the required parameters will be collected according to the following:

a. The following parameters must be analyzed separately from each discharge line's individual grab samples:

pH	Fecal Coliforms
Temperature	Oil and Grease
Chlorine Residual	Low Level Mercury
Dissolved Oxygen	

b. For the following parameters, a composite made from manually collected grab samples must be used. A separate composite must be made from each discharge line. The composites from the different discharge lines cannot be combined for analysis.

Purgeable Halocarbons (EPA 601)
Purgeable Aromatics (EPA 602)
Acrolein/Acrylonitrile (EPA 603)
Purgeables (EPA 624)
Cyanide

For a discharge period of less than one hour, a single grab sample may be collected for analysis of the above parameters.

For a discharge period between one and 24 hours, a minimum of four (4) grabs will be taken at regular intervals and lab composited for analysis of the above parameters.

Proper sample collection containers and techniques must be used.

c. For the following parameters, composites from each discharge line may be combined proportional to their flow only if physical flow measurement can be done.

Metals (except Low Level Mercury)
Phenol-4AAP
BOD
Total Suspended Solids
Total Phosphorus
TKN/Ammonia
Base/Neutral Acids (EPA 625)
EPA Methods 604-613

(For a continuous discharge, a minimum of forty-eight (48) individual grab samples (at half-hour intervals) shall be collected from each discharge line and combined to constitute a twenty-four (24) hour composite sample. For intermittent discharges of less than four (4) hours duration, grab samples shall be taken at a minimum of fifteen (15) minute intervals.)

14. A chain of custody log sheet is required to be used for all sampling and analysis of each sample and attached to the report.

15. The handling, storage preservation and analytical procedures for each parameter shall follow Environmental Protection Agency Guidelines published in the Federal Register, pursuant to 40 CFR 136, dated October 26, 1984, or as subsequently revised.

16. The monitoring results report, sampling record(s), and chain of custody log sheet must be sent by the industry to the District and not by the consulting firm.

17. If any exemptions or changes have to be made due to unique situations, the District must be notified immediately for approval. When approved, a written explanation of the change must accompany the analysis sheet.

18. Any split samples that indicate a discrepancy of greater than 20% may be grounds for requiring re-sampling and analyses.

19. "QUALITY CONTROL" - All additional analyses which were run along with self-monitoring samples as a quality control measure, such as field blanks, duplicates or matrix spikes, etc., must be included in the self-monitoring report submitted to the District. Applicable quality control is mandatory in cases where the industrial user is conducting additional self-monitoring as a result of non-compliance.

20. All analyses of NYSDOH certifiable parameters conducted pursuant to this permit shall be performed by a laboratory certified for said parameters by the New York State Department of Health.

ATTACHMENT H

Pre-Treatment Operator's Logs

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Date: 1-7-22 **Time In:** 1[00] **Time Out:** 5[00]

Operator: WALLACE
Operator Signature [signature]

Weather:	COLD, CLEAR
Precipitation, Inches:	0
Temperature, ºF:	21° F
Purpose for Visit:	MO INSP JAN 2022

Pre-Treatment Process Information	Reading	Units	Time
1" Final Discharge Flow Meter Totalizer Reading:	3088030	GAL	1:30
½" Sump Flow Meter Totalizer Reading:	120644	GAL	1:30
Flow Rate (during testing) P-1:	7.9	GPM	3:30
Flow Rate (during testing) P-2:	8.6	GPM	3:30
Pump Hour Meter Readings: Pump #1:	40241	HOURS	1:30
Pump Hour Meter Readings: Pump #2:	39253	HOURS	1:30
Wet Well Level:	~2'	FT	1:30
Pressure Sensor Reading (Bar Graph) (during test):	35	PSI	3:30

	Influent Gauge, PSI	Effluent Gauge, PSI	Differential
Bag Filter #1:	34	34	0
Bag Filter #2:	34	~~33~~	2
Carbon Vessel #1:	22	15	7
Carbon Vessel #2:	15	14	1

Changed Filter Bags (Check ✓ One):	**YES**	X	**TIME**	3[00]
	NO			

Notes From Inspection: Site was Locked + Secured upon Arrival. Cap was snow covered, Roads were passable. (4" snow). Preformed monthly inspection tasks. Changed Chart in Recorder, TESTED Sump pumps - ok, TESTED HEATER in control panels - ok Changed F. Liter bags, TESTED PD pumps - ok. Flushed psi Gauge of sediment build up. Preformed Leak check under normal operating Pressures. Locked up Site, LEFT.

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Planned Action Items:
Keeping an Eye on ΔP in Cell #1, may need Backwash next Month.

Recommended Actions to Prevent Future Problems:

Other Relevant Information: DELIVERED A NEW CASE of 5M Filter bags.

SYSTEM CHECK LIST (Check ✓ if OK)	Arrival	Departure
#1 Vault Door:	✓	✓
#2 Panel Door:	✓	✓
#3 Vault Sump High Alarm:	✓	✓
#4 Containment Pipe Alarm:	✓	✓
#5 High Wet Well Alarm:	✓	✓
#6 Pump #1 Fail (Yes/No):	NO	NO
#7 Pump # 2 Fail (Yes/No):	NO	NO
#8 Bag Filter Differential Pressure High Alarm:	✓	✓
#9 Wet Well Level (Actual Measure Spoken):	—	—
#10 Flow Rate:	—	—

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Date: 2-16-22 **Time In:** 0830 **Time Out:** 1230

Operator: MIKE WALKER
Operator Signature Mike Walker

Weather:	Cloudy, Breezy
Precipitation, Inches:	0
Temperature, ºF:	48° F
Purpose for Visit:	Monthly inspection February 2022

Pre-Treatment Process Information	Reading	Units	Time
1" Final Discharge Flow Meter Totalizer Reading:	3115476	GAL	0900
½" Sump Flow Meter Totalizer Reading:	142855	GAL	0900
Flow Rate (during testing) P-1:	8.20	GPM	1100
Flow Rate (during testing) P-2:	8.50	GPM	1100
Pump Hour Meter Readings: Pump #1:	4053.8	HOURS	0900
Pump Hour Meter Readings: Pump #2:	3953.6	HOURS	0900
Wet Well Level:	< 2'	FT	0900
Pressure Sensor Reading (Bar Graph) (during test):	36	PSI	1130

	Influent Gauge, PSI	Effluent Gauge, PSI	Differential
Bag Filter #1:	35	34	1
Bag Filter #2:	34	31	3
Carbon Vessel #1:	21	16	5
Carbon Vessel #2:	15	15	0

Changed Filter Bags (Check ✓ One):	YES	X	TIME	1045
	NO			

Notes From Inspection: Site was secure and snow covered upon arrival. Plowed road back to the vault. 1-2' deep snow. System looked good. Proceeded with monthly inspection including: changed chart in recorder, tested sump pumps, leak & pressure test system. Changed filter bags. Recorded ΔP data. Back washed GAC #1 to keep pressures down. All went well.

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Planned Action Items:
Ø

Recommended Actions to Prevent Future Problems:
Ø

Other Relevant Information:
Ø

SYSTEM CHECK LIST (Check ✓ if OK)	Arrival	Departure
#1 Vault Door:	✓	✓
#2 Panel Door:	✓	✓
#3 Vault Sump High Alarm:	✓	✓
#4 Containment Pipe Alarm:	✓	✓
#5 High Wet Well Alarm:	✓	✓
#6 Pump #1 Fail (Yes/No):	NO	NO
#7 Pump # 2 Fail (Yes/No):	NO	NO
#8 Bag Filter Differential Pressure High Alarm:	✓	✓
#9 Wet Well Level (Actual Measure Spoken):	—	—
#10 Flow Rate:	—	—

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Date: 3/8/22 **Time In:** 0730 **Time Out:** 1130

Operator: MIKE WALKER
Operator Signature

Weather:	SUNNY
Precipitation, Inches:	0
Temperature, ºF:	36° F
Purpose for Visit:	ALARM CALL, BAG F. Iter PRESSURE High, ALSO Monthly inspection MARCH

Pre-Treatment Process Information	Reading	Units	Time
1" Final Discharge Flow Meter Totalizer Reading:	3141272	GAL	0800
½" Sump Flow Meter Totalizer Reading:	160389	GAL	0800
Flow Rate (during testing) P-1:	7.86	GPM	1100
Flow Rate (during testing) P-2:		GPM	
Pump Hour Meter Readings: Pump #1:	4078.4	HOURS	0800
Pump Hour Meter Readings: Pump #2:	3987.6	HOURS	0800
Wet Well Level:	< 2'	FT	0800
Pressure Sensor Reading (Bar Graph) (during test):	36	PSI	1100

	Influent Gauge, PSI	Effluent Gauge, PSI	Differential
Bag Filter #1:	35	34	1
Bag Filter #2:	34	32	2
Carbon Vessel #1:	23	16	7
Carbon Vessel #2:	16	14	2

Changed Filter Bags (Check ✓ One):	YES	X	TIME	10:00A
	NO			

Notes From Inspection: RECEIVED AN ALARM NOTIFICATION @ 0300. BAG F. Iter PRESSURE High, TRAVELED TO SITE @ 700AM, SITE WAS LOCKED AND SECURE. SNOW WAS MOSTLY MELTED AND GRASS CAP LOOKED good. ROADS WERE RUTTED & WATER FILLED IN SPOTS. PERFORMED MONTHLY INSPECTION TASKS: CHANGED RECORDER CHART, CHANGED FILTER BAGS, TESTED SUMP PUMPS & PROCESS PUMPS, ETC. ALL WERE FUNCTIONAL, NO LEAKS IN SYSTEM, NO ISSUES. SECURED VAULT & CONTROL PANEL, LEFT SITE

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Planned Action Items:
1 ϕ

Recommended Actions to Prevent Future Problems:
STILL NEED TO CONSIDER A BACK UP GENERATOR OF SOME
SORT IN CASE OF AN EXTENDED POWER OUTAGE.

Other Relevant Information:

SYSTEM CHECK LIST (Check ✓ if OK)	Arrival	Departure
#1 Vault Door:	✓	✓
#2 Panel Door:	✓	✓
#3 Vault Sump High Alarm:	✓	✓
#4 Containment Pipe Alarm:	✓	✓
#5 High Wet Well Alarm:	✓	✓
#6 Pump #1 Fail (Yes/No):	NO	NO
#7 Pump # 2 Fail (Yes/No):	NO	NO
#8 Bag Filter Differential Pressure High Alarm:	YES	✓
#9 Wet Well Level (Actual Measure Spoken):	—	—
#10 Flow Rate:	—	—

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Date: 03/30/22 **Time In:0930** **Time Out:1130**

Operator: Michael Walker
Operator Signature Michael Walker

Weather:	**Cloudy**
Precipitation, Inches:	**0**
Temperature, ºF:	30
Purpose for Visit:	System inspection and Bag filter Change

Pre-Treatment Process Information	Reading	Units	Time
1" Final Discharge Flow Meter Totalizer Reading:	3157768	**GAL**	1000
½" Sump Flow Meter Totalizer Reading:	174047	**GAL**	1000
Flow Rate (during testing) P-1:	7.83	**GPM**	1100
Flow Rate (during testing) P-2:	8.60	**GPM**	1100
Pump Hour Meter Readings: Pump #1:	4095.8	**HOURS**	1000
Pump Hour Meter Readings: Pump #2:	4004.1	**HOURS**	1000
Wet Well Level:	<2'	**FT**	1000
Pressure Sensor Reading (Bar Graph) (during test):	37	**PSI**	1100

	Influent Gauge, PSI	Effluent Gauge, PSI	Differential
Bag Filter #1:	35	35	0
Bag Filter #2:	35	32	3
Carbon Vessel #1:	24	15	9
Carbon Vessel #2:	15	14	1

Changed Filter Bags (Check ✓ One):	**YES**	XX	**TIME**	1030
	NO			

Notes From Inspection:
Site looked good upon arrival, all gates locked and secure. System tested out fine.
I will be unavailable for the next week or so. As a precaution, I was on site to change the bag filters and test the system to give us the best chance of having no system issues while I was gone.

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Planned Action Items:
None

Recommended Actions to Prevent Future Problems:
None.

Other Relevant Information:

SYSTEM CHECK LIST (Check ✓ if OK)	Arrival	Departure
#1 Vault Door:	✓	✓
#2 Panel Door:	✓	✓
#3 Vault Sump High Alarm:	✓	✓
#4 Containment Pipe Alarm:	✓	✓
#5 High Wet Well Alarm:	✓	✓
#6 Pump #1 Fail (Yes/No):	NO	NO
#7 Pump # 2 Fail (Yes/No):	NO	NO
#8 Bag Filter Differential Pressure High Alarm:	✓	✓
#9 Wet Well Level (Actual Measure Spoken):	—	—
#10 Flow Rate:		

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Date: 4/13/22 Time In: 0900 Time Out: 1130

Operator: Max Liffiton, Greg Ernst
Operator Signature Max Liffiton

Weather:	Cloudy, Rain
Precipitation, Inches:	~1/2"
Temperature, ºF:	60°F
Purpose for Visit:	Monthly Site Inspection + Spring Sample Event

Pre-Treatment Process Information	Reading	Units	Time
1" Final Discharge Flow Meter Totalizer Reading:	3166077	GAL	0905
½" Sump Flow Meter Totalizer Reading:	182162	GAL	0905
Flow Rate (during testing) P-1:	7.93	GPM	1110
Flow Rate (during testing) P-2:	8.02	GPM	1110
Pump Hour Meter Readings: Pump #1:	4104.6.	HOURS	0905
Pump Hour Meter Readings: Pump #2:	4012.4	HOURS	0905
Wet Well Level:	16.07	FT	0910
Pressure Sensor Reading (Bar Graph) (during test):	40	PSI	1110

	Influent Gauge, PSI	Effluent Gauge, PSI	Differential
Bag Filter #1:	37 / 38	36 / 37	1 / 1
Bag Filter #2:	36 / 37	33 / 34	3 / 3
Carbon Vessel #1:	25 / 26	17 / 17	8 / 9
Carbon Vessel #2:	17 / 17	13 / 13	4 / 4

Changed Filter Bags (Check ✓ One):	YES	✓	TIME	0930
	NO			

Notes from Inspection:
Arrived on site 0900. Site secure, all gates + panels locked. Began spring sample event at 0955. Samples were taken every 15 minutes until complete 1105. Changed bag filters and chart, tested pressure readings, sumps, alarms.

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Planned Action Items:

Recommended Actions to Prevent Future Problems:

Other Relevant Information:

SYSTEM CHECK LIST (Check ✓ if OK)	Arrival	Departure
#1 Vault Door:	✓	✓
#2 Panel Door:	✓	✓
#3 Vault Sump High Alarm:	✓	✓
#4 Containment Pipe Alarm:	✓	✓
#5 High Wet Well Alarm:	✓	✓
#6 Pump #1 Fail (Yes/No):	No	No
#7 Pump # 2 Fail (Yes/No):	No	No
#8 Bag Filter Differential Pressure High Alarm:	✓	✓
#9 Wet Well Level (Actual Measure Spoken):	16.07	16.31
#10 Flow Rate:	0.0	8.01

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Date: 5-12-22 **Time In:** 7 30 AM **Time Out:** 10 00 AM

Operator: Mike Walker
Operator Signature Mike Walker

Weather:	Sunny
Precipitation, Inches:	0
Temperature, ºF:	60 f
Purpose for Visit:	Monthly Inspection May 2022

Pre-Treatment Process Information	Reading	Units	Time
1" Final Discharge Flow Meter Totalizer Reading:	3191193	GAL	0800
½" Sump Flow Meter Totalizer Reading:	202431	GAL	0800
Flow Rate (during testing) P-1:	7.85	GPM	0915
Flow Rate (during testing) P-2:	8.40	GPM	0915
Pump Hour Meter Readings: Pump #1:	4130.6	HOURS	0800
Pump Hour Meter Readings: Pump #2:	4039.6	HOURS	0800
Wet Well Level:	< 2'	FT	0800
Pressure Sensor Reading (Bar Graph) (during test):	34	PSI	0915

	Influent Gauge, PSI	Effluent Gauge, PSI	Differential
Bag Filter #1:	34	34	0
Bag Filter #2:	34	30	4
Carbon Vessel #1:	19	15	4
Carbon Vessel #2:	15	13	2

Changed Filter Bags (Check ✓ One):	**YES**	X	**TIME**	0840
	NO			

Notes From Inspection: Site Looked Good upon arrival. All gates locked, Vault + Control Box Secure. Cap has a nice 6" cover of grass on it. Changed chart in Recorder, Tested sump pumps - ok. Changed filter bags. Tested system ok. Backwashed GAC #1 to lower ΔP in that vessel. Tested System (both pumps) after Backwash - All ok. Locked up + left site.

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Planned Action Items: ∅

Recommended Actions to Prevent Future Problems: ∅

Other Relevant Information: ∅

SYSTEM CHECK LIST (Check ✓ if OK)	Arrival	Departure
#1 Vault Door:	✓	✓
#2 Panel Door:	✓	✓
#3 Vault Sump High Alarm:	✓	✓
#4 Containment Pipe Alarm:	✓	✓
#5 High Wet Well Alarm:	✓	✓
#6 Pump #1 Fail (Yes/No):	NO	NO
#7 Pump # 2 Fail (Yes/No):	NO	NO
#8 Bag Filter Differential Pressure High Alarm:	✓	✓
#9 Wet Well Level (Actual Measure Spoken):	~	~
#10 Flow Rate:	—	—

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Date: 5/24/22 **Time In:** 0800 **Time Out:** 1200

Operator: Mike Walker
Operator Signature:

Weather:	Sunny
Precipitation, Inches:	0
Temperature, ºF:	59 F
Purpose for Visit:	Re-label and repair GW Wells and Piezometers

Pre-Treatment Process Information	Reading	Units	Time
1" Final Discharge Flow Meter Totalizer Reading:		GAL	
½" Sump Flow Meter Totalizer Reading:		GAL	
Flow Rate (during testing) P-1:		GPM	
Flow Rate (during testing) P-2:		GPM	
Pump Hour Meter Readings: Pump #1:		HOURS	
Pump Hour Meter Readings: Pump #2:		HOURS	
Wet Well Level:		FT	
Pressure Sensor Reading (Bar Graph) (during test):		PSI	

	Influent Gauge, PSI	Effluent Gauge, PSI	Differential
Bag Filter #1:			
Bag Filter #2:			
Carbon Vessel #1:			
Carbon Vessel #2:			

Changed Filter Bags (Check ✓ One):	YES		TIME	
	NO	X		

Notes From Inspection:
Arrived on site and all gates were locked and secure. Walked the whole site , Checked all wells, Piezometers, standpipes. Made sure all were labeled properly and repaired some of the lids and locking Mechanisms as needed. Installed a new lock on the 200-amp main breaker that is on the pole near the Front gate. The flood light that used to shine on the front gate/driveway has come off the pole and does Not work. (Is it worth fixing? We do not work there after dark. I think it was a holdover from the Construction phase to light the area where the office trailers were). Repaired the downpipe at SP-1 so it was not pushing against the well box and lid.

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Planned Action Items:

Recommended Actions to Prevent Future Problems:
We still have not come to a conclusion regarding the purchase or use of a small generator to keep out at
The site to use in case of a power outage. This would prevent flooding of the Vault due to ground water
infiltration if the power goes out .

Other Relevant Information:

SYSTEM CHECK LIST (Check ✓ if OK)	Arrival	Departure
#1 Vault Door:	✓	✓
#2 Panel Door:	✓	✓
#3 Vault Sump High Alarm:	✓	✓
#4 Containment Pipe Alarm:	✓	✓
#5 High Wet Well Alarm:	✓	✓
#6 Pump #1 Fail (Yes/No):	NO	NO
#7 Pump # 2 Fail (Yes/No):	NO	NO
#8 Bag Filter Differential Pressure High Alarm:	✓	✓
#9 Wet Well Level (Actual Measure Spoken):	—	—
#10 Flow Rate:	—	—

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Date: 06/21/22 **Time In:** 1300 **Time Out:**1445

Operator: Mike Walker
Operator Signature

Weather:	Sunny
Precipitation, Inches:	0
Temperature, ºF:	82 F
Purpose for Visit:	Alarm call Bag Filter Pressure High

Pre-Treatment Process Information	Reading	Units	Time
1" Final Discharge Flow Meter Totalizer Reading:	3222221	GAL	1330
½" Sump Flow Meter Totalizer Reading:	228899	GAL	1330
Flow Rate (during testing) P-1:	7.96	GPM	1410
Flow Rate (during testing) P-2:	8.03	GPM	1410
Pump Hour Meter Readings: Pump #1:	4164.9	HOURS	1330
Pump Hour Meter Readings: Pump #2:	4072.7	HOURS	1330
Wet Well Level:	<2'	FT	1330
Pressure Sensor Reading (Bar Graph) (during test):	37	PSI	1410

	Influent Gauge, PSI	Effluent Gauge, PSI	Differential
Bag Filter #1:	37	35	2
Bag Filter #2:	35	32	3
Carbon Vessel #1:	22	15	7
Carbon Vessel #2:	15	14	1

Changed Filter Bags (Check ✓ One):	YES	X	TIME	1340
	NO			

Notes From Inspection:
Site looked good on arrival, all locks secure. Changed filter bags, tested sump pumps, checked system piping for leaks, all OK.
After the bag change, I backwashed GAC #1 due to climbing differential pressure.
Ran the system using each pump to test alternator, OK. Locked up the site and left.

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Planned Action Items:
None

Recommended Actions to Prevent Future Problems:
None

Other Relevant Information:

SYSTEM CHECK LIST (Check ✓ if OK)	Arrival	Departure
#1 Vault Door:	OK	OK
#2 Panel Door:	OK	OK
#3 Vault Sump High Alarm:	OK	OK
#4 Containment Pipe Alarm:	OK	OK
#5 High Wet Well Alarm:	OK	OK
#6 Pump #1 Fail (Yes/No):	NO	NO
#7 Pump # 2 Fail (Yes/No):	NO	NO
#8 Bag Filter Differential Pressure High Alarm:	YES	OK
#9 Wet Well Level (Actual Measure Spoken):	-----	-----
#10 Flow Rate:	***	----

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Date: 07/15/22 **Time In: 1000** **Time Out:1400**

Operator: Mike Walker
Operator Signature

Weather:	**Sunny**
Precipitation, Inches:	**0**
Temperature, ºF:	77 F
Purpose for Visit:	Monthly inspection, July 2022

Pre-Treatment Process Information	Reading	Units	Time
1" Final Discharge Flow Meter Totalizer Reading:	3230502	**GAL**	1040
½" Sump Flow Meter Totalizer Reading:	235033	**GAL**	1040
Flow Rate (during testing) P-1:	7.71	**GPM**	1300
Flow Rate (during testing) P-2:	8.13	**GPM**	1300
Pump Hour Meter Readings: Pump #1:	4173.9	**HOURS**	1040
Pump Hour Meter Readings: Pump #2:	40801.6	**HOURS**	1040
Wet Well Level:	<2"	**FT**	1040
Pressure Sensor Reading (Bar Graph) (during test):	43	**PSI**	1300

	Influent Gauge, PSI	Effluent Gauge, PSI	Differential
Bag Filter #1:	43	41	2
Bag Filter #2:	41	38	3
Carbon Vessel #1:	26	18	8
Carbon Vessel #2:	18	15	3

Changed Filter Bags (Check ✓ One):	**YES**	XX	**TIME**	1200
	NO			

Notes From Inspection: Site was secure upon arrival, all gates locked, no evidence of any damage to fences or site equipment.
Grass cover on the cap is about 3' high on average. Performed monthly inspection of WTS including
Changing chart in recorder, Testing sumps for pup operation and alternation, OK. Check all piping for leaks, OK.
Changed out filter bags and ran system to check operating pressures, OK. Purged Pressure sensor tubing.
Check level sensors in 2nd containment and vault sump, OK.

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Planned Action Items:
None

Recommended Actions to Prevent Future Problems:
We should think about removing solids from the wet well while the summer weather is here,

Other Relevant Information:

SYSTEM CHECK LIST (Check ✓ if OK)	Arrival	Departure
#1 Vault Door:	✓	✓
#2 Panel Door:	✓	✓
#3 Vault Sump High Alarm:	✓	✓
#4 Containment Pipe Alarm:	✓	✓
#5 High Wet Well Alarm:	✓	✓
#6 Pump #1 Fail (Yes/No):	NO	NO
#7 Pump # 2 Fail (Yes/No):	NO ✓	NO ✓
#8 Bag Filter Differential Pressure High Alarm:	✓	✓
#9 Wet Well Level (Actual Measure Spoken):	—	—
#10 Flow Rate:	—	—

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Date: 08/04/22 **Time In:**0900 **Time Out:**1130

Operator: Mike Walker
Operator Signature

Weather:	Cloudy
Precipitation, Inches:	0
Temperature, ºF:	81 F
Purpose for Visit:	Monthly inspection August 2022 (Pre-Vacation Inspection).

Pre-Treatment Process Information	Reading	Units	Time
1" Final Discharge Flow Meter Totalizer Reading:	3232005	GAL	0945
½" Sump Flow Meter Totalizer Reading:	235075	GAL	0945
Flow Rate (during testing) P-1:	7.98	GPM	1045
Flow Rate (during testing) P-2:	8.16	GPM	1045
Pump Hour Meter Readings: Pump #1:	4717.5	HOURS	0945
Pump Hour Meter Readings: Pump #2:	4083.2	HOURS	0945
Wet Well Level:	<2'	FT	0945
Pressure Sensor Reading (Bar Graph) (during test):	38	PSI	1100

	Influent Gauge, PSI	Effluent Gauge, PSI	Differential
Bag Filter #1:	38	38	0
Bag Filter #2:	38	35	3
Carbon Vessel #1:	21	15	6
Carbon Vessel #2:	15	14	1

Changed Filter Bags (Check ✓ One):	YES	X	TIME	1030
	NO			

Notes From Inspection:
Site was secure upon arrival. All gated, wells, panels locked . No signs of vandalism or damage
From Varmints or others. Grass cap cover is about 30" high, scheduled to be cut on 08/15/22.
Changed bag filters, Tested the system for leaks-OK. Tested level sensors in the vault sump-OK.
Tested vault sump pumps and alternator- OK.
Backwashed GAC #1 after BF change to reduce differential pressure in GAC #1.

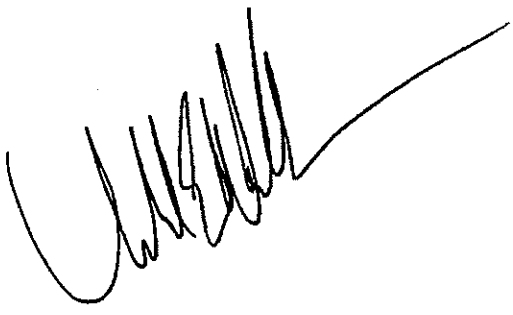
Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Planned Action Items:

Recommended Actions to Prevent Future Problems:

Other Relevant Information: this site visit was a little early this month as I will be on vacation for the next 9 days and wanted to make sure the system was running optimally and would not send me any alarm calls when I was out of town.

SYSTEM CHECK LIST (Check "X" if OK)	Arrival	Departure
#1 Vault Door:	X	X
#2 Panel Door:	X	X
#3 Vault Sump High Alarm:	X	X
#4 Containment Pipe Alarm:	X	X
#5 High Wet Well Alarm:	X	X
#6 Pump #1 Fail (Yes/No):	NO	NO
#7 Pump # 2 Fail (Yes/No):	NO	NO
#8 Bag Filter Differential Pressure High Alarm:	X	X
#9 Wet Well Level (Actual Measure Spoken):	---	---
#10 Flow Rate:	---	---



Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

Date: 8/21/22 **Time In:** 0800 **Time Out:** 1100

Operator: Mike Walker
Operator Signature:

Weather:	**Cloudy, Rain**
Precipitation, Inches:	**0.25"**
Temperature, ºF:	75 F
Purpose for Visit:	Alarm Call, Bag Filter Pressure High

Pre-Treatment Process Information	Reading	Units	Time
1" Final Discharge Flow Meter Totalizer Reading:	3233047	GAL	0845
½" Sump Flow Meter Totalizer Reading:	235091	GAL	0845
Flow Rate (during testing) P-1:		GPM	
Flow Rate (during testing) P-2:		GPM	
Pump Hour Meter Readings: Pump #1:	4176.8	HOURS	0845
Pump Hour Meter Readings: Pump #2:	4084.3	HOURS	0845
Wet Well Level:	<2'	FT	0845
Pressure Sensor Reading (Bar Graph) (during test):		PSI	

	Influent Gauge, PSI	Effluent Gauge, PSI	Differential
Bag Filter #1:			
Bag Filter #2:			
Carbon Vessel #1:			
Carbon Vessel #2:			

Changed Filter Bags (Check ✓ One):	YES	X	TIME	0915
	NO			

Notes From Inspection: Received alarm call and went to the site. All gates were locked and secure, Grass cap has been mowed and looked good. Checked the bag filters to see what the problem was, BF 1 was loaded with mud. BF 2, not so much. I changed the bag filters and tested the system by pumping from the wet well into a bucket using the Sample port in front of BF 1 to see if the piping was plugged or if there were still heavy solids in the Lines. By doing this, I was able to flush out the piping until the water became clearer as it should be. I then ran the system to check the pressure differentials at each BF and GAC unit. All was good. I recirculated the water back into the wet well during this time.

Frontier Chemical – Pendleton
Site No. 932043
Pre-Treatment System Operator's Log

I had left the system off for the time being to allow the water in the wet well to settle and build up to a
Point where the automatic level switches will activate the system when needed.

Planned Action Items:
We still need to sample the treated water for the semi-annual sample event, the last time, there was not enough water in the system to complete the sample round. There have been very little water accumulating in the wet well this summer due to dry conditions.

Recommended Actions to Prevent Future Problems:

Other Relevant Information:
I received notification to go ahead and purchase the portable generator for the system and will do so this week. Keping it in the cabinet on site in case of a local power failure.

SYSTEM CHECK LIST (Check ✓ if OK)	Arrival	Departure
#1 Vault Door:	✓	✓
#2 Panel Door:	✓	✓
#3 Vault Sump High Alarm:	✓	✓
#4 Containment Pipe Alarm:	✓	✓
#5 High Wet Well Alarm:	✓	✓
#6 Pump #1 Fail (Yes/No):	NO	NO
#7 Pump # 2 Fail (Yes/No):	NO	NO
#8 Bag Filter Differential Pressure High Alarm:	YES	ok
#9 Wet Well Level (Actual Measure Spoken):	—	—
#10 Flow Rate:	—	—