Texas Commission on Environmental Quality

Remediation Division Correspondence Identification Form

SITE & PROGRAM AREA IDENTIFICATION

SITE LOCATION

Site Name: Union Pacific Railroad Houston Wood Preserving Works

Address 1: 4910 Liberty Road

Address 2:

Houston State: **Texas**

Zip Code: 77026 County: Harris

TCEQ Region: Houston - 12

REMEDIATION DIVISION PROGRAM AND FACILITY IDENTIFICATION

Is This Site Being Managed Under A State Lead Contract? ☐ Yes ☑ No

Program Area: IHW Corrective Action

Mail Code: MC-127 (IHW)

Is This A New Site To This Program Area? ☐ Yes ☑ No

Additional Information: SWR No. 31547

Additional Information: Permit/ Compliance Plan No. 50343

DOCUMENT(S) IDENTIFICATION

PHASE OF REMEDIATION	DOCUMENT NAME
1. Post-Closure	PRACR - Annual Report 2024
2. Please select a phase of remediatic	
3. Please select a phase of remediatic	
4. Please select a phase of remediatic	
5. Please select a phase of remediatic	

CONTACT INFORMATION

☑ I attest that all work has been done in accordance with TCEQ rules ☑ I certify that I am aware misrepresentation of any claim is a violation.

RESPONSIBLE PARTY/APPLICANT/CUSTOMER INFORMATION (IF APPLICABLE)

Union Pacific Railroad
4823 N 119th Street
Milwaukee, WI 53225

ENVIRONMENTAL CONSULTANT/REPORT PREPARER/AGENT

WSP USA Inc.
3636 Executive Center Dr,
St. 100, Austin, TX 78731

SIGNATURES

DATABASE CODES

Document No.	TCEQ Database Term	Document No.	TCEQ Database Term
1.		4.	
2.		5.	
3.			

March 31, 2025 Project No. US0039040.4227

Mr. Jerry Wick
Texas Commission on Environmental Quality
MC-127
VCP-CA Section, Team 1 Remediation Division
P.O. Box 13087
Austin, Texas 78711-3087

RE: POST-RESPONSE ACTION COMPLETION REPORT – 2024
UNION PACIFIC RAILROAD HOUSTON WOOD PRESERVING WORKS, HOUSTON, TEXAS
4910 LIBERTY ROAD, HOUSTON, HARRIS COUNTY, TEXAS
TCEQ SWR NO. 31547; TCEQ PERMIT/COMPLIANCE PLAN NO. 50343 EPA ID NO. TXD000820266
CUSTOMER NO. CN600131098; REGULATED ENTITY NO. RN100674613

Dear Mr. Wick:
WSP USA Inc., on behalf of Union Pacific Railroad Company (UPRR), is pleased to provide the attached electronic version of the Post-Response Action Completion Report (PRACR) for 2024 for the above referenced site for your review. If you have any questions or need additional information, please feel free to call Matt Wickham at (512) 220-7459 or Mr. Kevin Peterburs of UPRR at (414) 267-4164.

Sincerely,

WSP USA Inc.

Keshab Gyawali
Lead Consultant, Civil Engineer, PE

Matthew K. Wickham
Vice President, Geology, PG
3/31/25

CC: Mr. Kevin Peterburs, UPRR – Milwaukee, WI
Ms. Karina Rocha, Waste Section Manager, TCEQ Region 12 Office, Houston, TX

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Post-Response Action Care Report (PRACR)

Cover Page

Submittal date: March 31, 2025 Regulatory ID No.: SWR 31547 TCEQ Region No.: 12

TCEQ Program (check one)

- [X] Corrective Action (Mail Code 127)
- [ ] Voluntary Cleanup Program (Mail Code 221)
- [ ] Petroleum Storage Tank Program (Mail Code 137)
- [ ] Superfund PRP Lead (Mail Code 143)
- [ ] Municipal Solid Waste Permits (Mail Code 124)

On-Site Property Information

On-Site Property Name: Union Pacific Railroad Houston Wood Preserving Works Site

Physical Address:

Street no. 4910 Pre dir: Street name Liberty Street type: Rd Post dir:

City: Houston County: Harris County Code: 101 Zip: 77007

Nearest street intersection or location description: Site is located south of Liberty Rd. between Kashmere and Lockwood St., and north of Lee St.

Latitude: Degrees, Minutes, Seconds OR Decimal Degrees (circle one) North 29.787413

Longitude: Degrees, Minutes, Seconds OR Decimal Degrees (circle one) West 95.321062

Off-Site Affected Property Information

Off-Site Affected Property Name:

Physical Address:

Street no. Pre dir: Street name: Street type: Post dir:

City: County: County Code: Zip:

- [ ] Check if no off-site properties affected

Contact Person Information and Acknowledgement

Person (or company) Name: Union Pacific Railroad

Contact Person: Kevin Peterburs Title: Manager, Site Remediation

Mailing Address: 4823 N 119th Street

City: Milwaukee State: WI Zip: 53225 E-mail address kjpeterb@up.com

Phone: 414-267-4164 Fax:

By my signature below, I acknowledge the requirement of 30 TAC §350.2(a) that no person shall submit information to the executive director or to parties who are required to be provided information under this chapter which they know or reasonably should have known to be false or intentionally misleading, or fail to submit available information which is critical to the understanding of the matter at hand or to the basis of critical decisions which reasonably would have been influenced by that information. Violation of this rule may subject a person to the imposition of civil, criminal, or administrative penalties.

Signature of Person Kevin Peterburs Name, print: Kevin Peterburs Date: 3/31/25

PRACR Executive Summary	ID No: SWR No. 31547
	Report Date: March 31, 2025

Affected Property Name/Number: UPRR Houston Wood Preserving Works Site

Date of RAP approval: RCRA Part A and Part B Permit Renewal Application with a Major Modification to the Compliance Plan was submitted on December 10, 2014, with revisions dated December 7, 2015, July 29, 2016, June 24, 2017, July 9, 2019, August 31, 2020, October 26, 2020, and January 15, 2021. The TCEQ completed the technical review of the Permit Renewal Application and prepared the Executive Director's Preliminary Decision and Final Draft Permit (May 5, 2021). The public comment period ended June 2022 and the application is currently in the TCEQ public comment response period.

Date of RACR approval: Pending RCRA Permit approval (RAP Rev 5 submitted August 31, 2020; Rev 6 submitted October 26, 2020; Rev 7 submitted January 15, 2021)

Length of approved PRAC period (default 30 yrs.): Pending RCRA Permit Renewal approval

Check if this is the final report ___
If this is the final report, provide documentation in Worksheet 4.0 that the applicable provisions of §350.33(i) have been met.

This reporting period: Start date: January 1, 2024 End date: December 31, 2024

On-site land use for basis of RACR approval ___ Residential X Commercial/industrial
Current on-site land use classification: ___ Residential X Commercial/industrial

During this reporting period, have there been any unexpected events or new conditions at the affected property that required an additional response action? **X** Yes ___ No

If yes, provide a brief explanation:

The following events and activities were encountered in 2024 at the Union Pacific Railroad (UPRR) Houston Wood Preserving Works Site (the Site) that required repairs and/or interim response actions within the capped areas:

Soil Cap Area
As detailed in the Affected Property Assessment Report (APAR) Addendum (PBW, 2009) for the Site, two sets of fiber optic lines run along the north side of the main rail lines under the Soil Cap across the entire length of the Site. The fiber optic company operating the lines, Lumen Technologies (Lumen), notified UPRR in 2023 that there is an existing fiber optic manway or "handhole" for one of the fiber optic lines that is located under the Soil Cap at the Site. Lumen notified UPRR that they planned to add additional fiber optic lines into an existing underground conduit and needed access to the buried handhole to complete the fiber installation project in the area. As part of the fiber installation, Lumen proposed to excavate the soil cap to the fiber handhole and add an extension to the fiber handhole to raise the top of the handhole to the top of the Soil Cap to allow for future access. On December 1, 2023, WSP USA Inc. (WSP), on behalf of UPRR, submitted a letter to notify the TCEQ (Industrial and Hazardous Waste (IHW) Permits, Remediation Division, and Region 12 Office)) of planned soil disturbance activities related to the fiber optic handhole within the Former HWPW Site. The construction activities were then conducted from April 1 through 5, 2024. WSP on behalf of UPRR provided the details of the construction and repair

activities on the Soil Cap to the TCEQ in the Response Action Completion Report (RACR) dated June 7, 2024 (WSP, 2024).

Concrete Cap Area – Englewood Intermodal (IM) Yard:
As noted in previously submitted Post-Response Action Care Reports (PRACRs), small seeps of non-aqueous liquid (NAPL) material (described as a tar-like material) have been noted within the Englewood Intermodal (IM) Yard in the A and B rows of trailer parking stalls. NAPL material from the seeps was observed and recovered in 2024 from the following areas:

- NAPL material was recovered along the southern edge of the NAPL Collection System at the concrete expansion joint at stall B107 during inspections conducted in the 2nd and 3rd Quarters of 2024.
- NAPL material was additionally observed and recovered along the northern side of Track 802 at the edge of the railroad ballast and within the concrete road area (RD-14) near the existing Track 802 seep location during the 1st and 2nd Quarters of 2024.
- Small amounts of NAPL material were observed surfacing through the joints and cracks in the Englewood IM Yard A Row (stalls A011, A022) and B row (stalls B056, B057, B096, B099, B100, B102) during the 1st and 2nd Quarters of 2024. These seep areas were addressed during the 2nd through 4th Quarters of 2024 as part of the Interim Measures Work Plan (IMWP) discussed below.
- No new seep locations were observed in 2024.

Revised Interim Measures Work Plan (IMWP): Additional interim measures proposed to address the NAPL seeps in the Englewood IM Yard were summarized in the Revised Interim Measures Work Plan (IMWP) dated October 20, 2023, which was approved by the TCEQ on January 9, 2024. UPRR initiated the (FE) construction activities consisting of 13 excavations on April 29, 2024. The excavation activities were completed in November 2024 and construction completion is pending final waste disposition. Details of the construction activities will be submitted to the TCEQ in a Response Action Completion Report (RACR).

As required in the Revised IMWP, WSP on behalf of UPRR, incorporated inspections of the backfilled FE areas as part of the weekly Englewood IM Yard concrete cap inspection schedule. As of December 2024, no significant erosion, sloughing, or subsidence has been observed at the FE cap areas and the caps appear to be functioning as designed. No additional seeps have been observed in the area of the FE activities since the excavations were completed.

Brown Water Seeps/Staining: Other issues that were encountered during 2024 include areas of brown water seeps/staining that were observed along asphalt joints and cracks in the pavement in the Englewood IM Yard A and B rows in February through May 2024, similar to observations made in previous years. UPRR mobilized remediation contractor E3 to pressure wash and/or collect the water in the areas where the brown staining and seeps were observed in April and May. Little to no staining was observed during weekly inspections since the end of May 2024.

If physical control inspection occurred during this reporting period, what is the status of the physical control?

Quarterly inspections were conducted of the five main cap areas and perimeter fence on January 19 (1Q), April 24 (2Q), July 24 (3Q), and October 18, 2024 (4Q). The following general observations were made of the five capped areas and perimeter fence:

- Soil Cap –The soil cap area continues to function as designed with minor bare spots and insect and animal burrows (noted during Quarterly Inspections). UPRR will continue to monitor these areas. Various vegetation (including pollinator plants) provided good coverage across the soil cap area. Areas repaired in 2022 and 2023 appear to be in good condition.

- Asphalt Cap Area – The Asphalt Cap appeared to be in good condition and functioning as designed. Repairs to the Asphalt Cap were completed in 2023 as part of the UPRR Engineering North By-Pass construction project where cracks in the joints were observed at the connections of the newly placed asphalt. More information about this repair is provided in the North By-Pass RACR dated January 12, 2024. This location will continue to be monitored during the inspections. Small amounts of stormwater pooling following storm events were observed within indentations in the Asphalt Cap Area towards the southwest end of the cap area. These indentations are not expected to impact the integrity of the asphalt cap and will continue to be monitored.

- Railroad Ballast Cap – The Railroad Ballast Cap area appeared to be in good condition, with some vegetation growth within the ballast area. UPRR will continue to remove and control the vegetation within the Railroad Ballast Cap area as needed.

- Concrete Sidewalk Cap – The Concrete Sidewalk Cap area appeared to be in good condition during the quarterly inspections and is functioning as intended. Maintenance that occurred in this area during 2024 included routine removal of vegetation from the edges of the sidewalk cap and some joints within the sidewalk.

- Concrete Cap (Englewood IM Yard) – The concrete cap area in the Englewood IM Yard continues to function as intended. NAPL material seeps were observed within the Concrete Cap area, as described above. Additional measures planned to address the NAPL seeps in the concrete cap in the Englewood IM Yard were summarized in the Revised IMWP (October 20, 2023). Thirteen focused excavation areas were excavated and backfilled to remove mobile NAPL seeps or areas where total petroleum hydrocarbon (TPH) concentrations were greater than 10,000 mg/kg. After construction, backfilled focused excavation areas were inspected weekly as part of the Englewood IM Yard concrete cap inspection schedule. As of December 2024, FE cap areas appear to be functioning as designed. Brown water seeps and staining were observed in February through May 2024. The brown staining and seeps were addressed through power washing and recovery of the wash water in April and May 2024. Weekly inspections of the Concrete Cap area will continue to be conducted.

  The NAPL Collection System within the Englewood IM Yard was inspected weekly during 2024. Approximately 0.53 gallons of NAPL was recovered from the NAPL Collection System in 2024. Pump downs to remove the accumulated storm water from

the NAPL Collection System sumps were conducted on February 2, April 26, and November 15, 2024.

The proposed response objective for the NAPL Collection System was to provide alternative preferential pathways for the NAPL to travel to and be recovered prior to seeping to the ground surface. Since less than 3.2 gallons of NAPL have been recovered from the system since its installation in 2019, UPRR is evaluating options for closure of the system. The alternative evaluation for closure of the NAPL Collection System will be submitted to the TCEQ for review in a separate submittal.

- Perimeter Fence – Several damaged areas of fencing were noting during the Fence Inspection that was conducted in 4Q 2024. Repairs to the perimeter fence will be completed in 2025

Have any changes occurred in the person's status during this reporting period to warrant changes in the financial assurance for this affected property? (For example, a change in "small business" status as defined in §350.33(n)(2).) ___ Yes _X_ No

If yes, describe the changes that occurred and the changes in financial assurance that have been or will be taken.

Checklist for Report Completeness	ID No. SWR No. 31547
	Report Date: March 31, 2025

Checklist for Report Completeness

Use this checklist to determine the portions of the form that must be submitted for this report. Answer all questions by checking Yes or No. If the answer is Yes, include that portion of the report. If the answer is No, do not complete or submit that portion of the report. All form contents that are marked "Required" must be submitted. Form contents marked with an asterisk (*) are not included in the blank form and are to be provided by the person.

			Report Contents	
		Required	**Cover Page**	☒
		Required	**Executive Summary**	☒
		Required	**Checklist for Report Completeness**	☒
No ☒	Has COC concentration monitoring been conducted? ***This PRACR is only for the post-response action for soils.***	☐ Yes	**Worksheet 1.0** Monitoring Activities	☐
			Attachment 1A* Monitoring Locations Map	☐
No ☒	Have groundwater elevation measurements been taken? ***This PRACR is only for the post-response action for soils.***	☐ Yes	**Attachment 1B*** Groundwater Gradient Maps	☐
No ☐	Is a physical control present?	☒ Yes	**Worksheet 2.0** Physical Control Inspection, Operation, and Maintenance	☒
No ☒	Is monitoring being performed? ***This PRACR is only for the post-response action for soils.***	☐ Yes	**Worksheet 3.0** COC Status	☐
			Attachment 3A* Time Series Graphs	☐
			Attachment 3B* Concentration versus Distance Graphs	☐
			Attachment 3C* PCLE Zone Maps and Cross Sections	☐
			Attachment 3D* Data Summary	☐
No ☒	Is this the final report?[1]	☐ Yes	**Worksheet 4.0** Response Action Objectives	☐
No ☒	Is monitoring being performed? ***This PRACR is only for the post-response action for soils.***	☐ Yes	**Appendix 1*** Analytical Data	☐
			Appendix 2* Disposition of Derived Waste	☒
		Required	**Appendix 3*** Chronology	☒

[1] See §350.33(i) to see if conditions are met to justify termination of post-response action care.

Physical Control Inspection, Operation, and Maintenance	PRACR Worksheet 2.0 Page _1_ of _11_	
	ID No: SWR No. 31547	Report Date: 03/31/25

Complete this worksheet if a physical control is used as part of the response action.

Provide a detailed description of post-response action care activities during this reporting period related to the inspection, operation, and maintenance of physical controls during this reporting period. Specifically note any differences from the plan documented in the approved RAP and the justification for the variances.

As detailed in the RAP Worksheet 5.0 (RAP Revision No. 5, August 2020), visual inspections were performed on a quarterly basis and after all major storms of the capped areas five capped areas (Soil Cap, Asphalt Cap, Railroad Ballast Cap, Concrete Sidewalk Cap, and Englewood Intermodal Yard Concrete Cap) shown on Figure 1. The inspections will focus on the following major issues:

1) Erosion of the cap (gullies, rills, or other erosional features on the cap surface or in drainages)
2) Sideslope sloughing (slippage)
3) Settling/subsidence
4) Vegetation deterioration
5) Damage from animals (i.e., rodents)
6) Groundwater monitoring equipment (wells) (semi-annual basis)

Quarterly site inspections of the five cap areas were conducted during the four quarters of 2024. Inspection logs and photographic logs for the quarterly inspections are provided in Attachment A (A1, A2, A3, & A4 for the quarterly events). Summaries of the quarterly site inspections are provided below.

1st Quarter (1Q), 2024 – Inspection Date: 01/19/24 (Photolog provided in Attachment A1)

• Soil Cap – The soil cap area did not appear to have any significant erosion, sloughing, or subsidence, and the cap appeared to be functioning as designed (Photo Nos. 1 through 8). Most of the vegetation on the cap is brown and dormant due to hard freezes; however, good vegetative coverage was observed over the cap. The dormant vegetation is expected to recover from the recent hard freezes, and it will be monitored. An electric power pole outside the perimeter fence on the north side of the Site fell onto the soil cap and was removed in January (Photo Nos. 4 and 5). Minor erosion of soil from joints of the concrete jersey barriers along the edges of the signal bridge bump-outs (constructed during the North By-Pass Construction Project (RACR, WSP, 2023)) was observed (Photo No. 7).

• Asphalt Cap – The asphalt cap appeared to be in good condition and functioning as intended (Photo Nos. 9 through 11). Vegetation was not observed between the Asphalt Cap and the Ballast Cap.

• Railroad Ballast Cap – The railroad ballast cap appeared to be in good condition and functioning as intended (Photo Nos. 9 and 12). Construction workers were observed performing ongoing maintenance of the ballast area along the rail lines.

• Concrete Sidewalk Cap – The sidewalk cap area appeared to be in good condition and functioning as intended (Photo Nos. 13 and 14).

• Perimeter Fence – The security fence along the sidewalk and entrance continues to function for site security and is in good condition.

• Concrete Cap (Englewood Intermodal Yard) – The concrete cap area appeared to be in good condition and functioning as intended (Photo Nos. 15 through 23) with cracks in the pavement observed (Photo Nos. 16 through 23), but no underlying soil appeared to be exposed. Cracks in the pavement were noted in stalls A006, A010, A011, A066, A067, A101, A102, and D130 (Photo Nos. 15 through 20 and 23). Even though cracks were observed, the concrete continues to serve as the Remedy Standard B physical barrier for the underlying soils to the on-site worker. Small amounts of the NAPL were observed during the quarterly inspection within concrete joints at stall B102, along the NAPL Collection System concrete joint at stall B107, and in concrete joints near the railway lines (Photo Nos. 20 through 22).

Weekly Inspections of Concrete Cap/NAPL Collection System (Englewood Intermodal Yard)
Observations from the weekly inspections during the 1Q were provided to the TCEQ in the Monthly Updates dated February 14, March 15, and April 15 for January, February, and March 2024, respectfully, prepared by WSP on behalf of UPRR. Small amounts of NAPL material were observed surfacing through the joints and cracks in the Englewood IM Yard A Row (stalls A011, A022) and B row (stalls B056, B057, B096, B099, B100, B102, and B107). NAPL seeps were also observed next to Track 802 (280 feet northwest of the NAPL Collection System) and within the concrete road area, RD-14 (45 feet north of Track 802 and east of the Track 802 seep location) as noted on Figure 2. Except for the B107 and Track 802 NAPL seeps, these seep areas were addressed during the 2nd through 4th Quarters of 2024 as part of the Interim Measures Work Plan (IMWP) discussed in the 2Q 2024 section. When NAPL is noted, the material is scraped and placed in a container (drum) within the Container Storage Area (CSA) pending disposal. Less than 0.17 gallons of NAPL material were recovered from the pavement area during 1Q.

Areas of brown stains on the Englewood IM Yard pavement were observed along cracks in the pavement during the February and March 2024 weekly inspections. A small amount of brown staining was visible at stall A011 during the weekly inspection on February 28, 2024, as detailed in the Monthly Status Update dated March 15, 2024. This is the first occurrence of the brown staining/residue since the last pressure washing event on August 18, 2023. Brown staining/residue was also observed during the weekly inspections on March 6, 13, and 27 2024 at A010. UPRR mobilized remediation contractor (E3) to pressure wash and/or collect the water in the areas where the brown staining and seeps were observed in early April.

The NAPL Collection System, installed in February 2019, continued to be inspected weekly. NAPL Collection System sumps were gauged during the weekly inspections using an interface probe, and the bottom of the sumps were scraped with a tool to evaluate the presence of any accumulated NAPL. Approximately 0.01 gallons were recovered from the sump nearest to B099/B100, Sump 1, using the scraping tool during Q1. No NAPL was measured or recovered in the other sumps during the 1Q inspections or during the sump pump down event. The final waste manifests are provided in Appendix 2.

One sump pump down event was conducted by E3 during 1Q on February 2, 2024, to remove the accumulated stormwater from the NAPL Collection System sumps. Water from the sumps was transported from the Site by E3 for disposal at Delta Water Processing in Houston, TX on February 2, 2024. The absorbent boom placed in the stormwater catch basin near the NAPL Collection System was replaced. The old boom was washed away and could not be recovered. The final waste manifests are provided in Appendix 2.

Groundwater Monitoring Wells

Groundwater monitoring wells were inspected in January 2024 during the first semi-annual site-wide groundwater monitoring event. Most of the wells appeared to be in good condition and functioning as intended, with some minor surface completion repairs needed (non-Solid Waste Management Unit No. 1 (SWMU No. 1) wells). Monitoring well MW-44C was noted as damaged and needs to be replaced. In addition, the total depth of monitoring well MW-49B could not be reached due to an obstruction. Groundwater samples can be collected from the well, but the well will need to be replaced as it serves as a DNAPL recovery well. Monitoring well MW-72B was noted as damaged with cracks on the surface completion.

2nd Quarter (2Q) 2024 – Inspection Date: 04/24/24 (Photolog provided in Attachment A2)

• Soil Cap – The soil cap area did not appear to have any significant erosion, sloughing, or subsidence, and the cap appeared to be functioning as designed (Photo Nos. 1 through 8). Patches of pollinator plants were observed throughout the soil cap area, and the rapid growth of vegetation during spring is a sign of healthy vegetation (Photo No. 2). Some stressed vegetation was observed near vehicle tracks on the soil cap, and minor insect burrows in the top layer of soil were observed (Photo No. 1 and 3). Neither the vehicle tracks nor the insect burrows impact cap integrity. WSP will continue to monitor these areas of the soil cap near the stressed areas. The grass along the perimeter fence required trimming, and the landscape contractor arrived to trim the grass towards the end of the inspection (Photo Nos. 2, 7, 8, and 26). The signal bridge bump-outs (North By-Pass) are in good condition (Photo No. 5).

• Asphalt Cap – The asphalt cap appeared to be in good condition and functioning as intended (Photo Nos. 9 through 10). Vegetation was not observed between the Asphalt Cap and the Ballast Cap.

• Railroad Ballast Cap – The railroad ballast cap appeared in good condition and functioning as intended (Photo Nos. 9 through 12).

• Concrete Sidewalk Cap – The sidewalk cap area appeared to be in good condition and functioning as intended.

• Perimeter Fence – The security fence along the sidewalk and entrance continues to function for site security and is in good condition (Photo Nos. 13 through 14).

• Concrete Cap (Englewood Intermodal Yard) – The concrete cap area appeared to be in good condition and functioning as intended (Photo Nos. 15 through 23) with cracks in the pavement observed in Rows A, B, and C, but no underlying soil appeared to be exposed. Cracks in the pavement were noted in stalls A011 through A013, A019 through A023, A066, A067, A070, A071, B013, and B070 (Photo Nos. 16 through 20 and 23). Even though cracks were observed, the concrete continues to serve as a barrier for the underlying soils to the on-site worker. Vegetation was noted along the joints of the stalls B060 through B070 (Photo No. 20). The vegetation in the cracks is not likely to impact the concrete cap integrity. The railroad tracks within the Concrete Cap area were free of vegetation. Rainwater puddles were observed in the middle of Row F and Row G (Photo No. 22).

Focused Excavations

The interim measures scope of work to address the NAPL seeps in the Englewood IM Yard through focused excavations (FEs) were detailed in the Revised IMWP dated October 20, 2023 and approved by the TCEQ in a letter dated January 9, 2024. UPRR remediation contractor E3 initiated the interim measures remediation activities on April 29, 2024, and completed the FE construction activities consisting of 13 excavation areas in November 2024, except for the final waste disposition. Details on the FE coordinates and rationale are presented in the Revised IMWP. The approximate extents of the FEs in the Englewood IM Yard are shown on Figure 2. Details of the response action construction activities will be submitted to the TCEQ in the RACR.

Weekly Inspections of Concrete Cap/NAPL Collection System (Englewood Intermodal Yard)
Observations from the weekly inspections during the 2Q were provided to the TCEQ by WSP on behalf of UPRR in the Monthly Updates dated May 15, June 17, and July 11 for April, May, and June 2024, respectfully. Small amounts of the NAPL material were observed surfacing through the joints and cracks in the IM Yard A Row (stalls A011, A022) and B row (stalls B042, B056, B057, B096, B099, B100, B102, B107)), next to Track 802 (280 feet northwest of the NAPL Collection System), and within the concrete road area, RD-14 (45 feet north of Track 802 and east of the Track 802 seep location) as noted on Figure 2. During the April 3 and 17, 2024 inspections, a small amount of NAPL material was observed in stall B096 adjacent to the test pit patch location. Except for the B107 and Track 802 NAPL seeps, these seep areas listed above were addressed during the 2nd through 4th Quarters of 2024 as part of FE interim measures.

At stall B107 along the southern edge of the NAPL Collection System, a small seep of NAPL material was observed on May 22, June 5, 12, and 26, 2024. This seep area was not addressed with the FE activities since it is immediately adjacent to the NAPL Collection System. In addition, the NAPL seep at Track 802 was not addressed by the FE activities since the NAPL seep area is within a few feet of active rail line.

When NAPL is noted, the material is scraped and placed in a container (drum) within the Container Storage Area (CSA) pending disposal. Approximately 0.52 gallons were recovered from the pavement areas during the weekly inspections throughout 2Q. One drum containing tar material was transported from the Site by E3 for disposal at Blueridge Landfill in Fresno, TX on June 13, 2024. The final waste manifests are provided in Appendix 2.

Areas of brown staining on the Englewood IM Yard pavement were observed along cracks in the pavement during the April 2024 weekly inspections. Localized brown staining along cracks and a small amount of seep water within the cracks in the paved areas were observed during the weekly inspection on April 3, 2024, as detailed in the April 2024 Monthly Status Update dated May 15, 2024. UPRR remediation contractor E3 mobilized to the site on April 8, 2024, to pressure wash areas of brown staining/residue present in cracks in the pavement in stall A010 and stalls A060-A061. A small amount of brown water staining was visible at stalls A060-A070 during the weekly inspection on April 17, 2024; however, the staining was not observed during the weekly inspection on April 24, 2024. A small amount of seep water returned to the depression in the joint between the asphalt and concrete pavement in stall A010 during the weekly inspection on April 24, 2024. E3 returned to the site on April 26, 2024, to recover this seep water. UPRR remediation contractor E3 mobilized to the site on May 10, 2024, to pressure wash areas of brown staining/residue present in cracks in the pavement in stalls A060-A074 observed during the weekly inspection on May 8, 2024. The brown staining

was again observed in cracks in the pavement in stalls A060-A070 during the weekly inspection on May 22, 2024. A small amount of seep water was also present in the depressions in the joint between the asphalt and concrete pavement in stall A010 and A011 during the weekly inspection on May 22, 2024. E3 returned to the site on May 28, 2024, to recover this seep water and pressure wash the brown staining. For each event, wash water from the clean-up events was recovered and is staged in a tote onsite pending transportation and disposal. Wash water was transported from the Site by E3 for disposal at Blue Ridge Landfill in Fresno, TX on June 26, 2024. The final waste manifests are provided in Appendix 2. The general area where the brown water seeps were noted is shown on Figure 2.

The NAPL Collection System continued to be inspected weekly. One sump pump down event was conducted by E3 during 2Q on April 26, 2024, to remove the accumulated water from the NAPL Collection System sumps. Less than 0.5 gallons of NAPL were recovered from Sump 1 during the pump down event on April 26, 2024. Approximately 0.01 gallons were recovered from the sump nearest to B099/B100, Sump 1, using the scraping tool during the 2Q. No NAPL was measured or recovered in the other sumps during the 2Q inspections. NAPL recovered from the sumps was placed in a drum for disposal. Water from the sumps was transported from the Site by E3 for disposal at Delta Water Processing in Houston, TX on April 26, 2024. The final waste manifests are provided in Appendix 2.

3rd Quarter (3Q) 2024 – Inspection Date: 07/24/24 (Photolog provided in Attachment A3)

Hurricane Beryl made landfall on July 8th. This inspection serves as both a quarterly inspection and post-major storm inspection.

• Soil Cap – The soil cap area did not appear to have any significant damage, erosion, sloughing, or subsidence, and the cap appeared to be functioning as designed (Photo Nos. 1 through 11). Good vegetative coverage was observed, except for some bare areas, tire tracks near the north portion of the Soil Cap, and minor pooling of storm water follow a recent rain event (Photo Nos. 2, 3, 5, and 6). The bare patches due to vehicular traffic and landscaping equipment are a result of regular maintenance activities, and the vegetation is expected to recover. The minor ponding is due to recent heavy rainfall, and the ponding is not expected to impact the soil cap integrity and will continue to be monitored. Some areas appear brown or wilted which is likely due to combination of heat stress and heavy rainfall from Hurricane Beryl, and the vegetation is expected to recover. There was no evidence of damage to the caps as a result of Hurricane Beryl. The signal bridge bump-outs (North By-Pass Project) are in good condition (Photo No. 7 and 8).

• Asphalt Cap – The asphalt cap appeared to be in good condition and functioning as intended (Photo Nos. 23 through 27). Some vegetation was observed between the Asphalt Cap and the Ballast Cap and from cracks in the asphalt underneath the concrete jerseys. A puddle of water was observed due to minor rutting due to heavy equipment which is not expected to impact the cap integrity (Photo No. 24). Small amount of water flowing across the engineered low-water crossing is shown on Photo No. 25.

• Railroad Ballast Cap – The railroad ballast cap appeared in good condition and functioning as intended with minor vegetation along the joints and near the tracks (Photo Nos. 20 through 22). The vegetation is not expected to impact cap integrity, and UPRR will continue to monitor the ballast cap.

• Concrete Sidewalk Cap – The sidewalk cap area appeared to be in good condition and functioning as intended (Photo Nos 30 through 32). Vegetation observed along some of the cracks and joints of the concrete pavement and will be removed or trimmed.

• Perimeter Fence – The security fence along the sidewalk and entrance (Photo Nos. 28 through 32) continues to function for site security and is in good condition. Vegetation was observed growing up portions of the security fence and will be removed or trimmed.

• Concrete Cap (Englewood Intermodal Yard) – The concrete cap area appeared to be in good condition and functioning as intended (Photo Nos. 35 through 43) with cracks in the pavement observed (Photo Nos. 35 through 40, and 42), but no soil appeared to be exposed. Cracks in the pavement were noted in stalls A060 through A070 and A101 (Photo Nos. 36 through 38). Even though cracks were observed, the concrete continues to serve as a barrier for the underlying soils to the on-site worker. Some vegetation was observed in the joints and cracks, but it is not expected to impact the concrete cap integrity. The Focused Excavations were under construction during the quarterly inspection (late April – November 2024) to address several NAPL seeps (Photo Nos. 36 and 43).

Focused Excavations
By the end of the 3Q, excavation and re-construction of the pavement caps at the FE locations near completion. Details of the construction activities will be submitted to the TCEQ in the RACR.

Weekly Inspections of Concrete Cap/NAPL Collection System (Englewood Intermodal Yard)
Observations from the weekly inspections during the 3Q were provided to the TCEQ by WSP on behalf of UPRR in the Monthly Updates dated August 15, September 12, and October 15 for July, August, and September 2024, respectfully. Brown water staining was observed along the joints and cracks in the IM Yard A Row (stalls A060 through A070). Small amounts of the NAPL material were observed surfacing through the joints and cracks at stall B107 and next to Track 802 (280 feet northwest of the NAPL Collection System) as shown on Figure 2. As previously discussed, these two NAPL seep areas were not addressed with the FE interim measures because the seep at stall B107 is immediately adjacent to the NAPL Collection System and the seep at Track 802 is adjacent to active railroad track. When NAPL is noted, the material is scraped and placed in a container (drum) within the CSA pending disposal.

Overall, NAPL material seep activity decreased during the 3Q compared to the 2Q as seeps were addressed with the FE interim measures. Approximately 0.16 gallons of NAPL material were recovered from the pavement areas during the weekly inspections throughout 3Q. One drum containing the NAPL material was transported from the Site by E3 for disposal at Blue Ridge Landfill in Fresno, TX on July 17, 2024. The final waste manifests are provided in Appendix 2.

The NAPL Collection System continued to be inspected weekly. Approximately 0.01 gallons were recovered from Sump 1 during 3Q.

Groundwater Monitoring Wells
Groundwater monitoring wells were inspected in July 2024 during the second semi-annual site-wide groundwater monitoring event. Most of the wells appeared to be in good condition and functioning as intended, with some minor surface completion repairs needed (non-SWMU

No. 1 wells). Monitoring well MW-44C was noted as damaged and needs to be replaced. In addition, the total depth of monitoring well MW-49B could not be reached due to an obstruction. Groundwater samples can be collected but the well will need to be replaced as it serves as a DNAPL recovery well. Monitoring well MW-72B was noted as damaged with cracks on the surface completion and a bent casing. Monitoring well MW-84A was also noted as damaged due an observation of water infiltrating through the casing.

4th Quarter 2024 – Inspection Date: 10/18/24 (Photolog provided in Attachment A4)

• Soil Cap – The soil cap area did not appear to have any significant erosion, sloughing, or subsidence, and the cap appeared to be functioning as designed (Photo Nos. 1 through 7). Most of the vegetation on the cap is dormant; however, good vegetative coverage was observed, except for some 12-18-inch-wide bare patches along the northern edge (Photo No. 4). The minimal bare patches are likely due to stress from recent heavy rainfall events, but they are expected to recover and will be monitored. A small animal burrow was observed in the surface soil of the northwestern portion of the soil cap (Photo No. 5), but it is not expected to impact the soil cap integrity. The grass within the perimeter fence required trimming which had not been scheduled due to heavy rainfall events. The soil cap areas near the signal bridge bump outs (North By-Pass Project) are in good condition (Photo No. 7).

• Asphalt Cap – The asphalt cap appeared to be in good condition and functioning as intended (Photo Nos. 8 through 9). The extension of the Asphalt Cap at the signal bridge/signal cabinet bump outs appeared to be in good condition (Photo No. 8). Vegetation was not observed between the Asphalt Cap and the Ballast Cap.

• Railroad Ballast Cap – The railroad ballast cap area appeared to be in good condition and functioning as intended with minor vegetation near the tracks (Photo Nos. 10 through 13). The vegetation is not expected to impact the cap integrity and will be monitored.

• Concrete Sidewalk Cap – The sidewalk cap area appeared to be in good condition and functioning as intended, with minor vegetation observed within the joints (Photo Nos. 16, 17, and 18).

• Perimeter Fence – The security fence along Liberty Road and entrance continues to function for site security and is in good condition with minor trash and vegetation along the fence line (Photo Nos. 14 through 22). The overgrown vegetation and trash will be addressed during the next mowing event. One pole of the security fence is slightly bent (Photo No. 19), and small areas of sagging fencing were noted (Photo No. 20), but neither issue affects the security of the fence. Minor erosion was observed under the fencing along the sidewalk (Photo No. 21), and vegetative overgrowth is starting to obstruct some of the posted warning signs on the fence (Photo No. 22).

• Concrete Cap (Englewood Intermodal Yard) – The concrete cap area appeared to be in good condition and functioning as intended (Photo Nos. 23 through 43) with cracks in the pavement observed in Rows A and B, but no underlying soil appeared to be exposed. Some minor damage (cracks and spalling) to the pavement was noted Rows A and B (Photo Nos. 33 through 38), and between stalls E119 and E120 along a concrete expansion joint (Photo No. 39). Even though cracks were observed, the concrete continues to serve as a physical barrier for the underlying soils. Minor amounts of vegetation were noted along the joints north of stalls E119 through E120 and G009 through G010 (Photo Nos. 39 through 40), and

minimally on the sides of the railroad tracks within the Englewood IM Yard (Photo No. 43). The vegetation in the cracks is not expected to impact the concrete cap integrity.

Focused Excavations

By the end of the 4Q, excavation and re-construction of the pavement caps at the FE locations completed. Details of the construction activities will be submitted to the TCEQ in the RACR. As required in the Revised IMWP, WSP on behalf of UPRR inspected the re-constructed focused excavation areas weekly as part of the Englewood IM Yard concrete cap inspections. As of December 2024, all the FE cap areas did not have any significant erosion, sloughing, or subsidence, and the re-constructed pavement caps appear to be functioning as designed (Photo Nos. 23 through 32).

Weekly Inspections

Observations from the weekly inspections during the 4Q were provided to the TCEQ by WSP on behalf of UPRR in the Monthly Updates dated November 15, December 16, 2024, and January 15, 2025 for October, November, and December 2024, respectfully. Small amounts of the NAPL material were observed surfacing at the Track 802 seep (280 feet northwest of the NAPL Collection System) as shown on Figure 2. No other NAPL seeps were observed. When NAPL is noted, the material is scraped and placed in a container (drum) within the Container Storage Area (CSA) pending disposal.

Similar to previous years, NAPL material seep activity decreased during the 4Q compared to the 3Q as ambient temperatures decreased. Approximately 0.04 gallons of NAPL material were recovered from the pavement areas during the weekly inspections throughout 4Q. One drum of NAPL material was generated in 2024 but disposed of in 2025 and will be addressed in the 2025 PRACR. One drum containing the NAPL material generated in 2024 was transported from the Site by E3 for disposal at Blue Ridge Landfill in Fresno, TX on January 10, 2025.

No brown staining/residue or seep water was observed during the weekly inspections throughout the 4Q.

The NAPL Collection System continued to be inspected weekly. No NAPL was measured or recovered in any of the sumps during the weekly inspections or during the sump pump down event. One sump pump down event was conducted by E3 during the fourth quarter of 2024 on November 15, 2024, to remove the accumulated storm water from the NAPL Collection System sumps. Water from the sumps was transported from the Site by E3 for disposal at McCarty Landfill in Houston, TX on March 4, 2025.

Groundwater Monitoring Wells

Groundwater monitoring wells were inspected in December 2024 during a groundwater well inspection event. Most of the wells appeared to be in good condition and functioning as intended, with some minor surface completion repairs needed (non-Solid Waste Management Unit No. 1 (SWMU No. 1) wells). Monitoring well MW-44C was noted as damaged and needs to be replaced. In addition, the total depth of monitoring well MW-49B could not be reached due to an obstruction. Groundwater samples can be collected but the well will need to be replaced as it serves as a DNAPL recovery well. Monitoring well MW-72B was noted as damaged with cracks on the surface completion and a bent casing. Monitor well MW-84A was also noted as damaged due an observation of water infiltrating through the casing.

The wells MW-65D and MW-66D could not be located during this well inspection. WSP will attempt to locate the wells using a GPS device. Locks, plugs, bolts, and covers were replaced when needed during this inspection.

Has the physical control proved to be effective in meeting the response objectives during this reporting period? _X_ Yes ___ No

If yes, explain how it was determined that the physical control is effective. If no, explain the actions taken, or that will be taken, to ensure effectiveness of the physical control.

- Soil Cap –The Soil Cap area continues to function as designed with minor erosion and animal burrows (noted during each Quarterly Inspection). UPRR will continue to monitor these areas. Various vegetation provided good coverage across the Soil Cap area.

- Asphalt Cap – The asphalt cap appeared to be in good condition and functioning as designed. The signal bridge and signal cabinet bump outs constructed during the UPRR Engineering North By-Pass construction project will continue to be monitored during the inspections.

- Railroad Ballast Cap – The railroad ballast cap area appeared to be in good condition, with some vegetation growth within the ballast area. UPRR will continue to remove and control the vegetation within the railroad ballast cap area as needed. The repaired areas from UPRR Engineering North By-Pass construction project will continue to be monitored during the inspections.

- Concrete Sidewalk Cap – The sidewalk cap area appeared to be in good condition during the quarterly inspections and is functioning as intended. The only maintenance that occurred in this area throughout 2024 was routine removal of vegetation from the edges of the sidewalk cap and some joints within the sidewalk.

- Perimeter Fence – The security fence along the sidewalk and entrance continues to function for site security and is in good condition. Overgrown vegetation and partially obscured warning signs on the fence will be addressed. A bent pole and sagging mesh were noted in the 4Q inspection. Additionally, minor erosion was observed under the fence. WSP will conduct a thorough perimeter and SWMU fence inspection in 1Q 2025, and repairs will be scheduled for 1Q-2Q 2025.

- Concrete Cap (Englewood Intermodal Yard) – The concrete cap area in the Englewood Intermodal Yard continues to function as intended. NAPL material seeps not addressed by the FE interim measures continue to be observed within the Concrete Cap area (stall B107 and Track 802). Seeps become more active during the warmer months of the year, similar to previous years. Brown water seeps and staining were observed in February through May 2024. The brown staining and seeps were addressed through power washing and recovery of the wash water. NAPL Collection System water pump downs to remove the accumulated storm water from the sumps were conducted on February 2, April 26, and November 15, 2024.

The proposed response objective for the NAPL Collection System was to provide alternative preferential pathways for the NAPL to travel to and be recovered prior to seeping to the ground surface. Since less than 3.2 gallons of NAPL have been recovered from the system over the past six years since its installation in 2019, UPRR is evaluating options for closure of the system since the approach has shown not to be effective in recovery of the tar-like NAPL encountered in the Englewood IM Yard.

UPRR implemented additional interim measures to address the NAPL seeps in the Englewood IM Yard through the FE response activities. The FE activities consisting of 13 excavation areas were initiated in late April 2024 and completed in November 2024, except for the final waste disposition. Details of the construction activities will be submitted to the TCEQ in the RACR. Since the completion of the re-constructed pavement at the FE locations, no NAPL seeps have been observed at any of the FE locations.

Discuss any unexpected events or new conditions that developed on-site (and off-site, if applicable) during this reporting period and the resulting responses or modifications made to the monitoring plan. Indicate the date the event or condition occurred, the date discovered, the actions taken, and the dates of those actions. Include this information in the chronology in Appendix 3.

Concrete Cap Area – Englewood Intermodal (IM) Yard:
During weekly inspections, small amounts of NAPL were noted and recovered in 2024 in the A and B rows: A011, A022, B042, B056, B057, B096, B099, B100, and B102. To address the NAPL seeps, UPRR initiated the interim measures remediation activities detailed in the Revised IMWP in late April 2024 and completed construction activities in November 2024, except for the final waste disposition. The RACR detailing the FE interim measures will be submitted to the TCEQ following final waste disposition. Following the re-construction of the pavement caps, WSP on behalf of UPRR inspected the backfilled and re-constructed pavement areas weekly as part of the Englewood IM Yard concrete cap inspection schedule. As of December 2024, the FE backfilled and re-constructed cap areas did not appear to have any significant erosion, sloughing, or subsidence, and the caps appear to be functioning as designed. There has not been any recurrence of the addressed NAPL seeps at those locations since the completion of the FE activities.

Outside of the areas addressed through the FE interim measures, NAPL seeps were observed and recovered along the southern edge of the NAPL Collection System at the joint at stall B107 during inspections conducted in the 2nd and 3rd Quarters of 2024. The NAPL seep at Track 802 was active where NAPL was recovered during the 1st and 2nd Quarter of 2024. No new seep locations were observed in 2024.

Similar to observations made in 2023, areas of brown staining were observed along asphalt joints and cracks in the pavement in the Englewood IM Yard A and B rows in February through May 2024.

- February/March 2024 –Localized brown staining along cracks within the cracks in the paved areas at stall A011 was observed during the inspections on February 28, March 6, and March 13, 2024.
- April 2024 – Localized brown staining along cracks and a small amount of seep water within the cracks in the paved areas at stall A011, with heavier staining noted in stalls

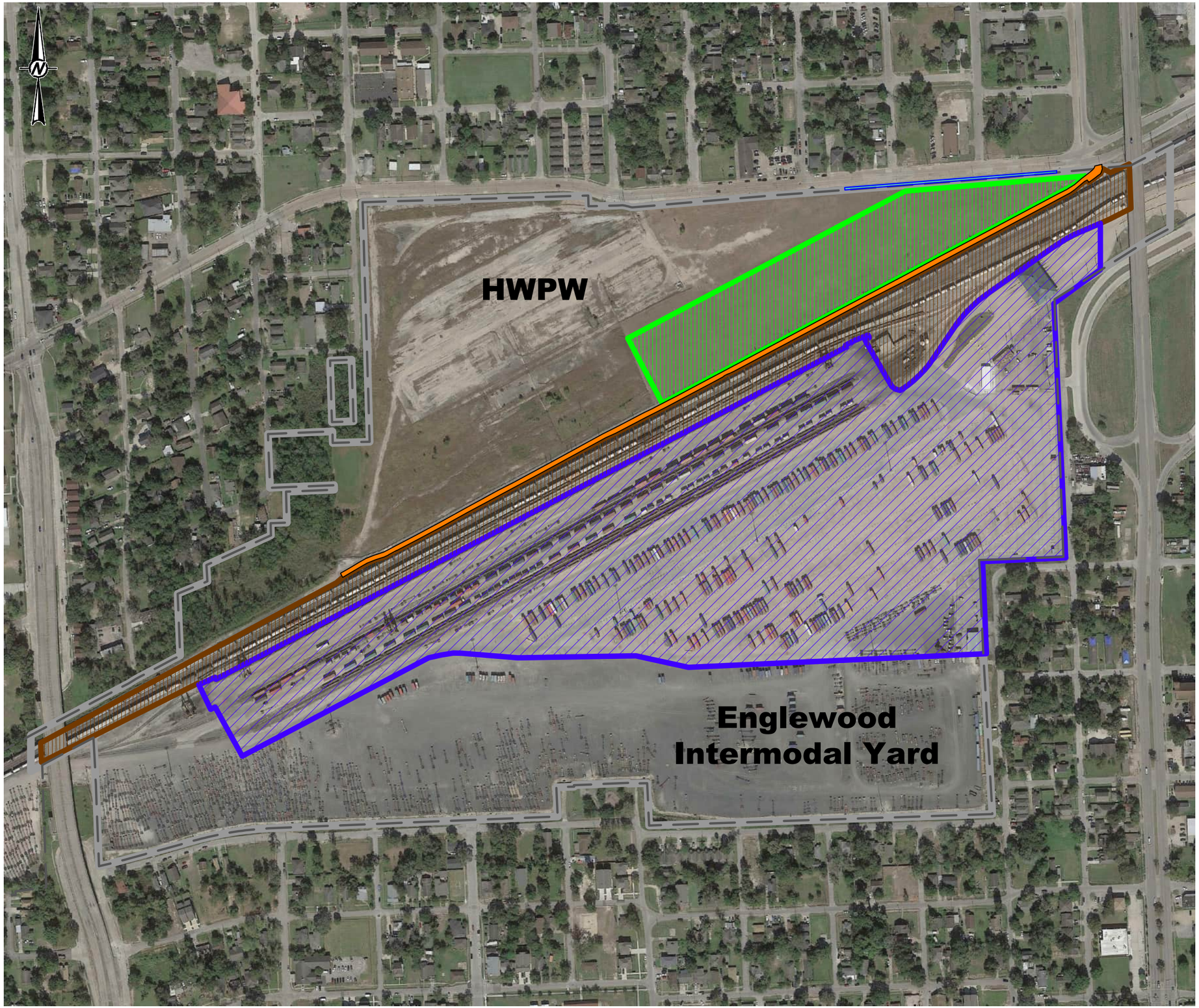
A060-A061, were observed during the inspection on April 3, 2024. UPRR remediation contractor E3 mobilized to the Site to address the brown staining through pressure washing and recovery of the wash water on April 8, 2024. Staining was additionally present during the April 17, 2024, inspection with the heaviest staining occurring in stalls A060-A070; however, the staining was not observed during the weekly inspection on April 24, 2024. A small amount of seep water returned to the depression in the joint between the asphalt and concrete pavement in stall A010 during the weekly inspection on April 24, 2024. E3 returned to the site on April 26, 2024, to recover this seep water. Wash water from April pressure washing events was recovered and stored in a tote staged onsite pending profiling the disposal.

- May 2024 – Localized brown staining along cracks within the cracks in the paved areas at stalls A060-A074 with heavier staining noted in stalls A060-A061, were observed during the inspection on May 8, 2024. UPRR remediation contractor E3 pressure washed and recovered the wash water. Brown staining was observed in the cracks in the pavement in stalls A060-A070 and stalls A010 and A011during the weekly inspection on May 22, 2024. E3 returned to pressure wash stalls A060-A070 and recover seep water from stalls A010 and A011 as well as wash water. Wash water from the pressure washing events in May was added to the tote located on site.

E3 transported the tote containing the pressure wash water for disposal to the Blue Ridge Landfill in Fresno, TX on June 26, 2024. Analytical for waste characterization of the pressure wash water and final waste manifest are provided in Appendix 2. Little to no staining was observed during weekly inspections since the end of May 2024. UPRR is continuing to evaluate possible sources of the seep water and potential responses to address surfacing of the water.

If the physical control is a containment system (e.g., hydraulic containment), what percentage of the time was the system effectively operational?

FIGURES



LEGEND

- UPRR PROPERTY BOUNDARY
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA
- SIDEWALK CAP AREA

REFERENCE(S)

PARCEL BOUNDARIES: CITY OF HOUSTON GEOGRAPHIC INFORMATION & MANAGEMENT SYSTEM (GIMS).
AERIAL: GOOGLE EARTH, PHOTOGRAPHY DATED 10/28/17.

0 160 320
1" = 320' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
CAPPED AREAS

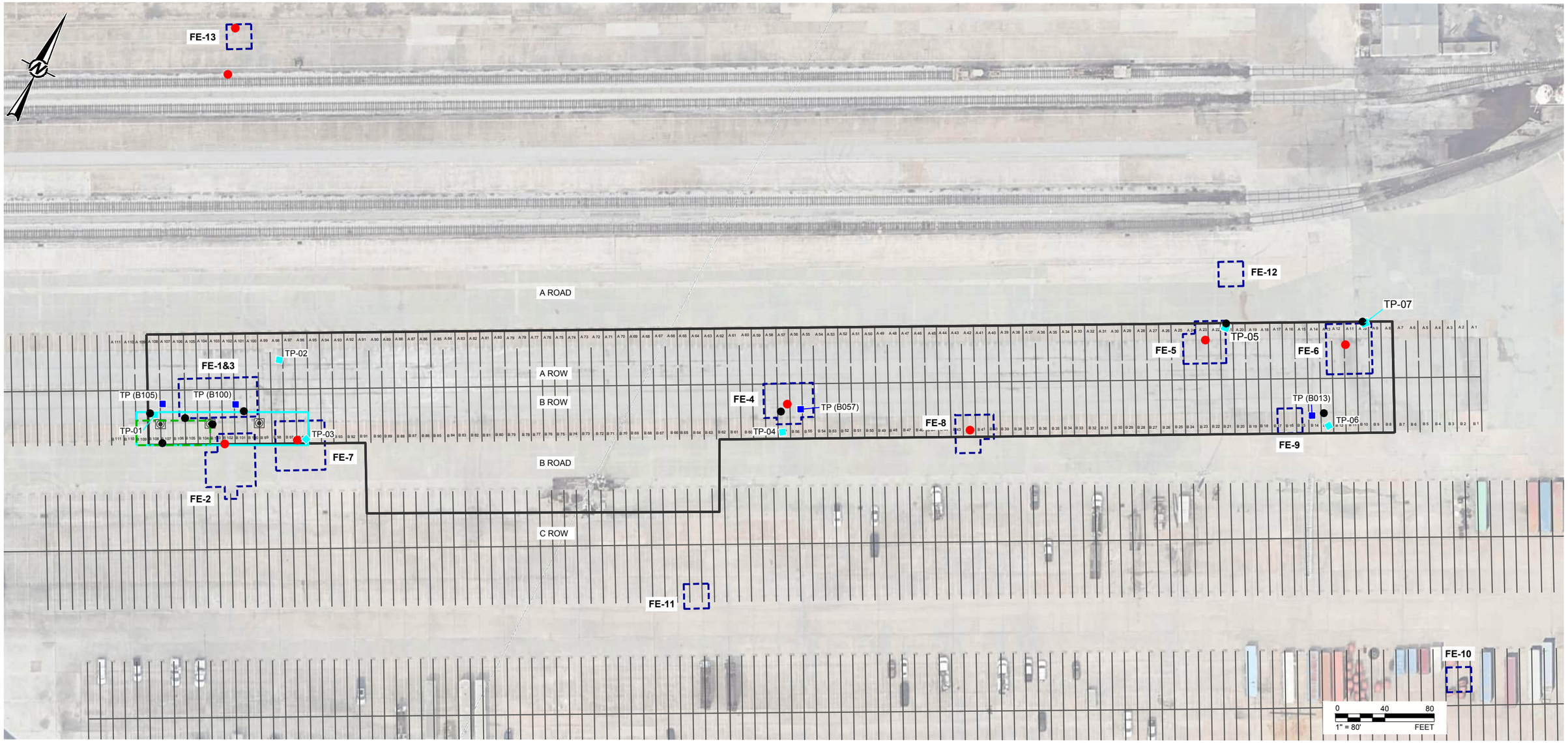
CONSULTANT
wsp

YYYY-MM-DD	2025-03-20
DESIGNED	AJD
PREPARED	AJD
REVIEWED	CT
APPROVED	ECM

PROJECT NO. US0039040.4227 | REV. 0 | FIGURE 1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\corp.pbwan.net\US\Central\Data\USDAL\400\Texarkana\Projects - Round Rock_2019\19119232 - HWPW\2025-03 PRACR\ | File Name: 1 - Capped Areas.dwg | Last Edited By: usajf701305 Date: 2025-03-20 Time:12:05:58 PM | Printed By: USAD701305 Date: 2025-03-27 Time:12:24:04 PM



LEGEND

- EXISTING NAPL COLLECTION SYSTEM (CONSTRUCTED FEB. 2019)
- HISTORICAL LIMIT OF BROWN LIQUID SURFACING
- HISTORICAL NAPL SEEP AREA
- HISTORICAL NAPL SEEP LOCATION
- 2024 NAPL SEEP LOCATION
- EXISTING NAPL COLLECTION SUMP
- TEST PIT LOCATION (2019)
- TEST PIT LOCATION (JULY 2020)
- AS-BUILT EXTENT FOCUSED EXCAVATION AREA

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, DATED 9/16/23.
THE DETAILS OF THE "AS-BUILT EXTENT FOCUSED EXCAVATION AREAS" WILL BE PROVIDED IN THE UPCOMING RACR.

CLIENT
UNION PACIFIC RAILROAD CO

PROJECT
HOUSTON WOOD PRESERVING WORKS
ENGLEWOOD INTERMODAL YARD

TITLE
ENGLEWOOD INTERMODAL YARD CAPPED AREA

CONSULTANT

YYYY-MM-DD	2025-03-20
DESIGNED	AJD
PREPARED	AJD
REVIEWED	CT
APPROVED	ECM

PROJECT NO. US0039040.4227 | REV. 0 | FIGURE 2

APPENDIX 2

DISPOSITION OF DERIVED WASTE

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 15, 2024

Emmanuel Higa
WSP Austin
1601 S. MoPac Expressway
Suite 325D
Austin, TX 78746

Work Order: **HS24060448**

Laboratory Results for: **Houston TX-Wood Preserving Works IDW**

Dear Emmanuel Higa,

ALS Environmental received 1 sample(s) on Jun 07, 2024 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Luis.Aguilar

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Work Order: HS24060448

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS24060448-01	NAPL-1620-FE01/FE03-IDW1-20240607	Soil		07-Jun-2024 12:50	07-Jun-2024 14:05	☐

Client: WSP Austin **CASE NARRATIVE**
Project: Houston TX-Wood Preserving Works IDW
Work Order: HS24060448

Work Order Comments

- The analysis for TCLP Dioxins/Furans was subcontracted to our ALS Lab in Burlington, ON. Final report attached.

Work Order Comments

- Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

  The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

GC Semivolatiles by Method TX1005

Batch ID: 213239

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Semivolatiles by Method SW8270

Batch ID: 213386

Sample ID: HS24060444-01MS

- MS is for an unrelated sample

Sample ID: LCS-213386

- p-phenylenediamine has poor extraction efficiency and the recovery was below the default lower control limit . In-house limits have not been determined.
- The LCS and/or LCSD recovery was above the upper control limit. All sample results in the batch were non-detect. (2,4-Dimethylphenol,Hexachlorocyclopentadiene)

Sample ID: LCSD-213386

- p-phenylenediamine has poor extraction efficiency and the recovery was below the default lower control limit . In-house limits have not been determined.

GCMS Volatiles by Method SW8260

Batch ID: 213383

Sample ID: MBLK-213383

- Surrogate failed outside control limits high. Associated samples are ND.

Sample ID: VLCSW-240615

- Insufficient sample received to perform MS/MSD. An LCS/LCSD was performed as batch quality control.

Sample ID: NAPL-1620-FE01/FE03-IDW1-20240607 (HS24060448-01)

- One or more surrogate recoveries were above the upper control limits. No target analytes were detected in the sample. The high surrogate recoveries did not impact the non-detect results for target analytes. Surrogate 1,2-Dichloroethane-d4

Metals by Method SW7470A

Batch ID: 213499

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: WSP Austin **CASE NARRATIVE**
Project: Houston TX-Wood Preserving Works IDW
Work Order: HS24060448

Metals by Method SW1311/6020

Batch ID: 213366

Sample ID: HS24060098-01MSD

- MSD is for an unrelated sample

WetChemistry by Method SW7.3.4.2

Batch ID: R469506

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW7.3.3.2

Batch ID: R469504

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW1030

Batch ID: R469326

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9045D

Batch ID: R469194

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Sample ID: NAPL-1620-FE01/FE03-IDW1-20240607
Collection Date: 07-Jun-2024 12:50

ANALYTICAL REPORT
WorkOrder:HS24060448
Lab ID:HS24060448-01
Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TCLP VOLATILES BY SW8260C		**Method:SW8260**		Leache:SW1311 / 12-Jun-2024	Prep:SW1311 / 12-Jun-2024		Analyst: TS
1,1,1,2-Tetrachloroethane	< 0.0060		0.0060	0.10	mg/L	20	16-Jun-2024 12:34
1,1,1-Trichloroethane	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
1,1,2,2-Tetrachloroethane	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
1,1-Dichloroethene	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
1,2,3-Trichloropropane	< 0.014		0.014	0.10	mg/L	20	16-Jun-2024 12:34
1,2-Dichloroethane	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
1,4-Dichlorobenzene	< 0.012		0.012	0.10	mg/L	20	16-Jun-2024 12:34
2-Butanone	< 0.020		0.020	0.20	mg/L	20	16-Jun-2024 12:34
Acetone	< 0.040		0.040	0.20	mg/L	20	16-Jun-2024 12:34
Acetonitrile	< 0.50		0.50	1.0	mg/L	20	16-Jun-2024 12:34
Benzene	< 0.012		0.012	0.10	mg/L	20	16-Jun-2024 12:34
Bromodichloromethane	< 0.012		0.012	0.10	mg/L	20	16-Jun-2024 12:34
Bromoform	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
Bromomethane	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
Carbon disulfide	< 0.018		0.018	0.20	mg/L	20	16-Jun-2024 12:34
Carbon tetrachloride	< 0.012		0.012	0.10	mg/L	20	16-Jun-2024 12:34
Chlorobenzene	< 0.0080		0.0080	0.10	mg/L	20	16-Jun-2024 12:34
Chloroform	< 0.012		0.012	0.10	mg/L	20	16-Jun-2024 12:34
Dichlorodifluoromethane	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
Ethylbenzene	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
Isobutyl alcohol	< 0.52		0.52	2.0	mg/L	20	16-Jun-2024 12:34
Methacrylonitrile	< 0.020		0.020	0.10	mg/L	20	16-Jun-2024 12:34
Methylene chloride	< 0.020		0.020	0.20	mg/L	20	16-Jun-2024 12:34
Styrene	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
Tetrachloroethene	< 0.012		0.012	0.10	mg/L	20	16-Jun-2024 12:34
Toluene	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
trans-1,3-Dichloropropene	< 0.012		0.012	0.10	mg/L	20	16-Jun-2024 12:34
Trichloroethene	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
Trichlorofluoromethane	< 0.012		0.012	0.10	mg/L	20	16-Jun-2024 12:34
Vinyl chloride	< 0.0080		0.0080	0.040	mg/L	20	16-Jun-2024 12:34
Xylenes, Total	< 0.010		0.010	0.10	mg/L	20	16-Jun-2024 12:34
Surr: 1,2-Dichloroethane-d4	*127*	*S*		*70-126*	*%REC*	*20*	*16-Jun-2024 12:34*
Surr: 4-Bromofluorobenzene	*113*			*82-124*	*%REC*	*20*	*16-Jun-2024 12:34*
Surr: Dibromofluoromethane	*117*			*77-123*	*%REC*	*20*	*16-Jun-2024 12:34*
Surr: Toluene-d8	*120*			*82-127*	*%REC*	*20*	*16-Jun-2024 12:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Sample ID: NAPL-1620-FE01/FE03-IDW1-20240607
Collection Date: 07-Jun-2024 12:50

ANALYTICAL REPORT
WorkOrder:HS24060448
Lab ID:HS24060448-01
Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TCLP SEMIVOLATILES		**Method:SW8270**	Leache:SW1311 / 12-Jun-2024		Prep:SW3510 / 12-Jun-2024		Analyst: GEY
1,2,4-Trichlorobenzene	< 0.50		0.50	6.2	ug/L	1	13-Jun-2024 20:46
1,2-Diphenylhydrazine	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
1,3-Dinitrobenzene	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
2,3,4,6-Tetrachlorophenol	< 0.38		0.38	6.2	ug/L	1	13-Jun-2024 20:46
2,4,5-Trichlorophenol	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
2,4,6-Trichlorophenol	< 0.50		0.50	6.2	ug/L	1	13-Jun-2024 20:46
2,4-Dichlorophenol	< 0.38		0.38	6.2	ug/L	1	13-Jun-2024 20:46
2,4-Dimethylphenol	< 0.50		0.50	6.2	ug/L	1	13-Jun-2024 20:46
2,4-Dinitrophenol	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
2,4-Dinitrotoluene	< 0.38		0.38	6.2	ug/L	1	13-Jun-2024 20:46
2,6-Dimethylphenol	< 0.62	n	0.62	6.2	ug/L	1	13-Jun-2024 20:46
2-Chlorophenol	< 1.2		1.2	6.2	ug/L	1	13-Jun-2024 20:46
3,3´-Dichlorobenzidine	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
Acenaphthene	**29**		**0.38**	**6.2**	**ug/L**	1	13-Jun-2024 20:46
Acetophenone	< 0.38		0.38	6.2	ug/L	1	13-Jun-2024 20:46
Aniline	< 1.8		1.8	6.2	ug/L	1	13-Jun-2024 20:46
Anthracene	**7.2**		**0.38**	**6.2**	**ug/L**	1	13-Jun-2024 20:46
Benzidine	< 1.2		1.2	6.2	ug/L	1	13-Jun-2024 20:46
Bis(2-chloroethyl)ether	< 0.88		0.88	6.2	ug/L	1	13-Jun-2024 20:46
Bis(2-ethylhexyl)phthalate	< 1.0		1.0	6.2	ug/L	1	13-Jun-2024 20:46
Butyl benzyl phthalate	< 0.75		0.75	6.2	ug/L	1	13-Jun-2024 20:46
Cresols, Total	< 0.50		0.50	6.2	ug/L	1	13-Jun-2024 20:46
Di-n-butyl phthalate	< 1.0		1.0	6.2	ug/L	1	13-Jun-2024 20:46
Diethyl phthalate	< 0.88		0.88	6.2	ug/L	1	13-Jun-2024 20:46
Dimethoate	< 0.88		0.88	6.2	ug/L	1	13-Jun-2024 20:46
Diphenylamine	< 0.50		0.50	6.2	ug/L	1	13-Jun-2024 20:46
Disulfoton	< 0.75		0.75	6.2	ug/L	1	13-Jun-2024 20:46
Fluoranthene	**13**		**0.50**	**6.2**	**ug/L**	1	13-Jun-2024 20:46
Fluorene	**33**		**0.62**	**6.2**	**ug/L**	1	13-Jun-2024 20:46
Hexachlorobenzene	< 0.38		0.38	6.2	ug/L	1	13-Jun-2024 20:46
Hexachlorobutadiene	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
Hexachlorocyclopentadiene	< 0.50		0.50	6.2	ug/L	1	13-Jun-2024 20:46
Hexachloroethane	< 1.0		1.0	6.2	ug/L	1	13-Jun-2024 20:46
Hexachlorophene	< 11		11	31	ug/L	1	13-Jun-2024 20:46
Isophorone	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
Methyl parathion	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
N-Nitroso-di-n-butylamine	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
N-Nitrosodi-n-propylamine	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
N-Nitrosodiphenylamine	< 0.50		0.50	6.2	ug/L	1	13-Jun-2024 20:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Sample ID: NAPL-1620-FE01/FE03-IDW1-20240607
Collection Date: 07-Jun-2024 12:50

ANALYTICAL REPORT
WorkOrder:HS24060448
Lab ID:HS24060448-01
Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TCLP SEMIVOLATILES		**Method:SW8270**		Leache:SW1311 / 12-Jun-2024	Prep:SW3510 / 12-Jun-2024		Analyst: GEY
N-Nitrosomethylethylamine	< 0.75		0.75	6.2	ug/L	1	13-Jun-2024 20:46
N-Nitrosopyrrolidine	< 1.1		1.1	6.2	ug/L	1	13-Jun-2024 20:46
Nitrobenzene	< 0.50		0.50	6.2	ug/L	1	13-Jun-2024 20:46
p-Phenylenediamine	< 1.4		1.4	6.2	ug/L	1	13-Jun-2024 20:46
Parathion	< 6.2		6.2	6.2	ug/L	1	13-Jun-2024 20:46
Pentachlorobenzene	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
Pentachloronitrobenzene	< 0.62		0.62	6.2	ug/L	1	13-Jun-2024 20:46
Pentachlorophenol	< 1.0		1.0	6.2	ug/L	1	13-Jun-2024 20:46
Phenol	< 0.50		0.50	6.2	ug/L	1	13-Jun-2024 20:46
Pronamide	< 0.75		0.75	6.2	ug/L	1	13-Jun-2024 20:46
Pyrene	**6.1**	J	**0.38**	**6.2**	**ug/L**	1	13-Jun-2024 20:46
Pyridine	< 0.38		0.38	6.2	ug/L	1	13-Jun-2024 20:46
Surr: 2,4,6-Tribromophenol	*85.2*			*39-153*	*%REC*	*1*	*13-Jun-2024 20:46*
Surr: 2-Fluorobiphenyl	*71.4*			*40-147*	*%REC*	*1*	*13-Jun-2024 20:46*
Surr: 2-Fluorophenol	*57.7*			*21-110*	*%REC*	*1*	*13-Jun-2024 20:46*
Surr: 4-Terphenyl-d14	*81.0*			*39-141*	*%REC*	*1*	*13-Jun-2024 20:46*
Surr: Nitrobenzene-d5	*69.8*			*37-140*	*%REC*	*1*	*13-Jun-2024 20:46*
Surr: Phenol-d6	*71.9*			*11-110*	*%REC*	*1*	*13-Jun-2024 20:46*
TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 10-Jun-2024		Analyst: DB
nC6 to nC12	**34,000**		**690**	**4600**	**mg/Kg**	10	11-Jun-2024 00:44
>nC12 to nC28	**79,000**		**910**	**4600**	**mg/Kg**	10	11-Jun-2024 00:44
>nC28 to nC35	**18,000**		**910**	**4600**	**mg/Kg**	10	11-Jun-2024 00:44
Total Petroleum Hydrocarbon	**130,000**		**690**	**4600**	**mg/Kg**	10	11-Jun-2024 00:44
Surr: 2-Fluorobiphenyl	*75.0*			*70-130*	*%REC*	*10*	*11-Jun-2024 00:44*
Surr: Trifluoromethyl benzene	*82.2*			*70-130*	*%REC*	*10*	*11-Jun-2024 00:44*
TCLP METALS BY SW6020A		**Method:SW1311/6020**		Leache:SW1311 / 12-Jun-2024	Prep:SW3010A / 12-Jun-2024		Analyst: MSC
Antimony	< 0.00400		0.00400	0.0500	mg/L	1	12-Jun-2024 16:15
Arsenic	< 0.00400		0.00400	0.0500	mg/L	1	12-Jun-2024 16:15
Barium	**0.0278**	J	**0.0190**	**0.200**	**mg/L**	1	12-Jun-2024 16:15
Beryllium	< 0.00200		0.00200	0.0200	mg/L	1	12-Jun-2024 16:15
Cadmium	< 0.00200		0.00200	0.0500	mg/L	1	12-Jun-2024 16:15
Chromium	**0.0118**	J	**0.00400**	**0.0500**	**mg/L**	1	12-Jun-2024 16:15
Lead	**0.0192**	J	**0.00600**	**0.0500**	**mg/L**	1	12-Jun-2024 16:15
Nickel	< 0.00600		0.00600	0.0500	mg/L	1	12-Jun-2024 16:15
Selenium	< 0.0110		0.0110	0.0500	mg/L	1	12-Jun-2024 16:15
Silver	< 0.00200		0.00200	0.0500	mg/L	1	12-Jun-2024 16:15
TCLP MERCURY BY SW7470A		**Method:SW7470A**		Leache:SW1311 / 12-Jun-2024	Prep:SW7470A / 13-Jun-2024		Analyst: JS
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	13-Jun-2024 19:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Sample ID: NAPL-1620-FE01/FE03-IDW1-20240607
Collection Date: 07-Jun-2024 12:50

ANALYTICAL REPORT
WorkOrder:HS24060448
Lab ID:HS24060448-01
Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
BURN RATE BY METHOD SW1030		**Method:SW1030**					Analyst: HB
Ignitability, Solid	**0**		**0**	**0**	**Burn Rate, mm/sec**	1	13-Jun-2024 14:00
REACTIVE CYANIDE		**Method:SW7.3.3.2**					Analyst: SG
Reactive Cyanide	< 100	n	100	100	mg/Kg	1	14-Jun-2024 17:37
REACTIVE SULFIDE		**Method:SW7.3.4.2**					Analyst: SG
Reactive Sulfide	< 100	n	100	100	mg/Kg	1	14-Jun-2024 17:54
PH SOIL BY SW9045D		**Method:SW9045D**					Analyst: MR
pH	**9.26**	H	**0.100**	**0.100**	**pH Units**	1	12-Jun-2024 12:17
Temp Deg C @pH	**22.0**	H	**0**	**0**	**°C**	1	12-Jun-2024 12:17
SUBCONTRACT ANALYSIS - TCLP DIOXINS/FURANS		**Method:SUBCONTRACT**			Prep:SW1311 / 12-Jun-2024		Analyst: SUB
Subcontracted Analyses	See Attached		0		NA	1	12-Jul-2024 08:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

Batch ID: 213239 **Start Date:** 10 Jun 2024 09:43 **End Date:** 10 Jun 2024 09:43
Method: TX 1005 PREP **Prep Code:** TX 1005_S PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24060448-01		1.08 (g)	10 (mL)	9.259	4-oz glass, Neat

Batch ID: 213365 **Start Date:** 11 Jun 2024 15:00 **End Date:** 11 Jun 2024 15:00
Method: TCLP SEMIVOLATILE EXTRACTION BY SW1311 **Prep Code:** 1311LO_SV

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24060448-01		150 (grams)	3000 (mL)	20	8-oz glass, Neat

Batch ID: 213366 **Start Date:** 12 Jun 2024 11:30 **End Date:** 12 Jun 2024 11:30
Method: TCLP LEACHATE DIGESTION BY SW3010A **Prep Code:** 3010A_TCLP

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24060448-01		1 (mL)	10 (mL)	10	8-oz glass, Neat

Batch ID: 213372 **Start Date:** 11 Jun 2024 15:00 **End Date:** 11 Jun 2024 15:00
Method: TCLP MERCURY EXTRACTION BY SW1311 **Prep Code:** 1311LHG EXT

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24060448-01		100 (grams)	2000 (mL)	20	8-oz glass, Neat

Batch ID: 213373 **Start Date:** 11 Jun 2024 15:00 **End Date:** 11 Jun 2024 15:00
Method: TCLP METALS EXTRACTION BY SW1311 **Prep Code:** 1311LM EXT

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24060448-01		100 (grams)	2000 (mL)	20	8-oz glass, Neat

Batch ID: 213383 **Start Date:** 11 Jun 2024 15:00 **End Date:** 11 Jun 2024 15:00
Method: TCLP VOLATILE ZERO HEADSPACE EXTRACTION BY SW1311 **Prep Code:** 1311ZHE_NR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24060448-01		25 (grams)	500 (mL)	20	8-oz glass, Neat

Batch ID: 213386 **Start Date:** 12 Jun 2024 12:00 **End Date:** 12 Jun 2024 12:00
Method: SV AQ SEP FUNNEL EXTRACTION - SW3510C **Prep Code:** 3510_B

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24060448-01		800 (mL)	1 (mL)	0.00125	8-oz glass, Neat

Batch ID: 213390 **Start Date:** 11 Jun 2024 15:00 **End Date:** 11 Jun 2024 15:00
Method: TCLP DIOXIN/FURAN EXTRACTION BY SW1311 **Prep Code:** 1311_DF

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24060448-01		150 (grams)	3000 (mL)	20	8-oz glass, Neat

Weight / Prep Log

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

Batch ID: 213499 **Start Date:** 13 Jun 2024 09:00 **End Date:** 13 Jun 2024 09:00
Method: MERCURY TCLP PREP BY SW7470A **Prep Code:** 1311_HGPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24060448-01		10 (mL)	10 (mL)	1	8-oz glass, Neat

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 213239 (0)	**Test Name :** TEXAS TPH BY TX1005				**Matrix:** Soil	
HS24060448-01	NAPL-1620-FE01/FE03-IDW1-20240607	07 Jun 2024 12:50		10 Jun 2024 09:43	11 Jun 2024 00:44	10
Batch ID: 213366 (0)	**Test Name :** TCLP METALS BY SW6020A				**Matrix:** Soil	
HS24060448-01	NAPL-1620-FE01/FE03-IDW1-20240607	07 Jun 2024 12:50	12 Jun 2024 08:00	12 Jun 2024 11:30	12 Jun 2024 16:15	1
Batch ID: 213383 (1)	**Test Name :** TCLP VOLATILES BY SW8260C				**Matrix:** Soil	
HS24060448-01	NAPL-1620-FE01/FE03-IDW1-20240607	07 Jun 2024 12:50	12 Jun 2024 08:00	12 Jun 2024 08:00	16 Jun 2024 12:34	20
Batch ID: 213386 (0)	**Test Name :** TCLP SEMIVOLATILES				**Matrix:** Soil	
HS24060448-01	NAPL-1620-FE01/FE03-IDW1-20240607	07 Jun 2024 12:50	12 Jun 2024 08:00	12 Jun 2024 12:00	13 Jun 2024 20:46	1
Batch ID: 213390 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TCLP DIOXINS/FURANS				**Matrix:** Soil	
HS24060448-01	NAPL-1620-FE01/FE03-IDW1-20240607	07 Jun 2024 12:50		12 Jun 2024 08:00	12 Jul 2024 08:10	1
Batch ID: 213499 (0)	**Test Name :** TCLP MERCURY BY SW7470A				**Matrix:** Soil	
HS24060448-01	NAPL-1620-FE01/FE03-IDW1-20240607	07 Jun 2024 12:50	12 Jun 2024 08:00	13 Jun 2024 09:00	13 Jun 2024 19:05	1
Batch ID: R469194 (0)	**Test Name :** PH SOIL BY SW9045D				**Matrix:** Soil	
HS24060448-01	NAPL-1620-FE01/FE03-IDW1-20240607	07 Jun 2024 12:50			12 Jun 2024 12:17	1
Batch ID: R469326 (0)	**Test Name :** BURN RATE BY METHOD SW1030				**Matrix:** Soil	
HS24060448-01	NAPL-1620-FE01/FE03-IDW1-20240607	07 Jun 2024 12:50			13 Jun 2024 14:00	1
Batch ID: R469504 (0)	**Test Name :** REACTIVE CYANIDE				**Matrix:** Soil	
HS24060448-01	NAPL-1620-FE01/FE03-IDW1-20240607	07 Jun 2024 12:50			14 Jun 2024 17:37	1
Batch ID: R469506 (0)	**Test Name :** REACTIVE SULFIDE				**Matrix:** Soil	
HS24060448-01	NAPL-1620-FE01/FE03-IDW1-20240607	07 Jun 2024 12:50			14 Jun 2024 17:54	1

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213239 (0) **Instrument: FID-13** **Method: TEXAS TPH BY TX1005**

MBLK Sample ID: **MBLK-213239** Units: **mg/Kg** Analysis Date: **10-Jun-2024 11:27**
Client ID: Run ID: **FID-13_469091** SeqNo: **8067754** PrepDate: **10-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	< 7.4	50								
>nC12 to nC28	< 9.8	50								
>nC28 to nC35	< 9.8	50								
Total Petroleum Hydrocarbon	< 7.4	50								
Surr: 2-Fluorobiphenyl	*22.88*	*0*	*25*	*0*	*91.5*	*70 - 130*				
Surr: Trifluoromethyl benzene	*27.04*	*0*	*25*	*0*	*108*	*70 - 130*				

LCS Sample ID: **LCS-213239** Units: **mg/Kg** Analysis Date: **10-Jun-2024 12:26**
Client ID: Run ID: **FID-13_469091** SeqNo: **8067755** PrepDate: **10-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	220.8	50	250	0	88.3	75 - 125				
>nC12 to nC28	291.8	50	250	0	117	75 - 125				
Surr: 2-Fluorobiphenyl	*26.69*	*0*	*25*	*0*	*107*	*70 - 130*				
Surr: Trifluoromethyl benzene	*27.11*	*0*	*25*	*0*	*108*	*70 - 130*				

LCSD Sample ID: **LCSD-213239** Units: **mg/Kg** Analysis Date: **10-Jun-2024 12:56**
Client ID: Run ID: **FID-13_469091** SeqNo: **8067756** PrepDate: **10-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	223.2	50	250	0	89.3	75 - 125	220.8	1.1	20	
>nC12 to nC28	276.2	50	250	0	110	75 - 125	291.8	5.53	20	
Surr: 2-Fluorobiphenyl	*25.17*	*0*	*25*	*0*	*101*	*70 - 130*	*26.69*	*5.88*	*20*	
Surr: Trifluoromethyl benzene	*26.11*	*0*	*25*	*0*	*104*	*70 - 130*	*27.11*	*3.78*	*20*	

MS Sample ID: **HS24060234-01MS** Units: **mg/Kg** Analysis Date: **10-Jun-2024 13:54**
Client ID: Run ID: **FID-13_469091** SeqNo: **8067758** PrepDate: **10-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	200.2	49	245.1	0	81.7	75 - 125				
>nC12 to nC28	254	49	245.1	0	104	75 - 125				
Surr: 2-Fluorobiphenyl	*24.12*	*0*	*24.51*	*0*	*98.4*	*70 - 130*				
Surr: Trifluoromethyl benzene	*25.33*	*0*	*24.51*	*0*	*103*	*70 - 130*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213239 (0) **Instrument:** FID-13 **Method:** TEXAS TPH BY TX1005

MSD Sample ID: **HS24060234-01MSD** Units: **mg/Kg** Analysis Date: **10-Jun-2024 14:24**
Client ID: Run ID: **FID-13_469091** SeqNo: **8067759** PrepDate: **10-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	213.3	49	244.1	0	87.4	75 - 125	200.2	6.34	20	
>nC12 to nC28	270.5	49	244.1	0	111	75 - 125	254	6.28	20	
Surr: 2-Fluorobiphenyl	*24.02*	*0*	*24.41*	*0*	*98.4*	*70 - 130*	*24.12*	*0.447*	*20*	
Surr: Trifluoromethyl benzene	*24.95*	*0*	*24.41*	*0*	*102*	*70 - 130*	*25.33*	*1.53*	*20*	

The following samples were analyzed in this batch: HS24060448-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213366 (0) **Instrument:** ICPMS05 **Method:** TCLP METALS BY SW6020A

MBLK Sample ID: **MBLKT4-213376** Units: **mg/L** Analysis Date: **12-Jun-2024 15:37**
Client ID: Run ID: **ICPMS05_469215** SeqNo: **8066344** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	< 0.00400	0.0500								
Arsenic	< 0.00400	0.0500								
Barium	< 0.0190	0.200								
Beryllium	< 0.00200	0.0200								
Cadmium	< 0.00200	0.0500								
Chromium	0.01046	0.0500								J
Lead	< 0.00600	0.0500								
Nickel	< 0.00600	0.0500								
Selenium	< 0.0110	0.0500								
Silver	< 0.00200	0.0500								

MBLK Sample ID: **MBLKT3-213373** Units: **mg/L** Analysis Date: **12-Jun-2024 15:35**
Client ID: Run ID: **ICPMS05_469215** SeqNo: **8066343** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	< 0.00400	0.0500								
Arsenic	< 0.00400	0.0500								
Barium	< 0.0190	0.200								
Beryllium	< 0.00200	0.0200								
Cadmium	< 0.00200	0.0500								
Chromium	0.00887	0.0500								J
Lead	< 0.00600	0.0500								
Nickel	< 0.00600	0.0500								
Selenium	< 0.0110	0.0500								
Silver	< 0.00200	0.0500								

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213366 (0) **Instrument:** ICPMS05 **Method:** TCLP METALS BY SW6020A

MBLK Sample ID: **MBLK-213366** Units: **mg/L** Analysis Date: **12-Jun-2024 13:11**
Client ID: Run ID: **ICPMS05_469161** SeqNo: **8065856** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	< 0.000400	0.00500								
Arsenic	< 0.000400	0.00500								
Barium	< 0.00190	0.0200								
Beryllium	< 0.000200	0.00200								
Cadmium	< 0.000200	0.00500								
Chromium	0.000703	0.00500								J
Lead	< 0.000600	0.00500								
Nickel	< 0.000600	0.00500								
Selenium	< 0.00110	0.00500								
Silver	< 0.000200	0.00500								

LCS Sample ID: **LCS-213366** Units: **mg/L** Analysis Date: **12-Jun-2024 13:13**
Client ID: Run ID: **ICPMS05_469161** SeqNo: **8065857** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04424	0.00500	0.05	0	88.5	80 - 120				
Arsenic	0.04136	0.00500	0.05	0	82.7	80 - 120				
Barium	0.04274	0.0200	0.05	0	85.5	80 - 120				
Cadmium	0.04271	0.00500	0.05	0	85.4	80 - 120				
Chromium	0.04215	0.00500	0.05	0	84.3	80 - 120				
Lead	0.04379	0.00500	0.05	0	87.6	80 - 120				
Nickel	0.0423	0.00500	0.05	0	84.6	80 - 120				
Selenium	0.04027	0.00500	0.05	0	80.5	80 - 120				
Silver	0.04112	0.00500	0.05	0	82.2	80 - 120				

LCS Sample ID: **LCS-213366** Units: **mg/L** Analysis Date: **12-Jun-2024 15:39**
Client ID: Run ID: **ICPMS05_469215** SeqNo: **8066345** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.04447	0.00200	0.05	0	88.9	80 - 120				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213366 (0) **Instrument:** ICPMS05 **Method:** TCLP METALS BY SW6020A

MS Sample ID: **HS24060098-01MS** Units: **mg/L** Analysis Date: **12-Jun-2024 18:15**
Client ID: Run ID: **ICPMS05_469215** SeqNo: **8066746** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.544	0.0500	0.5	0	109	80 - 120				
Arsenic	0.5564	0.0500	0.5	0.00615	110	80 - 120				
Barium	0.9895	0.200	0.5	0.4324	111	80 - 120				
Beryllium	0.5142	0.0200	0.5	0	103	80 - 120				
Cadmium	0.5548	0.0500	0.5	0	111	80 - 120				
Chromium	0.5608	0.0500	0.5	0.00805	111	80 - 120				
Lead	0.5489	0.0500	0.5	0	110	80 - 120				
Nickel	0.5423	0.0500	0.5	0.00657	107	80 - 120				
Selenium	0.5693	0.0500	0.5	0	114	80 - 120				
Silver	0.5232	0.0500	0.5	0	105	80 - 120				

MSD Sample ID: **HS24060098-01MSD** Units: **mg/L** Analysis Date: **12-Jun-2024 18:17**
Client ID: Run ID: **ICPMS05_469215** SeqNo: **8066747** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.5837	0.0500	0.5	0	117	80 - 120	0.544	7.04	20	
Arsenic	0.5934	0.0500	0.5	0.00615	117	80 - 120	0.5564	6.44	20	
Barium	0.9191	0.200	0.5	0.4324	97.4	80 - 120	0.9895	7.38	20	
Beryllium	0.4999	0.0200	0.5	0	100.0	80 - 120	0.5142	2.82	20	
Cadmium	0.624	0.0500	0.5	0	125	80 - 120	0.5548	11.7	20	S
Chromium	0.6031	0.0500	0.5	0.00805	119	80 - 120	0.5608	7.28	20	
Lead	0.5193	0.0500	0.5	0	104	80 - 120	0.5489	5.56	20	
Nickel	0.5926	0.0500	0.5	0.00657	117	80 - 120	0.5423	8.86	20	
Selenium	0.6194	0.0500	0.5	0	124	80 - 120	0.5693	8.42	20	S
Silver	0.4888	0.0500	0.5	0	97.8	80 - 120	0.5232	6.79	20	

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213366 (0) **Instrument:** ICPMS05 **Method:** TCLP METALS BY SW6020A

PDS Sample ID: **HS24060098-01PDS** Units: **mg/L** Analysis Date: **12-Jun-2024 15:48**
Client ID: Run ID: **ICPMS05_469215** SeqNo: **8066349** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.9125	0.0500	1	0	91.2	75 - 125				
Arsenic	1.064	0.0500	1	0.00615	106	75 - 125				
Barium	1.501	0.200	1	0.4324	107	75 - 125				
Beryllium	0.9656	0.0200	1	0	96.6	75 - 125				
Cadmium	1.033	0.0500	1	0	103	75 - 125				
Chromium	1.039	0.0500	1	0.00805	103	75 - 125				
Lead	1.047	0.0500	1	0	105	75 - 125				
Nickel	1.019	0.0500	1	0.00657	101	75 - 125				
Selenium	1.088	0.0500	1	0	109	75 - 125				
Silver	0.8125	0.0500	1	0	81.2	75 - 125				

SD Sample ID: **HS24060098-01SD** Units: **mg/L** Analysis Date: **12-Jun-2024 15:42**
Client ID: Run ID: **ICPMS05_469215** SeqNo: **8066346** PrepDate: **12-Jun-2024** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	< 0.0200	0.250					0	0	10	
Arsenic	< 0.0200	0.250					0.00615	0	10	
Barium	0.4384	1.00					0.4324	0	10	J
Beryllium	< 0.0100	0.100					0	0	10	
Cadmium	< 0.0100	0.250					0	0	10	
Chromium	< 0.0200	0.250					0.00805	0	10	
Lead	< 0.0300	0.250					0	0	10	
Nickel	< 0.0300	0.250					0.00657	0	10	
Selenium	< 0.0550	0.250					0	0	10	
Silver	< 0.0100	0.250					0	0	10	

The following samples were analyzed in this batch: HS24060448-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213499 (0) **Instrument: HG04** **Method: TCLP MERCURY BY SW7470A**

MBLK Sample ID: **MBLKT2-213372** Units: **mg/L** Analysis Date: **13-Jun-2024 18:09**
Client ID: Run ID: **HG04_469339** SeqNo: **8069601** PrepDate: **13-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	< 0.0000300	0.000200								

MBLK Sample ID: **MBLKT1-213309** Units: **mg/L** Analysis Date: **13-Jun-2024 18:07**
Client ID: Run ID: **HG04_469339** SeqNo: **8069600** PrepDate: **13-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	< 0.0000300	0.000200								

MBLK Sample ID: **MBLK-213499** Units: **mg/L** Analysis Date: **13-Jun-2024 18:04**
Client ID: Run ID: **HG04_469339** SeqNo: **8069598** PrepDate: **13-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	< 0.0000300	0.000200								

LCS Sample ID: **LCS-213499** Units: **mg/L** Analysis Date: **13-Jun-2024 18:06**
Client ID: Run ID: **HG04_469339** SeqNo: **8069599** PrepDate: **13-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00485	0.000200	0.005	0	97.0	80 - 120				

MS Sample ID: **HS24060372-09MS** Units: **mg/L** Analysis Date: **13-Jun-2024 18:24**
Client ID: Run ID: **HG04_469339** SeqNo: **8069608** PrepDate: **13-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0047	0.000200	0.005	0.000006	93.9	75 - 125				

MSD Sample ID: **HS24060372-09MSD** Units: **mg/L** Analysis Date: **13-Jun-2024 18:26**
Client ID: Run ID: **HG04_469339** SeqNo: **8069609** PrepDate: **13-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00473	0.000200	0.005	0.000006	94.5	75 - 125	0.0047	0.636	20	

The following samples were analyzed in this batch: HS24060448-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213386 (0) **Instrument:** SV-4 **Method:** TCLP SEMIVOLATILES

MBLK Sample ID: **MBLK-213386** Units: **ug/L** Analysis Date: **13-Jun-2024 15:19**
Client ID: Run ID: **SV-4_469337** SeqNo: **8069563** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	< 0.40	5.0								
1,2-Diphenylhydrazine	< 0.50	5.0								
1,3-Dinitrobenzene	< 0.50	5.0								
2,3,4,6-Tetrachlorophenol	< 0.30	5.0								
2,4,5-Trichlorophenol	< 0.50	5.0								
2,4,6-Trichlorophenol	< 0.40	5.0								
2,4-Dichlorophenol	< 0.30	5.0								
2,4-Dimethylphenol	< 0.40	5.0								
2,4-Dinitrophenol	< 0.50	5.0								
2,4-Dinitrotoluene	< 0.30	5.0								
2,6-Dimethylphenol	< 0.50	5.0								
2-Chlorophenol	< 1.0	5.0								
3,3´-Dichlorobenzidine	< 0.50	5.0								
Acenaphthene	< 0.30	5.0								
Acetophenone	< 0.30	5.0								
Aniline	< 1.4	5.0								
Anthracene	< 0.30	5.0								
Benzidine	< 1.0	5.0								
Bis(2-chloroethyl)ether	< 0.70	5.0								
Bis(2-ethylhexyl)phthalate	< 0.80	5.0								
Butyl benzyl phthalate	< 0.60	5.0								
Diethyl phthalate	< 0.70	5.0								
Dimethoate	< 0.70	5.0								
Di-n-butyl phthalate	< 0.80	5.0								
Diphenylamine	< 0.40	5.0								
Disulfoton	< 0.60	5.0								
Fluoranthene	< 0.40	5.0								
Fluorene	< 0.50	5.0								
Hexachlorobenzene	< 0.30	5.0								
Hexachlorobutadiene	< 0.50	5.0								
Hexachlorocyclopentadiene	< 0.40	5.0								
Hexachloroethane	< 0.80	5.0								
Hexachlorophene	< 9.0	25								
Isophorone	< 0.50	5.0								

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213386 (0) **Instrument:** SV-4 **Method:** TCLP SEMIVOLATILES

MBLK Sample ID: **MBLK-213386** Units: **ug/L** Analysis Date: **13-Jun-2024 15:19**
Client ID: Run ID: **SV-4_469337** SeqNo: **8069563** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methyl parathion	< 0.50	5.0								
Nitrobenzene	< 0.40	5.0								
N-Nitroso-di-n-butylamine	< 0.50	5.0								
N-Nitrosodi-n-propylamine	< 0.50	5.0								
N-Nitrosodiphenylamine	< 0.40	5.0								
N-Nitrosomethylethylamine	< 0.60	5.0								
N-Nitrosopyrrolidine	< 0.90	5.0								
Parathion	< 5.0	5.0								
Pentachlorobenzene	< 0.50	5.0								
Pentachloronitrobenzene	< 0.50	5.0								
Pentachlorophenol	< 0.80	5.0								
Phenol	< 0.40	5.0								
p-Phenylenediamine	< 1.1	5.0								
Pronamide	< 0.60	5.0								
Pyrene	< 0.30	5.0								
Pyridine	< 0.30	5.0								
Cresols, Total	< 0.40	5.0								
Surr: 2,4,6-Tribromophenol	*90.1*	*5.0*	*100*	*0*	*90.1*	*39 - 153*				
Surr: 2-Fluorobiphenyl	*90.21*	*5.0*	*100*	*0*	*90.2*	*40 - 147*				
Surr: 2-Fluorophenol	*69.41*	*5.0*	*100*	*0*	*69.4*	*21 - 110*				
Surr: 4-Terphenyl-d14	*87.62*	*5.0*	*100*	*0*	*87.6*	*39 - 141*				
Surr: Nitrobenzene-d5	*88.02*	*5.0*	*100*	*0*	*88.0*	*37 - 140*				
Surr: Phenol-d6	*78.03*	*5.0*	*100*	*0*	*78.0*	*11 - 110*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213386 (0) **Instrument:** SV-4 **Method:** TCLP SEMIVOLATILES

LCS Sample ID: **LCS-213386** Units: **ug/L** Analysis Date: **13-Jun-2024 15:41**
Client ID: Run ID: **SV-4_469337** SeqNo: **8069564** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	51.29	5.0	50	0	103	55 - 120				
1,2-Diphenylhydrazine	53.28	5.0	50	0	107	55 - 120				
1,3-Dinitrobenzene	51.14	5.0	50	0	102	55 - 120				
2,3,4,6-Tetrachlorophenol	104.3	5.0	100	0	104	55 - 120				
2,4,5-Trichlorophenol	110.5	5.0	100	0	111	55 - 120				
2,4,6-Trichlorophenol	106.7	5.0	100	0	107	55 - 120				
2,4-Dichlorophenol	109.2	5.0	100	0	109	55 - 120				
2,4-Dimethylphenol	125.4	5.0	100	0	125	55 - 125				S
2,4-Dinitrophenol	120.6	5.0	100	0	121	40 - 125				
2,4-Dinitrotoluene	54.33	5.0	50	0	109	55 - 125				
2,6-Dimethylphenol	54.07	5.0	50	0	108	55 - 120				
2-Chlorophenol	99.88	5.0	100	0	99.9	55 - 120				
3,3´-Dichlorobenzidine	55.03	5.0	50	0	110	32 - 125				
Acenaphthene	52.56	5.0	50	0	105	55 - 120				
Acetophenone	51.29	5.0	50	0	103	54 - 120				
Aniline	48.02	5.0	50	0	96.0	25 - 120				
Anthracene	55.59	5.0	50	0	111	55 - 120				
Benzidine	14.62	5.0	50	0	29.2	10 - 120				
Bis(2-chloroethyl)ether	42.85	5.0	50	0	85.7	55 - 120				
Bis(2-ethylhexyl)phthalate	47.07	5.0	50	0	94.1	55 - 125				
Butyl benzyl phthalate	49.46	5.0	50	0	98.9	55 - 125				
Diethyl phthalate	50.99	5.0	50	0	102	55 - 120				
Dimethoate	57.35	5.0	50	0	115	40 - 130				
Di-n-butyl phthalate	52.59	5.0	50	0	105	55 - 125				
Diphenylamine	56.41	5.0	50	0	113	55 - 120				
Disulfoton	53.13	5.0	50	0	106	40 - 130				
Fluoranthene	57.05	5.0	50	0	114	55 - 125				
Fluorene	52.64	5.0	50	0	105	55 - 120				
Hexachlorobenzene	55.01	5.0	50	0	110	55 - 120				
Hexachlorobutadiene	49.8	5.0	50	0	99.6	55 - 120				
Hexachlorocyclopentadiene	66.67	5.0	50	0	133	50 - 120				S
Hexachloroethane	47.23	5.0	50	0	94.5	55 - 120				
Hexachlorophene	181.4	25	250	0	72.5	20 - 125				
Isophorone	51.07	5.0	50	0	102	55 - 120				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213386 (0) **Instrument:** SV-4 **Method:** TCLP SEMIVOLATILES

LCS Sample ID: **LCS-213386** Units: **ug/L** Analysis Date: **13-Jun-2024 15:41**
Client ID: Run ID: **SV-4_469337** SeqNo: **8069564** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methyl parathion	58.68	5.0	50	0	117	40 - 130				
Nitrobenzene	48.48	5.0	50	0	97.0	55 - 120				
N-Nitroso-di-n-butylamine	52.77	5.0	50	0	106	40 - 130				
N-Nitrosodi-n-propylamine	50.35	5.0	50	0	101	55 - 120				
N-Nitrosodiphenylamine	56.41	5.0	50	0	113	55 - 120				
N-Nitrosomethylethylamine	47.28	5.0	50	0	94.6	40 - 130				
N-Nitrosopyrrolidine	52.71	5.0	50	0	105	40 - 130				
Parathion	60.92	5.0	50	0	122	40 - 130				
Pentachlorobenzene	55.99	5.0	50	0	112	55 - 120				
Pentachloronitrobenzene	62.01	5.0	50	0	124	55 - 140				
Pentachlorophenol	107.5	5.0	100	0	107	50 - 135				
Phenol	98.72	5.0	100	0	98.7	50 - 120				
p-Phenylenediamine	3.428	5.0	50	0	6.86	10 - 61				JS
Pronamide	52.26	5.0	50	0	105	55 - 125				
Pyrene	53.62	5.0	50	0	107	55 - 125				
Pyridine	35.96	5.0	50	0	71.9	30 - 120				
Cresols, Total	259	5.0	250	0	104	48 - 115				
Surr: 2,4,6-Tribromophenol	*101*	*5.0*	*100*	*0*	*101*	*39 - 153*				
Surr: 2-Fluorobiphenyl	*101.7*	*5.0*	*100*	*0*	*102*	*40 - 147*				
Surr: 2-Fluorophenol	*87.95*	*5.0*	*100*	*0*	*87.9*	*21 - 110*				
Surr: 4-Terphenyl-d14	*99.44*	*5.0*	*100*	*0*	*99.4*	*39 - 141*				
Surr: Nitrobenzene-d5	*96.22*	*5.0*	*100*	*0*	*96.2*	*37 - 140*				
Surr: Phenol-d6	*96.09*	*5.0*	*100*	*0*	*96.1*	*11 - 110*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213386 (0) **Instrument:** SV-4 **Method:** TCLP SEMIVOLATILES

LCSD Sample ID: **LCSD-213386** Units: **ug/L** Analysis Date: **13-Jun-2024 14:14**
Client ID: Run ID: **SV-4_469337** SeqNo: **8069562** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	51.77	5.0	50	0	104	55 - 120	51.29	0.928	30	
1,2-Diphenylhydrazine	52.74	5.0	50	0	105	55 - 120	53.28	1.02	30	
1,3-Dinitrobenzene	51.34	5.0	50	0	103	55 - 120	51.14	0.396	30	
2,3,4,6-Tetrachlorophenol	108.3	5.0	100	0	108	55 - 120	104.3	3.7	30	
2,4,5-Trichlorophenol	110.1	5.0	100	0	110	55 - 120	110.5	0.331	30	
2,4,6-Trichlorophenol	109.3	5.0	100	0	109	55 - 120	106.7	2.38	30	
2,4-Dichlorophenol	111.3	5.0	100	0	111	55 - 120	109.2	1.94	30	
2,4-Dimethylphenol	128.3	5.0	100	0	128	55 - 125	125.4	2.29	30	S
2,4-Dinitrophenol	122	5.0	100	0	122	40 - 125	120.6	1.09	30	
2,4-Dinitrotoluene	55.49	5.0	50	0	111	55 - 125	54.33	2.12	30	
2,6-Dimethylphenol	55.02	5.0	50	0	110	55 - 120	54.07	1.75	30	
2-Chlorophenol	104.3	5.0	100	0	104	55 - 120	99.88	4.37	30	
3,3´-Dichlorobenzidine	54.56	5.0	50	0	109	32 - 125	55.03	0.851	30	
Acenaphthene	52.91	5.0	50	0	106	55 - 120	52.56	0.671	30	
Acetophenone	50.16	5.0	50	0	100	54 - 120	51.29	2.23	30	
Aniline	48.8	5.0	50	0	97.6	25 - 120	48.02	1.6	30	
Anthracene	55.44	5.0	50	0	111	55 - 120	55.59	0.272	30	
Benzidine	15.62	5.0	50	0	31.2	10 - 120	14.62	6.67	30	
Bis(2-chloroethyl)ether	45.86	5.0	50	0	91.7	55 - 120	42.85	6.78	30	
Bis(2-ethylhexyl)phthalate	49.87	5.0	50	0	99.7	55 - 125	47.07	5.79	30	
Butyl benzyl phthalate	51.82	5.0	50	0	104	55 - 125	49.46	4.68	30	
Diethyl phthalate	52.18	5.0	50	0	104	55 - 120	50.99	2.31	30	
Dimethoate	53.23	5.0	50	0	106	40 - 130	57.35	7.45	30	
Di-n-butyl phthalate	54.03	5.0	50	0	108	55 - 125	52.59	2.7	30	
Diphenylamine	56.36	5.0	50	0	113	55 - 120	56.41	0.0862	30	
Disulfoton	54.45	5.0	50	0	109	40 - 130	53.13	2.45	30	
Fluoranthene	56.54	5.0	50	0	113	55 - 125	57.05	0.889	30	
Fluorene	53.36	5.0	50	0	107	55 - 120	52.64	1.37	30	
Hexachlorobenzene	55.78	5.0	50	0	112	55 - 120	55.01	1.4	30	
Hexachlorobutadiene	49.57	5.0	50	0	99.1	55 - 120	49.8	0.459	30	
Hexachlorocyclopentadiene	63.59	5.0	50	0	127	50 - 120	66.67	4.73	30	S
Hexachloroethane	47.8	5.0	50	0	95.6	55 - 120	47.23	1.19	30	
Hexachlorophene	219.4	25	250	0	87.7	20 - 125	181.4	19	30	
Isophorone	52.39	5.0	50	0	105	55 - 120	51.07	2.56	30	

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213386 (0) **Instrument:** SV-4 **Method:** TCLP SEMIVOLATILES

LCSD Sample ID: **LCSD-213386** Units: **ug/L** Analysis Date: **13-Jun-2024 14:14**
Client ID: Run ID: **SV-4_469337** SeqNo: **8069562** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Methyl parathion	54.72	5.0	50	0	109	40 - 130	58.68	6.99	30	
Nitrobenzene	48.44	5.0	50	0	96.9	55 - 120	48.48	0.0726	30	
N-Nitroso-di-n-butylamine	70.34	5.0	50	0	141	40 - 130	52.77	28.6	30	S
N-Nitrosodi-n-propylamine	53.72	5.0	50	0	107	55 - 120	50.35	6.49	30	
N-Nitrosodiphenylamine	56.36	5.0	50	0	113	55 - 120	56.41	0.0862	30	
N-Nitrosomethylethylamine	46.31	5.0	50	0	92.6	40 - 130	47.28	2.08	30	
N-Nitrosopyrrolidine	56.65	5.0	50	0	113	40 - 130	52.71	7.22	30	
Parathion	62.47	5.0	50	0	125	40 - 130	60.92	2.52	30	
Pentachlorobenzene	56.01	5.0	50	0	112	55 - 120	55.99	0.0397	30	
Pentachloronitrobenzene	64.27	5.0	50	0	129	55 - 140	62.01	3.56	30	
Pentachlorophenol	114.8	5.0	100	0	115	50 - 135	107.5	6.57	30	
Phenol	102.5	5.0	100	0	102	50 - 120	98.72	3.71	30	
p-Phenylenediamine	2.179	5.0	50	0	4.36	10 - 61	3.428	0	30	JS
Pronamide	55.41	5.0	50	0	111	55 - 125	52.26	5.86	30	
Pyrene	55.14	5.0	50	0	110	55 - 125	53.62	2.8	30	
Pyridine	31.33	5.0	50	0	62.7	30 - 120	35.96	13.8	30	
Cresols, Total	274.9	5.0	250	0	110	48 - 115	259	5.95	30	
Surr: 2,4,6-Tribromophenol	*104.2*	*5.0*	*100*	*0*	*104*	*39 - 153*	*101*	*3.13*	*30*	
Surr: 2-Fluorobiphenyl	*100.1*	*5.0*	*100*	*0*	*100*	*40 - 147*	*101.7*	*1.55*	*30*	
Surr: 2-Fluorophenol	*87.6*	*5.0*	*100*	*0*	*87.6*	*21 - 110*	*87.95*	*0.395*	*30*	
Surr: 4-Terphenyl-d14	*103.5*	*5.0*	*100*	*0*	*103*	*39 - 141*	*99.44*	*4*	*30*	
Surr: Nitrobenzene-d5	*96.71*	*5.0*	*100*	*0*	*96.7*	*37 - 140*	*96.22*	*0.511*	*30*	
Surr: Phenol-d6	*99.86*	*5.0*	*100*	*0*	*99.9*	*11 - 110*	*96.09*	*3.85*	*30*	

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213386 (0) **Instrument:** SV-4 **Method:** TCLP SEMIVOLATILES

MS Sample ID: **HS24060444-01MS** Units: **ug/L** Analysis Date: **14-Jun-2024 18:07**
Client ID: Run ID: **SV-12_469606** SeqNo: **8074244** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	46.21	5.0	50	0	92.4	55 - 120				
1,2-Diphenylhydrazine	40.4	5.0	50	0	80.8	55 - 120				
1,3-Dinitrobenzene	48.88	5.0	50	0	97.8	55 - 120				
2,3,4,6-Tetrachlorophenol	97.83	5.0	100	0	97.8	55 - 120				
2,4,5-Trichlorophenol	97.16	5.0	100	0	97.2	55 - 120				
2,4,6-Trichlorophenol	98.41	5.0	100	0	98.4	55 - 120				
2,4-Dichlorophenol	92.55	5.0	100	0	92.5	55 - 120				
2,4-Dimethylphenol	107.9	5.0	100	0	108	55 - 125				
2,4-Dinitrophenol	115.4	5.0	100	0	115	40 - 125				
2,4-Dinitrotoluene	48.56	5.0	50	0	97.1	55 - 125				
2,6-Dimethylphenol	49.97	5.0	50	0	99.9	55 - 120				
2-Chlorophenol	86.39	5.0	100	0	86.4	55 - 120				
3,3´-Dichlorobenzidine	46.68	5.0	50	0	93.4	32 - 125				
Acenaphthene	44.66	5.0	50	0	89.3	55 - 120				
Acetophenone	50.73	5.0	50	0	101	54 - 120				
Aniline	29.6	5.0	50	0	59.2	25 - 120				
Anthracene	47.01	5.0	50	0	94.0	55 - 120				
Benzidine	10.11	5.0	50	0	20.2	10 - 120				
Bis(2-chloroethyl)ether	52.67	5.0	50	0	105	55 - 120				
Bis(2-ethylhexyl)phthalate	54.38	5.0	50	0	109	55 - 125				
Butyl benzyl phthalate	54.47	5.0	50	0	109	55 - 125				
Diethyl phthalate	49.71	5.0	50	0	99.4	55 - 120				
Dimethoate	44.54	5.0	50	0	89.1	40 - 130				
Di-n-butyl phthalate	48.92	5.0	50	0	97.8	55 - 125				
Diphenylamine	49.88	5.0	50	0	99.8	55 - 120				
Disulfoton	49.52	5.0	50	0	99.0	40 - 130				
Fluoranthene	47.18	5.0	50	0	94.4	55 - 125				
Fluorene	45.04	5.0	50	0	90.1	55 - 120				
Hexachlorobenzene	50.05	5.0	50	0	100	55 - 120				
Hexachlorobutadiene	44.17	5.0	50	0	88.3	55 - 120				
Hexachlorocyclopentadiene	63.79	5.0	50	0	128	50 - 120				S
Hexachloroethane	43.63	5.0	50	0	87.3	55 - 120				
Hexachlorophene	178.4	25	250	0	71.4	20 - 125				
Isophorone	52.22	5.0	50	0	104	55 - 120				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213386 (0) **Instrument:** SV-4 **Method:** TCLP SEMIVOLATILES

MS Sample ID: **HS24060444-01MS** Units: **ug/L** Analysis Date: **14-Jun-2024 18:07**
Client ID: Run ID: **SV-12_469606** SeqNo: **8074244** PrepDate: **12-Jun-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methyl parathion	55.36	5.0	50	0	111	40 - 130				
Nitrobenzene	39.45	5.0	50	0	78.9	55 - 120				
N-Nitroso-di-n-butylamine	60.9	5.0	50	0	122	40 - 130				
N-Nitrosodi-n-propylamine	37.04	5.0	50	0	74.1	55 - 120				
N-Nitrosodiphenylamine	49.88	5.0	50	0	99.8	55 - 120				
N-Nitrosomethylethylamine	58.29	5.0	50	0	117	40 - 130				
N-Nitrosopyrrolidine	46.23	5.0	50	0	92.5	40 - 130				
Parathion	55.36	5.0	50	0	111	40 - 130				
Pentachlorobenzene	49.46	5.0	50	0	98.9	55 - 120				
Pentachloronitrobenzene	63.18	5.0	50	0	126	55 - 140				
Pentachlorophenol	105.2	5.0	100	0	105	50 - 135				
Phenol	79	5.0	100	0	79.0	50 - 120				
p-Phenylenediamine	< 1.1	5.0	50	0	0	10 - 61				S
Pronamide	52.89	5.0	50	0	106	55 - 125				
Pyrene	50.15	5.0	50	0	100	55 - 125				
Pyridine	38.42	5.0	50	0	76.8	30 - 120				
Cresols, Total	247.1	5.0	250	0	98.8	48 - 115				
Surr: 2,4,6-Tribromophenol	*96.48*	*5.0*	*100*	*0*	*96.5*	*39 - 153*				
Surr: 2-Fluorobiphenyl	*85.42*	*5.0*	*100*	*0*	*85.4*	*40 - 147*				
Surr: 2-Fluorophenol	*82.3*	*5.0*	*100*	*0*	*82.3*	*21 - 110*				
Surr: 4-Terphenyl-d14	*108.4*	*5.0*	*100*	*0*	*108*	*39 - 141*				
Surr: Nitrobenzene-d5	*77.57*	*5.0*	*100*	*0*	*77.6*	*37 - 140*				
Surr: Phenol-d6	*86.33*	*5.0*	*100*	*0*	*86.3*	*11 - 110*				

The following samples were analyzed in this batch: HS24060448-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213383 (1) **Instrument:** VOA7 **Method:** TCLP VOLATILES BY SW8260C

MBLK Sample ID: **MBLK-213383** Units: **ug/L** Analysis Date: **16-Jun-2024 08:22**
Client ID: Run ID: **VOA7_469603** SeqNo: **8074257** PrepDate: **12-Jun-2024** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	< 6.0	100								
1,1,1-Trichloroethane	< 10	100								
1,1,2,2-Tetrachloroethane	< 10	100								
1,1-Dichloroethene	< 10	100								
1,2,3-Trichloropropane	< 14	100								
1,2-Dichloroethane	< 10	100								
1,4-Dichlorobenzene	< 12	100								
2-Butanone	< 20	200								
Acetone	< 40	200								
Acetonitrile	< 500	1000								
Benzene	< 12	100								
Bromodichloromethane	< 12	100								
Bromoform	< 10	100								
Bromomethane	< 10	100								
Carbon disulfide	< 18	200								
Carbon tetrachloride	< 12	100								
Chlorobenzene	< 8.0	100								
Chloroform	< 12	100								
Dichlorodifluoromethane	< 10	100								
Ethylbenzene	< 10	100								
Isobutyl alcohol	< 520	2000								
Methacrylonitrile	< 20	100								
Methylene chloride	< 20	200								
Styrene	< 10	100								
Tetrachloroethene	< 12	100								
Toluene	< 10	100								
trans-1,3-Dichloropropene	< 12	100								
Trichloroethene	< 10	100								
Trichlorofluoromethane	< 12	100								
Vinyl chloride	< 8.0	40								
Xylenes, Total	< 10	100								
Surr: 1,2-Dichloroethane-d4	*1284*	*100*	*1000*	*0*	*128*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*1176*	*100*	*1000*	*0*	*118*	*82 - 115*				S
Surr: Dibromofluoromethane	*1224*	*100*	*1000*	*0*	*122*	*73 - 126*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213383 (1) **Instrument:** VOA7 **Method:** TCLP VOLATILES BY SW8260C

MBLK Sample ID: **MBLK-213383** Units: **ug/L** Analysis Date: **16-Jun-2024 08:22**
Client ID: Run ID: **VOA7_469603** SeqNo: **8074257** PrepDate: **12-Jun-2024** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*1179*	*100*	*1000*	*0*	*118*	*81 - 120*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213383 (1) **Instrument:** VOA7 **Method:** TCLP VOLATILES BY SW8260C

LCS Sample ID: **VLCSW-240615** Units: **ug/L** Analysis Date: **16-Jun-2024 06:48**
Client ID: Run ID: **VOA7_469603** SeqNo: **8074195** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	17.71	5.0	20	0	88.5	77 - 118				
1,1,1-Trichloroethane	16.57	5.0	20	0	82.8	70 - 130				
1,1,2,2-Tetrachloroethane	16.91	5.0	20	0	84.6	70 - 120				
1,1-Dichloroethene	17.19	5.0	20	0	86.0	70 - 130				
1,2,3-Trichloropropane	16.57	5.0	20	0	82.9	70 - 127				
1,2-Dichloroethane	18.22	5.0	20	0	91.1	70 - 124				
1,4-Dichlorobenzene	18.15	5.0	20	0	90.8	79 - 113				
2-Butanone	36.36	10	40	0	90.9	70 - 130				
Acetone	36.88	10	40	0	92.2	70 - 130				
Acetonitrile	167.7	50	200	0	83.8	70 - 130				
Benzene	18.09	5.0	20	0	90.5	74 - 120				
Bromodichloromethane	16.54	5.0	20	0	82.7	74 - 122				
Bromoform	16.37	5.0	20	0	81.9	73 - 128				
Bromomethane	19.27	5.0	20	0	96.3	70 - 130				
Carbon disulfide	34.04	10	40	0	85.1	70 - 130				
Carbon tetrachloride	15.31	5.0	20	0	76.6	71 - 125				
Chlorobenzene	18.25	5.0	20	0	91.2	76 - 113				
Chloroform	18.92	5.0	20	0	94.6	71 - 121				
Dichlorodifluoromethane	15.73	5.0	20	0	78.6	70 - 130				
Ethylbenzene	17.71	5.0	20	0	88.5	77 - 117				
Isobutyl alcohol	337.9	100	400	0	84.5	70 - 130				
Methacrylonitrile	15.55	5.0	20	0	77.7	70 - 130				
Methylene chloride	19.47	10	20	0	97.3	70 - 127				
Styrene	18.21	5.0	20	0	91.0	72 - 126				
Tetrachloroethene	15.83	5.0	20	0	79.1	76 - 119				
Toluene	17.53	5.0	20	0	87.6	77 - 118				
trans-1,3-Dichloropropene	16.85	5.0	20	0	84.2	77 - 119				
Trichloroethene	17.36	5.0	20	0	86.8	77 - 121				
Trichlorofluoromethane	14.32	5.0	20	0	71.6	70 - 130				
Vinyl chloride	17.39	2.0	20	0	87.0	70 - 130				
Xylenes, Total	53.88	5.0	60	0	89.8	75 - 122				
Surr: 1,2-Dichloroethane-d4	*57.96*	*5.0*	*50*	*0*	*116*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*55.14*	*5.0*	*50*	*0*	*110*	*82 - 115*				
Surr: Dibromofluoromethane	*59.93*	*5.0*	*50*	*0*	*120*	*73 - 126*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213383 (1) **Instrument:** VOA7 **Method:** TCLP VOLATILES BY SW8260C

LCS Sample ID: **VLCSW-240615** Units: **ug/L** Analysis Date: **16-Jun-2024 06:48**
Client ID: Run ID: **VOA7_469603** SeqNo: **8074195** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*59.6*	*5.0*	*50*	*0*	*119*	*81 - 120*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213383 (1) **Instrument:** VOA7 **Method:** TCLP VOLATILES BY SW8260C

LCSD Sample ID: **VLCSDW-240615** Units: **ug/L** Analysis Date: **16-Jun-2024 07:11**
Client ID: Run ID: **VOA7_469603** SeqNo: **8074196** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	16.93	5.0	20	0	84.6	77 - 118	17.71	4.51	20	
1,1,1-Trichloroethane	15.68	5.0	20	0	78.4	70 - 130	16.57	5.47	20	
1,1,2,2-Tetrachloroethane	17	5.0	20	0	85.0	70 - 120	16.91	0.521	20	
1,1-Dichloroethene	15.76	5.0	20	0	78.8	70 - 130	17.19	8.7	20	
1,2,3-Trichloropropane	16.46	5.0	20	0	82.3	70 - 127	16.57	0.67	20	
1,2-Dichloroethane	17.76	5.0	20	0	88.8	70 - 124	18.22	2.58	20	
1,4-Dichlorobenzene	17.2	5.0	20	0	86.0	79 - 113	18.15	5.37	20	
2-Butanone	36.27	10	40	0	90.7	70 - 130	36.36	0.266	20	
Acetone	34.87	10	40	0	87.2	70 - 130	36.88	5.6	20	
Acetonitrile	157.4	50	200	0	78.7	70 - 130	167.7	6.32	20	
Benzene	16.7	5.0	20	0	83.5	74 - 120	18.09	8.02	20	
Bromodichloromethane	15.56	5.0	20	0	77.8	74 - 122	16.54	6.08	20	
Bromoform	15.95	5.0	20	0	79.8	73 - 128	16.37	2.58	20	
Bromomethane	17.87	5.0	20	0	89.3	70 - 130	19.27	7.53	20	
Carbon disulfide	31.22	10	40	0	78.1	70 - 130	34.04	8.63	20	
Carbon tetrachloride	14.56	5.0	20	0	72.8	71 - 125	15.31	5.01	20	
Chlorobenzene	17.1	5.0	20	0	85.5	76 - 113	18.25	6.45	20	
Chloroform	17.5	5.0	20	0	87.5	71 - 121	18.92	7.79	20	
Dichlorodifluoromethane	14.55	5.0	20	0	72.8	70 - 130	15.73	7.75	20	
Ethylbenzene	16.7	5.0	20	0	83.5	77 - 117	17.71	5.84	20	
Isobutyl alcohol	328.7	100	400	0	82.2	70 - 130	337.9	2.79	20	
Methacrylonitrile	14.47	5.0	20	0	72.3	70 - 130	15.55	7.21	20	
Methylene chloride	18.12	10	20	0	90.6	70 - 127	19.47	7.15	20	
Styrene	17.18	5.0	20	0	85.9	72 - 126	18.21	5.79	20	
Tetrachloroethene	15.33	5.0	20	0	76.6	76 - 119	15.83	3.23	20	
Toluene	16.67	5.0	20	0	83.4	77 - 118	17.53	5	20	
trans-1,3-Dichloropropene	16.08	5.0	20	0	80.4	77 - 119	16.85	4.67	20	
Trichloroethene	16.28	5.0	20	0	81.4	77 - 121	17.36	6.42	20	
Trichlorofluoromethane	15.36	5.0	20	0	76.8	70 - 130	14.32	7.03	20	
Vinyl chloride	15.55	2.0	20	0	77.7	70 - 130	17.39	11.2	20	
Xylenes, Total	50.44	5.0	60	0	84.1	75 - 122	53.88	6.6	20	
Surr: 1,2-Dichloroethane-d4	*61.3*	*5.0*	*50*	*0*	*123*	*70 - 130*	*57.96*	*5.6*	*20*	
Surr: 4-Bromofluorobenzene	*57.17*	*5.0*	*50*	*0*	*114*	*82 - 115*	*55.14*	*3.62*	*20*	
Surr: Dibromofluoromethane	*62.23*	*5.0*	*50*	*0*	*124*	*73 - 126*	*59.93*	*3.77*	*20*	

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: 213383 (1) **Instrument:** VOA7 **Method:** TCLP VOLATILES BY SW8260C

LCSD Sample ID: **VLCSDW-240615** Units: **ug/L** Analysis Date: **16-Jun-2024 07:11**
Client ID: Run ID: **VOA7_469603** SeqNo: **8074196** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: Toluene-d8	*59.41*	*5.0*	*50*	*0*	*119*	*81 - 120*	*59.6*	*0.313*	*20*	

The following samples were analyzed in this batch: HS24060448-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: R469194 (0) **Instrument:** WetChem_HS **Method:** PH SOIL BY SW9045D

DUP Sample ID: **HS24060335-03DUP** Units: **pH Units** Analysis Date: **12-Jun-2024 12:10**
Client ID: Run ID: **WetChem_HS_469194** SeqNo: **8065904** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.33	0.100					8.2	1.57	10	
Temp Deg C @pH	22.4	0					22.7	1.33	10	

The following samples were analyzed in this batch: HS24060448-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: R469326 (0) **Instrument:** WetChem_HS **Method:** BURN RATE BY METHOD SW1030

DUP Sample ID: **HS24060372-14DUP** Units: **Burn Rate, mm/sec** Analysis Date: **13-Jun-2024 14:00**
Client ID: Run ID: **WetChem_HS_469326** SeqNo: **8068780** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability, Solid	0	0					0	0	25	

The following samples were analyzed in this batch: HS24060448-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: R469504 (0) **Instrument:** UV-2450 **Method:** REACTIVE CYANIDE

MBLK Sample ID: **MBLK-R469504** Units: **mg/Kg** Analysis Date: **14-Jun-2024 17:37**
Client ID: Run ID: **UV-2450_469504** SeqNo: **8072386** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Cyanide	< 100	100								

LCS Sample ID: **LCS-R469504** Units: **mg/Kg** Analysis Date: **14-Jun-2024 17:37**
Client ID: Run ID: **UV-2450_469504** SeqNo: **8072385** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Cyanide	0.58	100	10	0	5.80	5 - 100				J

MS Sample ID: **HS24060444-01MS** Units: **mg/Kg** Analysis Date: **14-Jun-2024 17:37**
Client ID: Run ID: **UV-2450_469504** SeqNo: **8072387** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Cyanide	0.61	100	10	-0.03	6.40	5 - 100				J

The following samples were analyzed in this batch: HS24060448-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24060448

QC BATCH REPORT

Batch ID: R469506 (0) **Instrument:** WetChem_HS **Method:** REACTIVE SULFIDE

MBLK Sample ID: **MBLK-R469506** Units: **mg/Kg** Analysis Date: **14-Jun-2024 17:54**
Client ID: Run ID: **WetChem_HS_469506** SeqNo: **8072411** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Sulfide	< 100	100								

LCS Sample ID: **LCS-R469506** Units: **mg/Kg** Analysis Date: **14-Jun-2024 17:54**
Client ID: Run ID: **WetChem_HS_469506** SeqNo: **8072410** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Sulfide	71.6	100	100	0	71.6	20 - 120				J

MS Sample ID: **HS24060444-01MS** Units: **mg/Kg** Analysis Date: **14-Jun-2024 17:54**
Client ID: Run ID: **WetChem_HS_469506** SeqNo: **8072412** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Sulfide	69.6	100	100	-6.4	76.0	20 - 120				J

The following samples were analyzed in this batch: HS24060448-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: **HS24060448**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
Date	
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arizona	AZ0793	27-May-2025
Arkansas	88-00356_2024	27-Mar-2025
California	2919; 2025	30-Apr-2025
Illinois	2000322023-11	31-Jul-2025
Kansas	E-10352 2023-2024	31-Jul-2024
Kentucky	123043	30-Apr-2025
Louisiana	03087 2023-2024	30-Jun-2025
Maine	2024017	23-Jun-2026
Michigan	9971	30-Apr-2025
Nebraska	NE-OS-25-13	30-Apr-2025
North Carolina	624 - 2024	31-Dec-2024
Oklahoma	2023-140	31-Aug-2024
Pennsylvania	018	30-Jun-2025
Tennessee	04016	30-Apr-2025
Texas	T104704231 TX-C24-00130	30-Apr-2025
Utah	TX026932023-14	31-Jul-2024

Sample Receipt Checklist

Work Order ID: HS24060448 **Date/Time Received:** 07-Jun-2024 14:05

Client Name: PBW **Received by:** Si Ma

Completed By:	/S/ Armand Morgan	07-Jun-2024 18:10	**Reviewed by:**	/S/ sebastian.lugo	10-Jun-2024 15:36
	eSignature	Date/Time		eSignature	Date/Time

Matrices: S Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:301808
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	3.0UC/3.1C	IR 31
Cooler(s)/Kit(s):	51321	
Date/Time sample(s) sent to storage:	06/07/24 18:10	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 301808

HS24060448 WV

WSP Austin
Houston TX-Wood Preserving Works IDW

NAPL WR# 018434

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	4300042071/Kevin Peterburs 162	Project Name	Houston TX-Wood Preserving Works	A	TX1005_S_REV3 (TPH TX1005)
Work Order		Project Number		B	1311_VOC (TCLP VOC)
Company Name	WSP Austin	Bill To Company	Union Pacific Railroad- A/P	C	1311_SV (TCLP SVOC)
Send Report To	Catherine Mear	Invoice Attn	Accounts Payable	D	1311_METALS_HS (TCLP RCRA 8)
Address	1601 S. MoPac Expressway Suite 325D	Address	1400 Douglas Street Stop 0750	E	IGN_S 1030 (Ignitability (RCI))
				F	PH_S (pH (RCI))
City/State/Zip	Austin, TX 78746	City/State/Zip	Omaha NE 681790750	G	RCN_S (Reactive Cyanide (RCI))
Phone	(512) 671-3434	Phone		H	RS_S (Reactive Sulfide (RCI))
Fax	(512) 671-3446	Fax		I	SUB_TCLP_Dioxins/Furan
e-Mail Address	Catherine.Mear@wsp.com	e-Mail Address	arthur.gibson@alsglobal.com	J	Excavation

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	NAPL-1620-FE01/FE03-10W1-20240607	6/7/24	1250	NAPL	8	3	/	/	/	/	/	/	/	/	/	(FE01&FE03)	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Dominic Baptiste Dimi Baptiste

Shipment Method: Drop off

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 -hour ☐ Other

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Dimi Baptiste	6/7/24	1405	
Relinquished by:	Date:	Time:	Received by (Laboratory): GM 06/07/24 14:05
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: UPRR HWPW 1620-43

Cooler ID	Cooler Temp.
51321	3.0

QC Package: (Check One Box Below)
☒ Level II Std QC ☐ Level III Std QC/Raw Data ☐ Level IV SVOA/SVOC ☐ TRRP Checklist ☐ TRRP Level IV ☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

SDG 31 CVF-10

ALS Environmental - Houston
ATTN: Luis Aguilar / Jumoke Lawal
10450 Stancliff Road
Suite 210
Houston TX 77099

Date Received: 02-JUL-24
Report Date: 12-JUL-24 15:11 (MT)
Version: FINAL

Client Phone: 281-575-2279

Certificate of Analysis

Lab Work Order #: L2756471

Project P.O. #: HS24060448
Job Reference: HS24060448
C of C Numbers:
Legal Site Desc:

Robert Chin, B.Sc.
Project Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756471-1 NAPL-1620-FE01/FE03-IDW1-20240607							
Sampled By: Client on 07-JUN-24 @ 12:50							
Matrix: Leachate							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.24	[U]	0.24	pg/L	05-JUL-24	11-JUL-24	R5984405
1,2,3,7,8-PeCDD	<0.28	[U]	0.28	pg/L	05-JUL-24	11-JUL-24	R5984405
1,2,3,4,7,8-HxCDD	<0.39	[U]	0.39	pg/L	05-JUL-24	11-JUL-24	R5984405
1,2,3,6,7,8-HxCDD	<0.38	[U]	0.38	pg/L	05-JUL-24	11-JUL-24	R5984405
1,2,3,7,8,9-HxCDD	<0.38	M,U	0.38	pg/L	05-JUL-24	11-JUL-24	R5984405
1,2,3,4,6,7,8-HpCDD	1.70	[J]	0.50	pg/L	05-JUL-24	11-JUL-24	R5984405
OCDD	7.45	M,J	0.94	pg/L	05-JUL-24	11-JUL-24	R5984405
2,3,7,8-TCDF	<0.32	[U]	0.32	pg/L	05-JUL-24	11-JUL-24	R5984405
1,2,3,7,8-PeCDF	<0.23	M,U	0.23	pg/L	05-JUL-24	11-JUL-24	R5984405
2,3,4,7,8-PeCDF	<0.18	[U]	0.18	pg/L	05-JUL-24	11-JUL-24	R5984405
1,2,3,4,7,8-HxCDF	<0.23	M,U	0.23	pg/L	05-JUL-24	11-JUL-24	R5984405
1,2,3,6,7,8-HxCDF	<0.22	[U]	0.22	pg/L	05-JUL-24	11-JUL-24	R5984405
2,3,4,6,7,8-HxCDF	<0.23	[U]	0.23	pg/L	05-JUL-24	11-JUL-24	R5984405
1,2,3,7,8,9-HxCDF	<0.32	[U]	0.32	pg/L	05-JUL-24	11-JUL-24	R5984405
1,2,3,4,6,7,8-HpCDF	<0.54	M,U	0.54	pg/L	05-JUL-24	11-JUL-24	R5984405
1,2,3,4,7,8,9-HpCDF	<0.87	[U]	0.87	pg/L	05-JUL-24	11-JUL-24	R5984405
OCDF	0.97	M,J,R	0.80	pg/L	05-JUL-24	11-JUL-24	R5984405
Total-TCDD	<0.24	[U]	0.24	pg/L	05-JUL-24	11-JUL-24	R5984405
Total TCDD # Homologues	0				05-JUL-24	11-JUL-24	R5984405
Total-PeCDD	<0.28	[U]	0.28	pg/L	05-JUL-24	11-JUL-24	R5984405
Total PeCDD # Homologues	0				05-JUL-24	11-JUL-24	R5984405
Total-HxCDD	<0.39	[U]	0.39	pg/L	05-JUL-24	11-JUL-24	R5984405
Total HxCDD # Homologues	0				05-JUL-24	11-JUL-24	R5984405
Total-HpCDD	3.83		0.50	pg/L	05-JUL-24	11-JUL-24	R5984405
Total HpCDD # Homologues	2				05-JUL-24	11-JUL-24	R5984405
Total-TCDF	<0.32	[U]	0.32	pg/L	05-JUL-24	11-JUL-24	R5984405
Total TCDF # Homologues	0				05-JUL-24	11-JUL-24	R5984405
Total-PeCDF	<0.23	[U]	0.23	pg/L	05-JUL-24	11-JUL-24	R5984405
Total PeCDF # Homologues	0				05-JUL-24	11-JUL-24	R5984405
Total-HxCDF	<0.32	[U]	0.32	pg/L	05-JUL-24	11-JUL-24	R5984405
Total HxCDF # Homologues	0				05-JUL-24	11-JUL-24	R5984405
Total-HpCDF	<0.87	[U]	0.87	pg/L	05-JUL-24	11-JUL-24	R5984405
Total HpCDF # Homologues	0				05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-2,3,7,8-TCDD	71.0		20-175	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-1,2,3,7,8-PeCDD	67.0		21-227	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	75.0		21-193	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	78.0		25-163	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	74.0		23-166	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-OCDD	69.0		13-138	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-2,3,7,8-TCDF	65.0		22-152	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-1,2,3,7,8-PeCDF	59.0		24-185	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-2,3,4,7,8-PeCDF	68.0		21-178	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	75.0		26-152	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	73.0		21-159	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	75.0		17-205	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	72.0		28-136	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	70.0		21-158	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	61.0		20-186	%	05-JUL-24	11-JUL-24	R5984405
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	71.0		31-191	%	05-JUL-24	11-JUL-24	R5984405
Lower Bound PCDD/F TEQ (WHO 2005)	0.0192		0	pg/L	05-JUL-24	11-JUL-24	R5984405

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2756471-1 NAPL-1620-FE01/FE03-IDW1-20240607							
Sampled By: Client on 07-JUN-24 @ 12:50							
Matrix: Leachate							
Dioxins and Furans HR 1613B							
Mid Point PCDD/F TEQ (WHO 2005)	0.441		0	pg/L	05-JUL-24	11-JUL-24	R5984405
Upper Bound PCDD/F TEQ (WHO 2005)	0.862		0	pg/L	05-JUL-24	11-JUL-24	R5984405

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
DX-1613B-HRMS-BU	Water	Dioxins and Furans HR 1613B	USEPA 1613B

Samples are filtered if required. Solids are extracted by Soxhlet using toluene. The liquid portion is extracted by liquid/liquid extraction using dichloromethane. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2756471 Report Date: 12-JUL-24

Client: ALS Environmental - Houston
10450 Stancliff Road Suite 210
Houston TX 77099
Contact: Luis Aguilar / Jumoke Lawal

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Water							
Batch R5984405								
WG3789744-2 LCS								
2,3,7,8-TCDD			78.0		%		67-158	11-JUL-24
1,2,3,7,8-PeCDD			97.0		%		70-142	11-JUL-24
1,2,3,4,7,8-HxCDD			89.0		%		70-164	11-JUL-24
1,2,3,6,7,8-HxCDD			88.0		%		76-134	11-JUL-24
1,2,3,7,8,9-HxCDD			90.0		%		64-162	11-JUL-24
1,2,3,4,6,7,8-HpCDD			92.0		%		70-140	11-JUL-24
OCDD			81.0		%		78-144	11-JUL-24
2,3,7,8-TCDF			88.0		%		75-158	11-JUL-24
1,2,3,7,8-PeCDF			106.0		%		80-134	11-JUL-24
2,3,4,7,8-PeCDF			89.0		%		68-160	11-JUL-24
1,2,3,4,7,8-HxCDF			91.0		%		72-134	11-JUL-24
1,2,3,6,7,8-HxCDF			97.0		%		84-130	11-JUL-24
2,3,4,6,7,8-HxCDF			89.0		%		70-156	11-JUL-24
1,2,3,7,8,9-HxCDF			97.0		%		78-130	11-JUL-24
1,2,3,4,6,7,8-HpCDF			100.0		%		82-122	11-JUL-24
1,2,3,4,7,8,9-HpCDF			110.0		%		78-138	11-JUL-24
OCDF			82.0		%		63-170	11-JUL-24
WG3789744-4 MB								
2,3,7,8-TCDD			<0.34	[U]	pg/L		10	11-JUL-24
1,2,3,7,8-PeCDD			<0.24	[U]	pg/L		50	11-JUL-24
1,2,3,4,7,8-HxCDD			<0.20	[U]	pg/L		50	11-JUL-24
1,2,3,6,7,8-HxCDD			<0.21	[U]	pg/L		50	11-JUL-24
1,2,3,7,8,9-HxCDD			<0.20	[U]	pg/L		50	11-JUL-24
1,2,3,4,6,7,8-HpCDD			0.79	M,J,R	pg/L		50	11-JUL-24
OCDD			2.60	M,J	pg/L		100	11-JUL-24
2,3,7,8-TCDF			<0.36	[U]	pg/L		10	11-JUL-24
1,2,3,7,8-PeCDF			0.32	M,J,R	pg/L		50	11-JUL-24
2,3,4,7,8-PeCDF			0.23	M,J,R	pg/L		50	11-JUL-24
1,2,3,4,7,8-HxCDF			<0.22	[U]	pg/L		50	11-JUL-24
1,2,3,6,7,8-HxCDF			0.25	M,J,R	pg/L		50	11-JUL-24
2,3,4,6,7,8-HxCDF			0.43	M,J	pg/L		50	11-JUL-24
1,2,3,7,8,9-HxCDF			<0.34	[U]	pg/L		50	11-JUL-24
1,2,3,4,6,7,8-HpCDF			0.57	M,J,R	pg/L		50	11-JUL-24
1,2,3,4,7,8,9-HpCDF			<0.46	M,U	pg/L		50	11-JUL-24

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Water							
Batch R5984405								
WG3789744-4 MB								
OCDF			1.30	M,J,R	pg/L		100	11-JUL-24
Total-TCDD			0.85	A	pg/L		0.34	11-JUL-24
Total-PeCDD			<0.24	[U]	pg/L		0.24	11-JUL-24
Total-HxCDD			<0.21	[U]	pg/L		0.21	11-JUL-24
Total-HpCDD			<0.45	[U]	pg/L		0.45	11-JUL-24
Total-TCDF			<0.36	[U]	pg/L		0.36	11-JUL-24
Total-PeCDF			<0.23	[U]	pg/L		0.23	11-JUL-24
Total-HxCDF			0.43	A	pg/L		0.34	11-JUL-24
Total-HpCDF			<0.46	[U]	pg/L		0.46	11-JUL-24
Surrogate: 13C12-2,3,7,8-TCDD			69.0		%		20-175	11-JUL-24
Surrogate: 13C12-1,2,3,7,8-PeCDD			72.0		%		21-227	11-JUL-24
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			82.0		%		21-193	11-JUL-24
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			83.0		%		25-163	11-JUL-24
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			82.0		%		23-166	11-JUL-24
Surrogate: 13C12-OCDD			73.0		%		13-138	11-JUL-24
Surrogate: 13C12-2,3,7,8-TCDF			55.0		%		22-152	11-JUL-24
Surrogate: 13C12-1,2,3,7,8-PeCDF			61.0		%		24-185	11-JUL-24
Surrogate: 13C12-2,3,4,7,8-PeCDF			71.0		%		21-178	11-JUL-24
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			85.0		%		26-152	11-JUL-24
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			81.0		%		21-159	11-JUL-24
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			81.0		%		17-205	11-JUL-24
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			79.0		%		28-136	11-JUL-24
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			76.0		%		21-158	11-JUL-24
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			66.0		%		20-186	11-JUL-24
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			66.0		%		31-191	11-JUL-24

COMMENTS: There were low levels of select targets in the blank that were within the reference method control limits.

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
[U]	The analyte was not detected above the EDL.

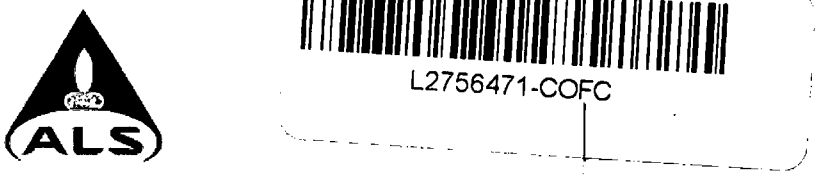
Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Texas** **COC ID:** **26206**

SUBCONTRACT TO:

ALS Laboratory Group
c/o Federal Express Depot299 Cayuga Road
Cheektowaga, NY 14225 **Phone:** +1 905 331 3111

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Luis.Aguilar
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	luis.aguilar@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS24060448
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS24060448-01**	**NAPL-1620-FE01/FE03-IDW1-20240607**	**Soil**	**07 Jun 2024 12:50**
	SUB_TCLP_Dioxins/Furan			14 Jun 2024

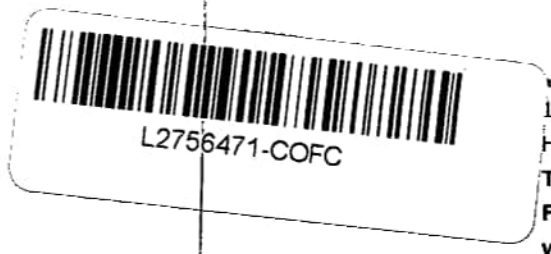
Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

Relinquished By: AM Date/Time: 7/1/24 18:00

Received By: Adrian Burton Date/Time: 2-July-2024 13:50

Cooler ID(s): _____ Temperature(s): 5.0°C



10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Purchase Order

PO: HS24060448

VENDOR:

ALS Laboratory Group
c/o Federal Express Depot299 Cayuga Road
Cheektowaga, NY 14225

Phone: +1 905 331 3111

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Luis.Aguilar
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	luis.aguilar@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	26206
TSR:	Houston House Acct

Item	Catalog No	Unit Price	Quantity	Ext Price
1. SUB_TCLP_Dioxins/Furan	SUBCONTRACT	$845.00	1	$845.00
			Order Total:	$845.00

Sol | JJK | 8.4

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	TXD000820266	1	(888) 877-7267	024987188 JJK

GENERATOR

5. Generator's Name and Mailing Address
Union Pacific Railroad c/o GHD Services, Inc
9100 Centre Pointe Dr Suite 240
West Chester, OH 45069
Generator's Phone: 414-267-4164

Generator's Site Address (if different than mailing address)
4910 Liberty Road
Houston, TX 77026

6. Transporter 1 Company Name: E3 Environmental — U.S. EPA ID Number: MSR000108746

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
(5112) Blueridge Landfill (Republic Services)
2200 FM 521 Rd
Fresno, TX 77545
Facility's Phone: (281) 835-6142
U.S. EPA ID Number: TXR000084592

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. Non-Dot Regulated Material (51122216768 Tarry Sludge and Soil)	1	DM	250	P		1488	4891
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
WR# 017867/Profile#: 51122216768 (Tarry Sludge and Soil)
Bill to: E3 OMI- PO Box 1300, Clinton, MS 39060 — Job#: 135-24-0282
Email invoices: admin@e3omi.com/claraque@e3enviro.com — PO#: 35-2024-0373

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Christelle laraque OBHO UPRR — Signature: C Laraque — Month 6 Day 13 Year 24

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: James Henry — Signature: James Henry — Month 6 Day 13 Year 24

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Republic Services
2200 FM 521 (PO BOX 879)
Fresno, TX. 77545
JUN 13 2024
Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

Blue Ridge Landfill
Permit# 1505A
SWR# 69429

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Carmen Ramos — Signature: CR — Month 6 Day 13 Year 24

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

SOL/BRN/5-7

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
TXD000820266	1	(888) 877-7267	026660924 JJK

GENERATOR

5. Generator's Name and Mailing Address: Union Pacific Railroad (UPRR) c/o GHD-Attn: Manifest Receiving, 9100 Centre Pointe Drive Suite # 240, West Chester, OH 45069

Generator's Phone: (414) 267-4164

Generator's Site Address (if different than mailing address): Union Pacific Railroad (UPRR), 4910 Liberty Road, Houston, TX 77026

6. Transporter 1 Company Name: Enchanced Environmental & Emergency Services, Inc.

U.S. EPA ID Number: TXR000083939

7. Transporter 2 Company Name:

U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BlueRidge Landfill, 2200 FM 521, Fresno, TX 77545

Facility's Phone: (281) 835-6142

U.S. EPA ID Number: TXR000084592

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. Non-Dot Regulated Material (Tarry Sludge and Soil)	1	DM	300	P	1488 4891
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

1.WR# 018734 Profile# 51122216768 EXP: 7/28/24
Bill to: E3 Environmental- PO Box 7, Clinton, MS 39060
Email invoices: e3admin@e3enviro.com/claraque@e3enviro.com

Job#: 135-24-0882
PO#:35-2024-

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Anthony McMullins OBO UPRR | Signature: Anthony Mcmullins | Month: 7 | Day: 17 | Year: 24

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: James Henry | Signature: James Henry | Month: 7 | Day: 17 | Year: 24

Transporter 2 Printed/Typed Name: | Signature: | Month: | Day: | Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

Blue Ridge Landfill Services
2200 FM 521 (PO BOX 879)
Fresno, TX 77545

18b. Alternate Facility (or Generator)

Facility's Phone:

U.S. EPA ID Number:

JUL 17 2024

18c. Signature of Alternate Facility (or Generator) | Month | Day | Year

Blue Ridge Landfill
Permit# 1505A
SWR# 88156

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: R Green | Signature: | Month: 7 | Day: 17 | Year: 24

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

5-9

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

June 08, 2022

Eric Matzner
WSP Golder
1601 S. MoPac Expressway
Suite 325D
Austin, TX 78746

Work Order: **HS22060092**

Laboratory Results for: **Houston TX-Wood Preserving Works IDWW**

Dear Eric Matzner,

ALS Environmental received 1 sample(s) on Jun 02, 2022 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
Work Order: HS22060092

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22060092-01	WW-1620-IDW009707-20220601	Water		01-Jun-2022 17:30	02-Jun-2022 08:10	☐

Client: WSP Golder **CASE NARRATIVE**
Project: Houston TX-Wood Preserving Works IDWW
Work Order: HS22060092

Work Order Comments

• Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

GC Semivolatiles by Method TX1005

Batch ID: 179497

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260

Batch ID: R410100

Sample ID: WW-1620-IDW009707-20220601 (HS22060092-01)

• Lowest practical dilution due to sample matrix and/or high concentration of non-target analyte(s).

Metals by Method SW6020A

Batch ID: 179579

Sample ID: HS22060217-03MS

• MS and MSD are for an unrelated sample (Barium)

Metals by Method SW7470A

Batch ID: 179538

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9040C

Batch ID: R409968

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW1010

Batch ID: R409944

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: WSP Golder **ANALYTICAL REPORT**
Project: Houston TX-Wood Preserving Works IDWW WorkOrder:HS22060092
Sample ID: WW-1620-IDW009707-20220601 Lab ID:HS22060092-01
Collection Date: 01-Jun-2022 17:30 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
Benzene	< 0.010		0.010	0.050	mg/L	50	06-Jun-2022 13:50
Ethylbenzene	< 0.015		0.015	0.050	mg/L	50	06-Jun-2022 13:50
Toluene	< 0.010		0.010	0.050	mg/L	50	06-Jun-2022 13:50
Xylenes, Total	< 0.015		0.015	0.050	mg/L	50	06-Jun-2022 13:50
Surr: 1,2-Dichloroethane-d4	*96.2*			*70-126*	*%REC*	*50*	*06-Jun-2022 13:50*
Surr: 4-Bromofluorobenzene	*96.9*			*77-113*	*%REC*	*50*	*06-Jun-2022 13:50*
Surr: Dibromofluoromethane	*94.5*			*77-123*	*%REC*	*50*	*06-Jun-2022 13:50*
Surr: Toluene-d8	*99.6*			*82-127*	*%REC*	*50*	*06-Jun-2022 13:50*
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 02-Jun-2022		Analyst: SAM
nC6 to nC12	< 0.20		0.20	0.50	mg/L	1	03-Jun-2022 00:31
>nC12 to nC28	< 0.20		0.20	0.50	mg/L	1	03-Jun-2022 00:31
>nC28 to nC35	< 0.20		0.20	0.50	mg/L	1	03-Jun-2022 00:31
Total Petroleum Hydrocarbon	< 0.20		0.20	0.50	mg/L	1	03-Jun-2022 00:31
Surr: 2-Fluorobiphenyl	*124*			*70-130*	*%REC*	*1*	*03-Jun-2022 00:31*
Surr: Trifluoromethyl benzene	*109*			*70-130*	*%REC*	*1*	*03-Jun-2022 00:31*
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 06-Jun-2022		Analyst: JHD
Antimony	**0.0880**		**0.00400**	**0.0200**	**mg/L**	1	07-Jun-2022 16:23
Arsenic	**1.33**		**0.00400**	**0.0200**	**mg/L**	1	07-Jun-2022 16:23
Barium	**0.368**		**0.0190**	**0.0400**	**mg/L**	1	07-Jun-2022 16:23
Beryllium	< 0.00200		0.00200	0.0200	mg/L	1	07-Jun-2022 16:23
Cadmium	**0.00582**	J	**0.00200**	**0.0200**	**mg/L**	1	07-Jun-2022 16:23
Chromium	**0.528**		**0.00400**	**0.0400**	**mg/L**	1	07-Jun-2022 16:23
Lead	**0.375**		**0.00600**	**0.0200**	**mg/L**	1	07-Jun-2022 16:23
Nickel	**1.50**		**0.00600**	**0.0200**	**mg/L**	1	07-Jun-2022 16:23
Selenium	**0.0162**	J	**0.0110**	**0.0200**	**mg/L**	1	07-Jun-2022 16:23
Silver	**0.0224**		**0.00200**	**0.0200**	**mg/L**	1	07-Jun-2022 16:23
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 03-Jun-2022		Analyst: MSC
Mercury	**0.00189**	J	**0.000300**	**0.00200**	**mg/L**	1	03-Jun-2022 14:58
FLASH POINT BY PENSKY-MARTENS SW1010A		**Method:SW1010**					Analyst: TH
Ignitability	> 212		70.0	70.0	°F	1	03-Jun-2022 13:00
PH BY SW9040C		**Method:SW9040C**					Analyst: SB
pH	**10.1**	H	**0.100**	**0.100**	**pH Units**	1	03-Jun-2022 15:04
Temp Deg C @pH	**20.6**	H	**0**	**0**	**DEG C**	1	03-Jun-2022 15:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

Batch ID: 179497 **Start Date:** 02 Jun 2022 13:03 **End Date:** 02 Jun 2022 13:50
Method: TX 1005 PREP **Prep Code:** TX 1005_W PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22060092-01	1	30.25 (g)	3 (mL)	0.09917	40 mL VOA w/ HCL

Batch ID: 179538 **Start Date:** 03 Jun 2022 09:00 **End Date:** 03 Jun 2022 12:00
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22060092-01		1 (mL)	10 (mL)	10	120 plastic HNO3

Batch ID: 179579 **Start Date:** 06 Jun 2022 08:00 **End Date:** 06 Jun 2022 12:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22060092-01		1 (mL)	10 (mL)	10	120 plastic HNO3

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 179497 (0)	**Test Name :** LOW-LEVEL TEXAS TPH BY TX1005				**Matrix:** Water	
HS22060092-01	WW-1620-IDW009707-20220601	01 Jun 2022 17:30		02 Jun 2022 13:03	03 Jun 2022 00:31	1
Batch ID: 179538 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Water	
HS22060092-01	WW-1620-IDW009707-20220601	01 Jun 2022 17:30		03 Jun 2022 09:00	03 Jun 2022 14:58	1
Batch ID: 179579 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS22060092-01	WW-1620-IDW009707-20220601	01 Jun 2022 17:30		06 Jun 2022 08:00	07 Jun 2022 16:23	1
Batch ID: R409944 (0)	**Test Name :** FLASH POINT BY PENSKY-MARTENS SW1010A				**Matrix:** Water	
HS22060092-01	WW-1620-IDW009707-20220601	01 Jun 2022 17:30			03 Jun 2022 13:00	1
Batch ID: R409968 (0)	**Test Name :** PH BY SW9040C				**Matrix:** Water	
HS22060092-01	WW-1620-IDW009707-20220601	01 Jun 2022 17:30			03 Jun 2022 15:04	1
Batch ID: R410100 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS22060092-01	WW-1620-IDW009707-20220601	01 Jun 2022 17:30			06 Jun 2022 13:50	50

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

QC BATCH REPORT

Batch ID: 179497 (0) **Instrument: FID-12** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MBLK Sample ID: **MBLK-179497** Units: **mg/L** Analysis Date: **02-Jun-2022 21:04**
Client ID: Run ID: **FID-12_409950** SeqNo: **6677131** PrepDate: **02-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	< 0.20	0.50								
>nC12 to nC28	< 0.20	0.50								
>nC28 to nC35	< 0.20	0.50								
Total Petroleum Hydrocarbon	< 0.20	0.50								
Surr: 2-Fluorobiphenyl	*2.671*	*0*	*2.5*	*0*	*107*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.826*	*0*	*2.5*	*0*	*113*	*70 - 130*				

LCS Sample ID: **LCS-179497** Units: **mg/L** Analysis Date: **02-Jun-2022 21:34**
Client ID: Run ID: **FID-12_409950** SeqNo: **6677132** PrepDate: **02-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	27.42	0.50	25	0	110	75 - 125				
>nC12 to nC28	30.51	0.50	25	0	122	75 - 125				
Surr: 2-Fluorobiphenyl	*2.82*	*0*	*2.5*	*0*	*113*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.746*	*0*	*2.5*	*0*	*110*	*70 - 130*				

LCSD Sample ID: **LCSD-179497** Units: **mg/L** Analysis Date: **02-Jun-2022 22:03**
Client ID: Run ID: **FID-12_409950** SeqNo: **6677133** PrepDate: **02-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	27.28	0.50	25	0	109	75 - 125	27.42	0.505	20	
>nC12 to nC28	30.89	0.50	25	0	124	75 - 125	30.51	1.24	20	
Surr: 2-Fluorobiphenyl	*2.779*	*0*	*2.5*	*0*	*111*	*70 - 130*	*2.82*	*1.45*	*20*	
Surr: Trifluoromethyl benzene	*2.705*	*0*	*2.5*	*0*	*108*	*70 - 130*	*2.746*	*1.49*	*20*	

MS Sample ID: **HS22051347-04MS** Units: **mg/L** Analysis Date: **02-Jun-2022 23:02**
Client ID: Run ID: **FID-12_409950** SeqNo: **6677135** PrepDate: **02-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	27.09	0.49	24.45	0	111	75 - 125				
>nC12 to nC28	29.36	0.49	24.45	0	120	75 - 125				
Surr: 2-Fluorobiphenyl	*2.713*	*0*	*2.445*	*0*	*111*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.642*	*0*	*2.445*	*0*	*108*	*70 - 130*				

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

QC BATCH REPORT

Batch ID: 179497 (0) **Instrument: FID-12** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MSD Sample ID: **HS22051347-04MSD** Units: **mg/L** Analysis Date: **02-Jun-2022 23:32**
Client ID: Run ID: **FID-12_409950** SeqNo: **6677136** PrepDate: **02-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	27.67	0.49	24.66	0	112	75 - 125	27.09	2.1	20	
>nC12 to nC28	29.55	0.49	24.66	0	120	75 - 125	29.36	0.648	20	
Surr: 2-Fluorobiphenyl	*2.752*	*0*	*2.466*	*0*	*112*	*70 - 130*	*2.713*	*1.39*	*20*	
Surr: Trifluoromethyl benzene	*2.652*	*0*	*2.466*	*0*	*108*	*70 - 130*	*2.642*	*0.396*	*20*	

The following samples were analyzed in this batch: HS22060092-01

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

QC BATCH REPORT

Batch ID: 179538 (0) **Instrument: HG03** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLK-179538** Units: **mg/L** Analysis Date: **03-Jun-2022 13:14**
Client ID: Run ID: **HG03_409946** SeqNo: **6677077** PrepDate: **03-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	< 0.0000300	0.000200								

LCS Sample ID: **LCS-179538** Units: **mg/L** Analysis Date: **03-Jun-2022 13:16**
Client ID: Run ID: **HG03_409946** SeqNo: **6677078** PrepDate: **03-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00488	0.000200	0.005	0	97.6	80 - 120				

MS Sample ID: **HS22060097-03MS** Units: **mg/L** Analysis Date: **03-Jun-2022 15:21**
Client ID: Run ID: **HG03_409946** SeqNo: **6677542** PrepDate: **03-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0055	0.000200	0.005	0.000016	110	75 - 125				

MS Sample ID: **HS22060094-01MS** Units: **mg/L** Analysis Date: **03-Jun-2022 13:20**
Client ID: Run ID: **HG03_409946** SeqNo: **6677080** PrepDate: **03-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00461	0.000200	0.005	-0.000017	92.5	75 - 125				

MSD Sample ID: **HS22060097-03MSD** Units: **mg/L** Analysis Date: **03-Jun-2022 15:28**
Client ID: Run ID: **HG03_409946** SeqNo: **6677543** PrepDate: **03-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00568	0.000200	0.005	0.000016	113	75 - 125	0.0055	3.22	20	

MSD Sample ID: **HS22060094-01MSD** Units: **mg/L** Analysis Date: **03-Jun-2022 13:25**
Client ID: Run ID: **HG03_409946** SeqNo: **6677081** PrepDate: **03-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0044	0.000200	0.005	-0.000017	88.3	75 - 125	0.00461	4.66	20	

The following samples were analyzed in this batch: HS22060092-01

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

QC BATCH REPORT

Batch ID: 179579 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-179579** Units: **mg/L** Analysis Date: **06-Jun-2022 15:00**
Client ID: Run ID: **ICPMS05_410028** SeqNo: **6679668** PrepDate: **06-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	< 0.000400	0.00200								
Arsenic	< 0.000400	0.00200								
Barium	< 0.00190	0.00400								
Beryllium	< 0.000200	0.00200								
Cadmium	< 0.000200	0.00200								
Chromium	< 0.000400	0.00400								
Lead	< 0.000600	0.00200								
Nickel	< 0.000600	0.00200								
Selenium	< 0.00110	0.00200								
Silver	< 0.000200	0.00200								

LCS Sample ID: **LCS-179579** Units: **mg/L** Analysis Date: **06-Jun-2022 15:02**
Client ID: Run ID: **ICPMS05_410028** SeqNo: **6679669** PrepDate: **06-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05192	0.00200	0.05	0	104	80 - 120				
Arsenic	0.051	0.00200	0.05	0	102	80 - 120				
Barium	0.05319	0.00400	0.05	0	106	80 - 120				
Beryllium	0.04959	0.00200	0.05	0	99.2	80 - 120				
Cadmium	0.05241	0.00200	0.05	0	105	80 - 120				
Chromium	0.04741	0.00400	0.05	0	94.8	80 - 120				
Lead	0.0512	0.00200	0.05	0	102	80 - 120				
Nickel	0.0482	0.00200	0.05	0	96.4	80 - 120				
Selenium	0.05264	0.00200	0.05	0	105	80 - 120				
Silver	0.0498	0.00200	0.05	0	99.6	80 - 120				

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

QC BATCH REPORT

Batch ID: 179579 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MS Sample ID: **HS22060217-03MS** Units: **mg/L** Analysis Date: **06-Jun-2022 15:12**
Client ID: Run ID: **ICPMS05_410028** SeqNo: **6679674** PrepDate: **06-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05212	0.00200	0.05	0.000231	104	80 - 120				
Arsenic	0.05502	0.00200	0.05	0.003337	103	80 - 120				
Barium	6.708	0.00400	0.05	6.667	81.3	80 - 120				EO
Beryllium	0.0802	0.00200	0.05	0.02895	102	80 - 120				
Cadmium	0.05124	0.00200	0.05	0.000113	102	80 - 120				
Chromium	0.0638	0.00400	0.05	0.01595	95.7	80 - 120				
Lead	0.1243	0.00200	0.05	0.07006	108	80 - 120				
Nickel	0.1006	0.00200	0.05	0.05533	90.5	80 - 120				
Selenium	0.05419	0.00200	0.05	0.003364	102	80 - 120				
Silver	0.04758	0.00200	0.05	0.0001	95.0	80 - 120				

MSD Sample ID: **HS22060217-03MSD** Units: **mg/L** Analysis Date: **06-Jun-2022 15:14**
Client ID: Run ID: **ICPMS05_410028** SeqNo: **6679675** PrepDate: **06-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.0545	0.00200	0.05	0.000231	109	80 - 120	0.05212	4.45	20	
Arsenic	0.05693	0.00200	0.05	0.003337	107	80 - 120	0.05502	3.42	20	
Barium	6.762	0.00400	0.05	6.667	189	80 - 120	6.708	0.803	20	SEO
Beryllium	0.08067	0.00200	0.05	0.02895	103	80 - 120	0.0802	0.581	20	
Cadmium	0.05135	0.00200	0.05	0.000113	102	80 - 120	0.05124	0.216	20	
Chromium	0.06492	0.00400	0.05	0.01595	97.9	80 - 120	0.0638	1.74	20	
Lead	0.1234	0.00200	0.05	0.07006	107	80 - 120	0.1243	0.672	20	
Nickel	0.102	0.00200	0.05	0.05533	93.4	80 - 120	0.1006	1.42	20	
Selenium	0.0551	0.00200	0.05	0.003364	103	80 - 120	0.05419	1.66	20	
Silver	0.04801	0.00200	0.05	0.0001	95.8	80 - 120	0.04758	0.902	20	

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

QC BATCH REPORT

Batch ID: 179579 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

PDS Sample ID: **HS22060217-03PDS** Units: **mg/L** Analysis Date: **06-Jun-2022 15:16**
Client ID: Run ID: **ICPMS05_410028** SeqNo: **6679676** PrepDate: **06-Jun-2022** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09582	0.00200	0.1	0.000231	95.6	75 - 125				
Arsenic	0.1087	0.00200	0.1	0.003337	105	75 - 125				
Beryllium	0.1309	0.00200	0.1	0.02895	102	75 - 125				
Cadmium	0.09828	0.00200	0.1	0.000113	98.2	75 - 125				
Chromium	0.1145	0.00400	0.1	0.01595	98.5	75 - 125				
Lead	0.172	0.00200	0.1	0.07006	102	75 - 125				
Nickel	0.144	0.00200	0.1	0.05533	88.6	75 - 125				
Selenium	0.1059	0.00200	0.1	0.003364	103	75 - 125				
Silver	0.0926	0.00200	0.1	0.0001	92.5	75 - 125				

PDS Sample ID: **HS22060217-03PDS** Units: **mg/L** Analysis Date: **06-Jun-2022 15:28**
Client ID: Run ID: **ICPMS05_410028** SeqNo: **6679680** PrepDate: **06-Jun-2022** DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	11.97	0.200	5	6.555	108	75 - 125				

SD Sample ID: **HS22060217-03SD** Units: **mg/L** Analysis Date: **06-Jun-2022 15:10**
Client ID: Run ID: **ICPMS05_410028** SeqNo: **6679673** PrepDate: **06-Jun-2022** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	< 0.00200	0.0100					0.000231	0	10	
Arsenic	0.003693	0.0100					0.003337	0	10	J
Beryllium	0.0295	0.0100					0.02895	1.9	10	
Cadmium	< 0.00100	0.0100					0.000113	0	10	
Chromium	0.0147	0.0200					0.01595	0	10	J
Lead	0.072	0.0100					0.07006	2.77	10	
Nickel	0.05562	0.0100					0.05533	0.522	10	
Selenium	0.008084	0.0100					0.003364	0	10	J
Silver	< 0.00100	0.0100					0.0001	0	10	

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

QC BATCH REPORT

Batch ID: 179579 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

SD Sample ID: **HS22060217-03SD** Units: **mg/L** Analysis Date: **06-Jun-2022 15:26**
Client ID: Run ID: **ICPMS05_410028** SeqNo: **6679679** PrepDate: **06-Jun-2022** DF: **250**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	6.784	1.00					6.555	3.49	10	

The following samples were analyzed in this batch: HS22060092-01

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

QC BATCH REPORT

Batch ID: R410100 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-220606** Units: **ug/L** Analysis Date: **06-Jun-2022 10:10**
Client ID: Run ID: **VOA4_410100** SeqNo: **6680684** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	< 0.20	1.0								
Ethylbenzene	< 0.30	1.0								
Toluene	< 0.20	1.0								
Xylenes, Total	< 0.30	1.0								
Surr: 1,2-Dichloroethane-d4	*46.68*	*1.0*	*50*	*0*	*93.4*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.35*	*1.0*	*50*	*0*	*98.7*	*77 - 113*				
Surr: Dibromofluoromethane	*45.95*	*1.0*	*50*	*0*	*91.9*	*73 - 126*				
Surr: Toluene-d8	*50.88*	*1.0*	*50*	*0*	*102*	*81 - 120*				

LCS Sample ID: **VLCSW-220606** Units: **ug/L** Analysis Date: **06-Jun-2022 09:27**
Client ID: Run ID: **VOA4_410100** SeqNo: **6680683** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	16.54	1.0	20	0	82.7	74 - 120				
Ethylbenzene	18.79	1.0	20	0	94.0	77 - 117				
Toluene	17.45	1.0	20	0	87.2	77 - 118				
Xylenes, Total	59.46	1.0	60	0	99.1	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.33*	*1.0*	*50*	*0*	*92.7*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.41*	*1.0*	*50*	*0*	*98.8*	*77 - 113*				
Surr: Dibromofluoromethane	*46.66*	*1.0*	*50*	*0*	*93.3*	*73 - 126*				
Surr: Toluene-d8	*50.16*	*1.0*	*50*	*0*	*100*	*81 - 120*				

MS Sample ID: **HS22060101-01MS** Units: **ug/L** Analysis Date: **06-Jun-2022 18:10**
Client ID: Run ID: **VOA4_410100** SeqNo: **6680706** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	16.47	1.0	20	0	82.4	70 - 127				
Ethylbenzene	18.32	1.0	20	0	91.6	70 - 124				
Toluene	17.38	1.0	20	0	86.9	70 - 123				
Xylenes, Total	57.11	1.0	60	0	95.2	70 - 130				
Surr: 1,2-Dichloroethane-d4	*49.61*	*1.0*	*50*	*0*	*99.2*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.71*	*1.0*	*50*	*0*	*99.4*	*77 - 113*				
Surr: Dibromofluoromethane	*49.44*	*1.0*	*50*	*0*	*98.9*	*77 - 123*				
Surr: Toluene-d8	*50.27*	*1.0*	*50*	*0*	*101*	*82 - 127*				

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

QC BATCH REPORT

Batch ID: R410100 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MSD Sample ID: **HS22060101-01MSD** Units: **ug/L** Analysis Date: **06-Jun-2022 18:31**
Client ID: Run ID: **VOA4_410100** SeqNo: **6680707** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	16.34	1.0	20	0	81.7	70 - 127	16.47	0.775	20	
Ethylbenzene	17.73	1.0	20	0	88.7	70 - 124	18.32	3.27	20	
Toluene	16.84	1.0	20	0	84.2	70 - 123	17.38	3.18	20	
Xylenes, Total	55.99	1.0	60	0	93.3	70 - 130	57.11	1.98	20	
Surr: 1,2-Dichloroethane-d4	*50.02*	*1.0*	*50*	*0*	*100*	*70 - 126*	*49.61*	*0.817*	*20*	
Surr: 4-Bromofluorobenzene	*50.03*	*1.0*	*50*	*0*	*100*	*77 - 113*	*49.71*	*0.629*	*20*	
Surr: Dibromofluoromethane	*49.52*	*1.0*	*50*	*0*	*99.0*	*77 - 123*	*49.44*	*0.16*	*20*	
Surr: Toluene-d8	*49.56*	*1.0*	*50*	*0*	*99.1*	*82 - 127*	*50.27*	*1.42*	*20*	

The following samples were analyzed in this batch: HS22060092-01

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

QC BATCH REPORT

Batch ID: R409944 (0) **Instrument:** WetChem_HS **Method:** FLASH POINT BY PENSKY-MARTENS SW1010A

LCS Sample ID: **LCS-R409944** Units: **°F** Analysis Date: **03-Jun-2022 13:00**
Client ID: Run ID: **WetChem_HS_409944** SeqNo: **6677053** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	80.28	70.0	81	0	99.1	95 - 105				

DUP Sample ID: **HS22051316-01DUP** Units: **°F** Analysis Date: **03-Jun-2022 13:00**
Client ID: Run ID: **WetChem_HS_409944** SeqNo: **6677054** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	> 212	70.0					0	0	20	

The following samples were analyzed in this batch: HS22060092-01

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: HS22060092

QC BATCH REPORT

Batch ID: R409968 (0) **Instrument:** WetChem_HS **Method:** PH BY SW9040C

DUP Sample ID: **HS22060150-02DUP** Units: **pH Units** Analysis Date: **03-Jun-2022 15:04**
Client ID: Run ID: **WetChem_HS_409968** SeqNo: **6677483** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.91	0.100					6.89	0.29	10	
Temp Deg C @pH	20.2	0					20.2	0	10	

The following samples were analyzed in this batch: HS22060092-01

Client: WSP Golder
Project: Houston TX-Wood Preserving Works IDWW
WorkOrder: **HS22060092**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-34	30-Jun-2022
Illinois	2000322022-9	09-May-2023
Kansas	E-10352 2021-2022	31-Jul-2022
Louisiana	03087, 2021-2022	30-Jun-2022
Maryland	343, 2021-2022	30-Jun-2022
North Carolina	624-2022	31-Dec-2022
Oklahoma	2021-080	31-Aug-2022
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932021-12	30-Jul-2022

Sample Receipt Checklist

Work Order ID: HS22060092 **Date/Time Received:** **02-Jun-2022 08:10**

Client Name: PBW **Received by:** **Corey Grandits**

Completed By: */S/ Paresh M. Giga* 02-Jun-2022 09:21 **Reviewed by:** _____ _____

eSignature Date/Time eSignature Date/Time

Matrices: **Water** Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:273180
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.0C/1.5C U/c	IR31
Cooler(s)/Kit(s):	45368	
Date/Time sample(s) sent to storage:	6/2/22 09:30	

Water - VOA vials have zero headspace?	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☑	N/A ☐
pH adjusted?	Yes ☑	No ☐	N/A ☐
pH adjusted by:	Corey Grandits		

Login Notes: Metals pH >2 (11).
Preserved with 0.5ml HNO3 (Lot 318173210)
6/2/22 @ 08:15. Final pH (7)
TPH - 2 vials have headspace >6mm

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH
+1 513 733 5336

Everett, WA
+1 425 356 2600

Fort Collins, CO
+1 970 490 1511

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 273180

HS22060092

WSP Golder

Houston TX-Wood Preserving Works IDW

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	TBD/Kevin Peterburs 1620-31	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-31-Rev0 SR 92688
Company Name	WSP Golder	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	1601 S. MoPac Expressway Suite 325D	Address	1400 Douglas Street Stop 0750
City/State/Zip	Austin, TX 78746	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	Eric_Matzner@golder.com	e-Mail Address	

A	8260_LL_W (5652652 8260 BTEX IDWW)
B	TX1005_W_Low (5643233 TPH TX1005 IDWW)
C	ICP_TW (5652643 5652646 RCRA 8+3 Metals IDWW)
D	pH_W_9040C (5632436 pH - RCI IDWW)
E	IGN_W (5652637 Ignitability - RCI IDWW)
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WW-1620-IDW009707-20220601	6-1-22	1730	Water	1,2,8	8	X	X	X	X	X						
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHN BEAUTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] 3 Wrk Days [ ] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour

Results Due Date:

	Date	Time	
Relinquished by:	6-1-22	0810	Received by:
Relinquished by:	Date:	Time:	Received by (Laboratory): GRET A 6-2-22 0816
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: UPRR HWPW 1620-31

Cooler ID	Cooler Temp.
95368	1.0°C
IR31	
61°C 0.5	

QC Package: (Check One Box Below)

- [X] Level II Std QC
- [ ] Level III Std QC/Raw Data
- [ ] Level IV SW846/CLP
- [ ] Other
- [ ] TRRP Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Lq | BRN | 9.5

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
TXD000820266	1	888-877-7267	024987198 JJK

GENERATOR

5. Generator's Name and Mailing Address
Union Pacific Railroad c/o GHD Services, Inc
9100 Centre Dr Suite 240
West Chester, OH 45069
Generator's Phone: 414-367-4769

Generator's Site Address (if different than mailing address)
Union Pacific Railroad (UPRR)
4910 Liberty Rd
Houston, TX 77026

6. Transporter 1 Company Name: Enhanced Environmental & Emergency Services inc
U.S. EPA ID Number: TXR000083939

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Blue Ridge Landfill
2200 FM 521
Fresno, TX 77545
Facility's Phone: 281-235-6142
U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. Non DOT Regulated Material (Petroleum impacted Water	1	TP	150	E		1485	1022
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1) (x275, Profile# 5112229020 exp. 7/6/26
WR# 018260
Bill to: E3 omni - PO Box 1300 Clinton, MS 39060
Email invoices - E3admin@E3enviro.com
Job# 135-24-0250
PO# 35-2024-0536

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Anthony McMullins OBO UPRR
Signature: Anthony McMullins
Month 6 Day 26 Year 24

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Oscar Williams
Signature:
Month 6 Day 26 Year 24

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

Republic Services
2200 FM 521 (PO BOX 879)
Fresno, TX. 77545
JUN 26 2024
Blue Ridge Landfill
Permit# 1505A
SWR# 88429

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Aaron Rau
Signature:
Month 6 Day 26 Year 24

10.21

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

March 19, 2024

Eric Matzner
WSP Austin
1601 S. MoPac Expressway
Suite 325D
Austin, TX 78746

Work Order: **HS24021485**

Laboratory Results for: **Houston TX-Wood Preserving Works IDW**

Dear Eric Matzner,

ALS Environmental received 1 sample(s) on Feb 22, 2024 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JAMES.GUIN
James Guin

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Work Order: HS24021485

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS24021485-01	WW-1620-sumps-240222	Water		22-Feb-2024 14:45	22-Feb-2024 16:24	☐

Client: WSP Austin **CASE NARRATIVE**
Project: Houston TX-Wood Preserving Works IDW
Work Order: HS24021485

Work Order Comments

• Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

GC Semivolatiles by Method TX1005

Batch ID: 208208

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260

Batch ID: R460329

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method SW6020A

Batch ID: 208048

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW1010

Batch ID: R460927

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9040C

Batch ID: R460226

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Sample ID: WW-1620-sumps-240222
Collection Date: 22-Feb-2024 14:45

ANALYTICAL REPORT
WorkOrder:HS24021485
Lab ID:HS24021485-01
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,1,1-Trichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
1,1,2,2-Tetrachloroethane	< 0.00050		0.00050	0.0010	mg/L	1	01-Mar-2024 22:51
1,1,2-Trichlor-1,2,2-trifluoroethane	< 0.00050		0.00050	0.0010	mg/L	1	01-Mar-2024 22:51
1,1,2-Trichloroethane	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
1,1-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
1,1-Dichloroethene	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
1,2,4-Trichlorobenzene	< 0.00050		0.00050	0.0010	mg/L	1	01-Mar-2024 22:51
1,2-Dibromo-3-chloropropane	< 0.00060		0.00060	0.0010	mg/L	1	01-Mar-2024 22:51
1,2-Dibromoethane	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
1,2-Dichlorobenzene	< 0.00050		0.00050	0.0010	mg/L	1	01-Mar-2024 22:51
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
1,2-Dichloropropane	< 0.00050		0.00050	0.0010	mg/L	1	01-Mar-2024 22:51
1,3-Dichlorobenzene	< 0.00040		0.00040	0.0010	mg/L	1	01-Mar-2024 22:51
1,4-Dichlorobenzene	< 0.00040		0.00040	0.0010	mg/L	1	01-Mar-2024 22:51
2-Butanone	< 0.00050		0.00050	0.0020	mg/L	1	01-Mar-2024 22:51
2-Hexanone	< 0.0010		0.0010	0.0020	mg/L	1	01-Mar-2024 22:51
4-Methyl-2-pentanone	< 0.00070		0.00070	0.0020	mg/L	1	01-Mar-2024 22:51
Acetone	< 0.0014		0.0014	0.0020	mg/L	1	01-Mar-2024 22:51
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
Bromodichloromethane	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
Bromoform	< 0.00040		0.00040	0.0010	mg/L	1	01-Mar-2024 22:51
Bromomethane	< 0.00040		0.00040	0.0010	mg/L	1	01-Mar-2024 22:51
Carbon disulfide	< 0.00060		0.00060	0.0020	mg/L	1	01-Mar-2024 22:51
Carbon tetrachloride	< 0.00050		0.00050	0.0010	mg/L	1	01-Mar-2024 22:51
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
Chloroethane	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
Chloroform	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
Chloromethane	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
cis-1,2-Dichloroethene	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
cis-1,3-Dichloropropene	< 0.00010		0.00010	0.0010	mg/L	1	01-Mar-2024 22:51
Cyclohexane	< 0.00030	n	0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
Dibromochloromethane	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
Dichlorodifluoromethane	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
Isopropylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
m,p-Xylene	< 0.00050		0.00050	0.0020	mg/L	1	01-Mar-2024 22:51
Methyl acetate	< 0.0010		0.0010	0.0010	mg/L	1	01-Mar-2024 22:51
Methyl tert-butyl ether	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
Methylcyclohexane	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Sample ID: WW-1620-sumps-240222
Collection Date: 22-Feb-2024 14:45

ANALYTICAL REPORT
WorkOrder:HS24021485
Lab ID:HS24021485-01
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	01-Mar-2024 22:51
o-Xylene	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
Styrene	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
Tetrachloroethene	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
trans-1,2-Dichloroethene	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
trans-1,3-Dichloropropene	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
Trichloroethene	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
Trichlorofluoromethane	< 0.00030		0.00030	0.0010	mg/L	1	01-Mar-2024 22:51
Vinyl chloride	< 0.00020		0.00020	0.0010	mg/L	1	01-Mar-2024 22:51
Xylenes, Total	< 0.00030		0.00030	0.0030	mg/L	1	01-Mar-2024 22:51
Surr: 1,2-Dichloroethane-d4	*90.0*			*70-126*	*%REC*	*1*	*01-Mar-2024 22:51*
Surr: 4-Bromofluorobenzene	*97.9*			*77-113*	*%REC*	*1*	*01-Mar-2024 22:51*
Surr: Dibromofluoromethane	*99.9*			*77-123*	*%REC*	*1*	*01-Mar-2024 22:51*
Surr: Toluene-d8	*94.9*			*82-127*	*%REC*	*1*	*01-Mar-2024 22:51*
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 01-Mar-2024		Analyst: DB
nC6 to nC12	< 0.19		0.19	0.49	mg/L	1	01-Mar-2024 17:17
>nC12 to nC28	< 0.19		0.19	0.49	mg/L	1	01-Mar-2024 17:17
>nC28 to nC35	< 0.19		0.19	0.49	mg/L	1	01-Mar-2024 17:17
Total Petroleum Hydrocarbon	< 0.19		0.19	0.49	mg/L	1	01-Mar-2024 17:17
Surr: 2-Fluorobiphenyl	*73.3*			*70-130*	*%REC*	*1*	*01-Mar-2024 17:17*
Surr: Trifluoromethyl benzene	*75.1*			*70-130*	*%REC*	*1*	*01-Mar-2024 17:17*
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 27-Feb-2024		Analyst: MSC
Antimony	**0.00196**	J	**0.000400**	**0.00200**	**mg/L**	1	01-Mar-2024 00:26
Arsenic	**0.00948**		**0.000400**	**0.00200**	**mg/L**	1	01-Mar-2024 00:26
Barium	**0.0576**		**0.00190**	**0.00400**	**mg/L**	1	01-Mar-2024 00:26
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	01-Mar-2024 00:26
Cadmium	**0.000226**	J	**0.000200**	**0.00200**	**mg/L**	1	01-Mar-2024 00:26
Chromium	**0.00258**	J	**0.000400**	**0.00400**	**mg/L**	1	01-Mar-2024 00:26
Lead	**0.0305**		**0.000600**	**0.00200**	**mg/L**	1	01-Mar-2024 00:26
Nickel	**0.00827**		**0.000600**	**0.00200**	**mg/L**	1	01-Mar-2024 00:26
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	01-Mar-2024 00:26
Silver	< 0.000200		0.000200	0.00200	mg/L	1	01-Mar-2024 00:26
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 15-Mar-2024		Analyst: JS
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	15-Mar-2024 16:58
FLASH POINT BY PENSKY-MARTENS SW1010A		**Method:SW1010**					Analyst: TH
Ignitability	> 212		70.0	70.0	°F	1	10-Mar-2024 12:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Austin
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works IDW
WorkOrder:HS24021485
Sample ID: WW-1620-sumps-240222
Lab ID:HS24021485-01
Collection Date: 22-Feb-2024 14:45
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
PH BY SW9040C	**Method:SW9040C**						Analyst: MR
pH	**7.91**	H	**0.100**	**0.100**	**pH Units**	1	01-Mar-2024 10:03
Temp Deg C @pH	**20.2**	H	**0**	**0**	**DEG C**	1	01-Mar-2024 10:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

Batch ID: 208048 **Start Date:** 27 Feb 2024 15:00 **End Date:** 27 Feb 2024 15:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24021485-01		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 208208 **Start Date:** 01 Mar 2024 13:30 **End Date:** 01 Mar 2024 13:30
Method: TX 1005 PREP **Prep Code:** TX 1005_W PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24021485-01		30.78 (g)	3 (mL)	0.09747	40 mL VOA vial, HCl to pH <2

Batch ID: 208930 **Start Date:** 15 Mar 2024 10:30 **End Date:** 15 Mar 2024 10:30
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24021485-01		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 208048 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS24021485-01	WW-1620-sumps-240222	22 Feb 2024 14:45		27 Feb 2024 15:00	01 Mar 2024 00:26	1
Batch ID: 208208 (0)	**Test Name :** LOW-LEVEL TEXAS TPH BY TX1005				**Matrix:** Water	
HS24021485-01	WW-1620-sumps-240222	22 Feb 2024 14:45		01 Mar 2024 13:30	01 Mar 2024 17:17	1
Batch ID: 208930 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Water	
HS24021485-01	WW-1620-sumps-240222	22 Feb 2024 14:45		15 Mar 2024 10:30	15 Mar 2024 16:58	1
Batch ID: R460226 (0)	**Test Name :** PH BY SW9040C				**Matrix:** Water	
HS24021485-01	WW-1620-sumps-240222	22 Feb 2024 14:45			01 Mar 2024 10:03	1
Batch ID: R460329 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS24021485-01	WW-1620-sumps-240222	22 Feb 2024 14:45			01 Mar 2024 22:51	1
Batch ID: R460927 (0)	**Test Name :** FLASH POINT BY PENSKY-MARTENS SW1010A				**Matrix:** Water	
HS24021485-01	WW-1620-sumps-240222	22 Feb 2024 14:45			10 Mar 2024 12:00	1

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: 208208 (0) **Instrument: FID-10** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MBLK Sample ID: **MBLK-208208** Units: **mg/L** Analysis Date: **01-Mar-2024 15:49**
Client ID: Run ID: **FID-10_460512** SeqNo: **7869153** PrepDate: **01-Mar-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	< 0.20	0.50								
>nC12 to nC28	< 0.20	0.50								
>nC28 to nC35	< 0.20	0.50								
Total Petroleum Hydrocarbon	< 0.20	0.50								
Surr: 2-Fluorobiphenyl	*2.098*	*0*	*2.5*	*0*	*83.9*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.099*	*0*	*2.5*	*0*	*84.0*	*70 - 130*				

LCS Sample ID: **LCS-208208** Units: **mg/L** Analysis Date: **01-Mar-2024 16:19**
Client ID: Run ID: **FID-10_460512** SeqNo: **7869154** PrepDate: **01-Mar-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	26.72	0.50	25	0	107	75 - 125				
>nC12 to nC28	27.54	0.50	25	0	110	75 - 125				
Surr: 2-Fluorobiphenyl	*2.668*	*0*	*2.5*	*0*	*107*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.371*	*0*	*2.5*	*0*	*94.8*	*70 - 130*				

LCSD Sample ID: **LCSD-208208** Units: **mg/L** Analysis Date: **01-Mar-2024 16:48**
Client ID: Run ID: **FID-10_460512** SeqNo: **7869155** PrepDate: **01-Mar-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	25.86	0.50	25	0	103	75 - 125	26.72	3.3	20	
>nC12 to nC28	26.45	0.50	25	0	106	75 - 125	27.54	4.03	20	
Surr: 2-Fluorobiphenyl	*2.556*	*0*	*2.5*	*0*	*102*	*70 - 130*	*2.668*	*4.3*	*20*	
Surr: Trifluoromethyl benzene	*2.297*	*0*	*2.5*	*0*	*91.9*	*70 - 130*	*2.371*	*3.17*	*20*	

MS Sample ID: **HS24021485-01MS** Units: **mg/L** Analysis Date: **01-Mar-2024 17:46**
Client ID: **WW-1620-sumps-240222** Run ID: **FID-10_460512** SeqNo: **7869157** PrepDate: **01-Mar-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	26.9	0.50	24.83	0	108	75 - 125				
>nC12 to nC28	25.53	0.50	24.83	0	103	75 - 125				
Surr: 2-Fluorobiphenyl	*2.082*	*0*	*2.483*	*0*	*83.9*	*70 - 130*				
Surr: Trifluoromethyl benzene	*1.921*	*0*	*2.483*	*0*	*77.4*	*70 - 130*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: 208208 (0) **Instrument:** FID-10 **Method:** LOW-LEVEL TEXAS TPH BY TX1005

MSD Sample ID: **HS24021485-01MSD** Units: **mg/L** Analysis Date: **01-Mar-2024 18:15**
Client ID: **WW-1620-sumps-240222** Run ID: **FID-10_460512** SeqNo: **7869158** PrepDate: **01-Mar-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
nC6 to nC12	24.32	0.47	23.56	0	103	75 - 125	26.9	10.1	20	
>nC12 to nC28	25.24	0.47	23.56	0	107	75 - 125	25.53	1.17	20	
Surr: 2-Fluorobiphenyl	*2.016*	*0*	*2.356*	*0*	*85.5*	*70 - 130*	*2.082*	*3.24*	*20*	
Surr: Trifluoromethyl benzene	*1.814*	*0*	*2.356*	*0*	*77.0*	*70 - 130*	*1.921*	*5.73*	*20*	

The following samples were analyzed in this batch: HS24021485-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: 208048 (0) **Instrument:** ICPMS07 **Method:** ICP-MS METALS BY SW6020A

MBLK Sample ID: **MBLK-208048** Units: **mg/L** Analysis Date: **29-Feb-2024 23:30**
Client ID: Run ID: **ICPMS07_460161** SeqNo: **7862431** PrepDate: **27-Feb-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	< 0.000400	0.00200								
Arsenic	< 0.000400	0.00200								
Barium	< 0.00190	0.00400								
Beryllium	< 0.000200	0.00200								
Cadmium	< 0.000200	0.00200								
Chromium	< 0.000400	0.00400								
Lead	< 0.000600	0.00200								
Nickel	< 0.000600	0.00200								
Selenium	< 0.00110	0.00200								
Silver	< 0.000200	0.00200								

LCS Sample ID: **LCS-208048** Units: **mg/L** Analysis Date: **29-Feb-2024 23:32**
Client ID: Run ID: **ICPMS07_460161** SeqNo: **7862432** PrepDate: **27-Feb-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04578	0.00200	0.05	0	91.6	80 - 120				
Arsenic	0.04602	0.00200	0.05	0	92.0	80 - 120				
Barium	0.04756	0.00400	0.05	0	95.1	80 - 120				
Beryllium	0.04822	0.00200	0.05	0	96.4	80 - 120				
Cadmium	0.04883	0.00200	0.05	0	97.7	80 - 120				
Chromium	0.04438	0.00400	0.05	0	88.8	80 - 120				
Lead	0.04688	0.00200	0.05	0	93.8	80 - 120				
Nickel	0.0476	0.00200	0.05	0	95.2	80 - 120				
Selenium	0.04706	0.00200	0.05	0	94.1	80 - 120				
Silver	0.04283	0.00200	0.05	0	85.7	80 - 120				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: 208048 (0) **Instrument:** ICPMS07 **Method:** ICP-MS METALS BY SW6020A

MS Sample ID: **HS24021367-02MS** Units: **mg/L** Analysis Date: **29-Feb-2024 23:39**
Client ID: Run ID: **ICPMS07_460161** SeqNo: **7862435** PrepDate: **27-Feb-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04428	0.00200	0.05	-0.001331	91.2	80 - 120				
Arsenic	0.05388	0.00200	0.05	0.006726	94.3	80 - 120				
Barium	0.9109	0.00400	0.05	0.8006	221	80 - 120				SO
Beryllium	0.04577	0.00200	0.05	0.000021	91.5	80 - 120				
Cadmium	0.04875	0.00200	0.05	0.000009	97.5	80 - 120				
Chromium	0.04369	0.00400	0.05	0.00061	86.2	80 - 120				
Lead	0.04771	0.00200	0.05	0.000211	95.0	80 - 120				
Nickel	0.04526	0.00200	0.05	0.001626	87.3	80 - 120				
Selenium	0.0473	0.00200	0.05	0.000538	93.5	80 - 120				
Silver	0.0413	0.00200	0.05	0.000023	82.5	80 - 120				

MSD Sample ID: **HS24021367-02MSD** Units: **mg/L** Analysis Date: **29-Feb-2024 23:42**
Client ID: Run ID: **ICPMS07_460161** SeqNo: **7862436** PrepDate: **27-Feb-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04522	0.00200	0.05	-0.001331	93.1	80 - 120	0.04428	2.11	20	
Arsenic	0.05522	0.00200	0.05	0.006726	97.0	80 - 120	0.05388	2.44	20	
Barium	0.8765	0.00400	0.05	0.8006	152	80 - 120	0.9109	3.85	20	SO
Beryllium	0.04634	0.00200	0.05	0.000021	92.6	80 - 120	0.04577	1.23	20	
Cadmium	0.04898	0.00200	0.05	0.000009	97.9	80 - 120	0.04875	0.479	20	
Chromium	0.04506	0.00400	0.05	0.00061	88.9	80 - 120	0.04369	3.07	20	
Lead	0.0485	0.00200	0.05	0.000211	96.6	80 - 120	0.04771	1.63	20	
Nickel	0.04671	0.00200	0.05	0.001626	90.2	80 - 120	0.04526	3.17	20	
Selenium	0.04836	0.00200	0.05	0.000538	95.6	80 - 120	0.0473	2.21	20	
Silver	0.04273	0.00200	0.05	0.000023	85.4	80 - 120	0.0413	3.4	20	

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: 208048 (0) **Instrument:** ICPMS07 **Method:** ICP-MS METALS BY SW6020A

PDS Sample ID: **HS24021367-02PDS** Units: **mg/L** Analysis Date: **29-Feb-2024 23:44**
Client ID: Run ID: **ICPMS07_460161** SeqNo: **7862437** PrepDate: **27-Feb-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09087	0.00200	0.1	-0.001331	92.2	75 - 125				
Arsenic	0.1026	0.00200	0.1	0.006726	95.9	75 - 125				
Barium	0.8935	0.00400	0.1	0.8006	92.9	75 - 125				O
Beryllium	0.09364	0.00200	0.1	0.000021	93.6	75 - 125				
Cadmium	0.0991	0.00200	0.1	0.000009	99.1	75 - 125				
Chromium	0.08946	0.00400	0.1	0.00061	88.8	75 - 125				
Lead	0.09864	0.00200	0.1	0.000211	98.4	75 - 125				
Nickel	0.09319	0.00200	0.1	0.001626	91.6	75 - 125				
Selenium	0.0965	0.00200	0.1	0.000538	96.0	75 - 125				
Silver	0.0836	0.00200	0.1	0.000023	83.6	75 - 125				

SD Sample ID: **HS24021367-02SD** Units: **mg/L** Analysis Date: **29-Feb-2024 23:37**
Client ID: Run ID: **ICPMS07_460161** SeqNo: **7862434** PrepDate: **27-Feb-2024** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	< 0.00200	0.0100					-0.001331	0	10	
Arsenic	0.006599	0.0100					0.006726	0	10	J
Barium	0.7825	0.0200					0.8006	2.26	10	
Beryllium	< 0.00100	0.0100					0.000021	0	10	
Cadmium	< 0.00100	0.0100					0.000009	0	10	
Chromium	< 0.00200	0.0200					0.00061	0	10	
Lead	< 0.00300	0.0100					0.000211	0	10	
Nickel	< 0.00300	0.0100					0.001626	0	10	
Selenium	< 0.00550	0.0100					0.000538	0	10	
Silver	< 0.00100	0.0100					0.000023	0	10	

The following samples were analyzed in this batch: HS24021485-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: 208930 (0) **Instrument:** HG04 **Method:** MERCURY BY SW7470A

MBLK Sample ID: **MBLK-208930** Units: **mg/L** Analysis Date: **15-Mar-2024 16:54**
Client ID: Run ID: **HG04_461444** SeqNo: **7890768** PrepDate: **15-Mar-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	< 0.0000300	0.000200								

LCS Sample ID: **LCS-208930** Units: **mg/L** Analysis Date: **15-Mar-2024 16:56**
Client ID: Run ID: **HG04_461444** SeqNo: **7890769** PrepDate: **15-Mar-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00501	0.000200	0.005	0	100	80 - 120				

MS Sample ID: **HS24021485-01MS** Units: **mg/L** Analysis Date: **15-Mar-2024 17:00**
Client ID: **WW-1620-sumps-240222** Run ID: **HG04_461444** SeqNo: **7890771** PrepDate: **15-Mar-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00506	0.000200	0.005	0	101	75 - 125				

MSD Sample ID: **HS24021485-01MSD** Units: **mg/L** Analysis Date: **15-Mar-2024 17:01**
Client ID: **WW-1620-sumps-240222** Run ID: **HG04_461444** SeqNo: **7890772** PrepDate: **15-Mar-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00501	0.000200	0.005	0	100	75 - 125	0.00506	0.993	20	

The following samples were analyzed in this batch: HS24021485-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: R460329 (0) **Instrument:** VOA4 **Method:** LOW LEVEL VOLATILES BY SW8260C

MBLK Sample ID: **VBLKW240301** Units: **ug/L** Analysis Date: **01-Mar-2024 22:29**
Client ID: Run ID: **VOA4_460329** SeqNo: **7865141** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	< 0.20	1.0								
1,1,2,2-Tetrachloroethane	< 0.50	1.0								
1,1,2-Trichlor-1,2,2-trifluoroethane	< 0.50	1.0								
1,1,2-Trichloroethane	< 0.30	1.0								
1,1-Dichloroethane	< 0.20	1.0								
1,1-Dichloroethene	< 0.20	1.0								
1,2,4-Trichlorobenzene	< 0.50	1.0								
1,2-Dibromo-3-chloropropane	< 0.60	1.0								
1,2-Dibromoethane	< 0.20	1.0								
1,2-Dichlorobenzene	< 0.50	1.0								
1,2-Dichloroethane	< 0.20	1.0								
1,2-Dichloropropane	< 0.50	1.0								
1,3-Dichlorobenzene	< 0.40	1.0								
1,4-Dichlorobenzene	< 0.40	1.0								
2-Butanone	< 0.50	2.0								
2-Hexanone	< 1.0	2.0								
4-Methyl-2-pentanone	< 0.70	2.0								
Acetone	< 1.4	2.0								
Benzene	< 0.20	1.0								
Bromodichloromethane	< 0.20	1.0								
Bromoform	< 0.40	1.0								
Bromomethane	< 0.40	1.0								
Carbon disulfide	< 0.60	2.0								
Carbon tetrachloride	< 0.50	1.0								
Chlorobenzene	< 0.30	1.0								
Chloroethane	< 0.30	1.0								
Chloroform	< 0.20	1.0								
Chloromethane	< 0.20	1.0								
cis-1,2-Dichloroethene	< 0.20	1.0								
cis-1,3-Dichloropropene	< 0.10	1.0								
Cyclohexane	< 0.30	1.0								
Dibromochloromethane	< 0.30	1.0								
Dichlorodifluoromethane	< 0.30	1.0								
Ethylbenzene	< 0.30	1.0								

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: R460329 (0) **Instrument:** VOA4 **Method:** LOW LEVEL VOLATILES BY SW8260C

MBLK Sample ID: **VBLKW240301** Units: **ug/L** Analysis Date: **01-Mar-2024 22:29**
Client ID: Run ID: **VOA4_460329** SeqNo: **7865141** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Isopropylbenzene	< 0.30	1.0								
m,p-Xylene	< 0.50	2.0								
Methyl acetate	< 1.0	1.0								
Methyl tert-butyl ether	< 0.20	1.0								
Methylcyclohexane	< 0.30	1.0								
Methylene chloride	< 1.0	2.0								
o-Xylene	< 0.30	1.0								
Styrene	< 0.30	1.0								
Tetrachloroethene	< 0.30	1.0								
Toluene	< 0.20	1.0								
trans-1,2-Dichloroethene	< 0.20	1.0								
trans-1,3-Dichloropropene	< 0.20	1.0								
Trichloroethene	< 0.30	1.0								
Trichlorofluoromethane	< 0.30	1.0								
Vinyl chloride	< 0.20	1.0								
Xylenes, Total	< 0.30	3.0								
Surr: 1,2-Dichloroethane-d4	*43.02*	*1.0*	*50*	*0*	*86.0*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.81*	*1.0*	*50*	*0*	*99.6*	*77 - 113*				
Surr: Dibromofluoromethane	*50.14*	*1.0*	*50*	*0*	*100*	*73 - 126*				
Surr: Toluene-d8	*46.7*	*1.0*	*50*	*0*	*93.4*	*81 - 120*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: R460329 (0) **Instrument:** VOA4 **Method:** LOW LEVEL VOLATILES BY SW8260C

LCS Sample ID: **VLCSW-24301** Units: **ug/L** Analysis Date: **01-Mar-2024 21:20**
Client ID: Run ID: **VOA4_460329** SeqNo: **7865139** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	17.02	1.0	20	0	85.1	70 - 130				
1,1,2,2-Tetrachloroethane	15.87	1.0	20	0	79.4	70 - 120				
1,1,2-Trichlor-1,2,2-trifluoroethane	15.65	1.0	20	0	78.2	70 - 130				
1,1,2-Trichloroethane	16.12	1.0	20	0	80.6	77 - 113				
1,1-Dichloroethane	16.91	1.0	20	0	84.5	71 - 122				
1,1-Dichloroethene	17.84	1.0	20	0	89.2	70 - 130				
1,2,4-Trichlorobenzene	19.05	1.0	20	0	95.3	77 - 126				
1,2-Dibromo-3-chloropropane	14.39	1.0	20	0	72.0	70 - 130				
1,2-Dibromoethane	16.89	1.0	20	0	84.4	76 - 123				
1,2-Dichlorobenzene	18.72	1.0	20	0	93.6	77 - 113				
1,2-Dichloroethane	17.36	1.0	20	0	86.8	70 - 124				
1,2-Dichloropropane	16.5	1.0	20	0	82.5	72 - 119				
1,3-Dichlorobenzene	19.09	1.0	20	0	95.4	78 - 118				
1,4-Dichlorobenzene	18.71	1.0	20	0	93.5	79 - 113				
2-Butanone	24.48	2.0	40	0	61.2	70 - 130				S
2-Hexanone	27.6	2.0	40	0	69.0	70 - 130				S
4-Methyl-2-pentanone	24.42	2.0	40	0	61.1	70 - 130				S
Acetone	28.64	2.0	40	0	71.6	70 - 130				
Benzene	17.06	1.0	20	0	85.3	74 - 120				
Bromodichloromethane	16.96	1.0	20	0	84.8	74 - 122				
Bromoform	15.55	1.0	20	0	77.8	73 - 128				
Bromomethane	19.24	1.0	20	0	96.2	70 - 130				
Carbon disulfide	34.07	2.0	40	0	85.2	70 - 130				
Carbon tetrachloride	17.1	1.0	20	0	85.5	71 - 125				
Chlorobenzene	17.66	1.0	20	0	88.3	76 - 113				
Chloroethane	29.69	1.0	20	0	148	70 - 130				S
Chloroform	17.64	1.0	20	0	88.2	71 - 121				
Chloromethane	16.55	1.0	20	0	82.7	70 - 129				
cis-1,2-Dichloroethene	18.74	1.0	20	0	93.7	75 - 122				
cis-1,3-Dichloropropene	16.65	1.0	20	0	83.3	73 - 127				
Cyclohexane	6.498	1.0	20	0	32.5	70 - 130				S
Dibromochloromethane	16.03	1.0	20	0	80.2	77 - 122				
Dichlorodifluoromethane	13.7	1.0	20	0	68.5	70 - 130				S
Ethylbenzene	17.48	1.0	20	0	87.4	77 - 117				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: R460329 (0) **Instrument:** VOA4 **Method:** LOW LEVEL VOLATILES BY SW8260C

LCS Sample ID: **VLCSW-24301** Units: **ug/L** Analysis Date: **01-Mar-2024 21:20**
Client ID: Run ID: **VOA4_460329** SeqNo: **7865139** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Isopropylbenzene	18.76	1.0	20	0	93.8	73 - 127				
m,p-Xylene	36.69	2.0	40	0	91.7	77 - 122				
Methyl acetate	13.66	1.0	20	0	68.3	76 - 122				S
Methyl tert-butyl ether	14.33	1.0	20	0	71.7	70 - 130				
Methylcyclohexane	6.946	1.0	20	0	34.7	61 - 157				S
Methylene chloride	20.35	2.0	20	0	102	70 - 127				
o-Xylene	18.05	1.0	20	0	90.3	75 - 119				
Styrene	18.24	1.0	20	0	91.2	72 - 126				
Tetrachloroethene	15.76	1.0	20	0	78.8	76 - 119				
Toluene	16.64	1.0	20	0	83.2	77 - 118				
trans-1,2-Dichloroethene	17.63	1.0	20	0	88.2	72 - 127				
trans-1,3-Dichloropropene	16.69	1.0	20	0	83.4	77 - 119				
Trichloroethene	17.99	1.0	20	0	90.0	77 - 121				
Trichlorofluoromethane	18.47	1.0	20	0	92.4	70 - 130				
Vinyl chloride	14.57	1.0	20	0	72.8	70 - 130				
Xylenes, Total	54.74	3.0	60	0	91.2	75 - 122				
Surr: 1,2-Dichloroethane-d4	*49.13*	*1.0*	*50*	*0*	*98.3*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.94*	*1.0*	*50*	*0*	*97.9*	*77 - 113*				
Surr: Dibromofluoromethane	*54.09*	*1.0*	*50*	*0*	*108*	*73 - 126*				
Surr: Toluene-d8	*47.37*	*1.0*	*50*	*0*	*94.7*	*81 - 120*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: R460329 (0) **Instrument:** VOA4 **Method:** LOW LEVEL VOLATILES BY SW8260C

MS Sample ID: **HS24021708-10MS** Units: **ug/L** Analysis Date: **02-Mar-2024 04:33**
Client ID: Run ID: **VOA4_460329** SeqNo: **7865157** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	17.46	1.0	20	0	87.3	70 - 130				
1,1,2,2-Tetrachloroethane	14.24	1.0	20	0	71.2	70 - 123				
1,1,2-Trichlor-1,2,2-trifluoroethane	16.7	1.0	20	0	83.5	70 - 130				
1,1,2-Trichloroethane	15.61	1.0	20	0	78.1	70 - 117				
1,1-Dichloroethane	15.1	1.0	20	0	75.5	70 - 127				
1,1-Dichloroethene	16.54	1.0	20	0	82.7	70 - 130				
1,2,4-Trichlorobenzene	15.78	1.0	20	0	78.9	70 - 125				
1,2-Dibromo-3-chloropropane	13.87	1.0	20	0	69.4	70 - 130				S
1,2-Dibromoethane	16.38	1.0	20	0	81.9	70 - 124				
1,2-Dichlorobenzene	16	1.0	20	0	80.0	70 - 115				
1,2-Dichloroethane	16	1.0	20	0	80.0	70 - 127				
1,2-Dichloropropane	15.69	1.0	20	0	78.5	70 - 122				
1,3-Dichlorobenzene	15.99	1.0	20	0	79.9	70 - 119				
1,4-Dichlorobenzene	15.99	1.0	20	0	80.0	70 - 114				
2-Butanone	26.21	2.0	40	0	65.5	70 - 130				S
2-Hexanone	28.25	2.0	40	0	70.6	70 - 130				
4-Methyl-2-pentanone	25.36	2.0	40	0	63.4	70 - 130				S
Acetone	26.75	2.0	40	0	66.9	70 - 130				S
Benzene	16.93	1.0	20	0	84.7	70 - 127				
Bromodichloromethane	16.06	1.0	20	0	80.3	70 - 124				
Bromoform	14.95	1.0	20	0	74.8	70 - 129				
Bromomethane	15.49	1.0	20	0	77.5	70 - 130				
Carbon disulfide	29.78	2.0	40	0	74.5	70 - 130				
Carbon tetrachloride	17.53	1.0	20	0	87.6	70 - 130				
Chlorobenzene	16.87	1.0	20	0	84.4	70 - 114				
Chloroethane	13.54	1.0	20	0	67.7	70 - 130				S
Chloroform	15.86	1.0	20	0	79.3	70 - 125				
Chloromethane	15.24	1.0	20	0	76.2	70 - 130				
cis-1,2-Dichloroethene	16.72	1.0	20	0	83.6	70 - 128				
cis-1,3-Dichloropropene	15.64	1.0	20	0	78.2	70 - 125				
Cyclohexane	6.658	1.0	20	0	33.3	70 - 130				S
Dibromochloromethane	15.56	1.0	20	0	77.8	70 - 124				
Dichlorodifluoromethane	12.26	1.0	20	0	61.3	70 - 130				S
Ethylbenzene	16.57	1.0	20	0	82.9	70 - 124				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: R460329 (0) **Instrument:** VOA4 **Method:** LOW LEVEL VOLATILES BY SW8260C

MS Sample ID: **HS24021708-10MS** Units: **ug/L** Analysis Date: **02-Mar-2024 04:33**
Client ID: Run ID: **VOA4_460329** SeqNo: **7865157** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Isopropylbenzene	18.1	1.0	20	0	90.5	70 - 130				
m,p-Xylene	34.02	2.0	40	0	85.0	70 - 130				
Methyl acetate	12.77	1.0	20	0	63.9	76 - 122				S
Methyl tert-butyl ether	14.13	1.0	20	0	70.7	70 - 130				
Methylcyclohexane	6.853	1.0	20	0	34.3	61 - 158				S
Methylene chloride	17.64	2.0	20	0	88.2	70 - 128				
o-Xylene	17	1.0	20	0	85.0	70 - 124				
Styrene	16.94	1.0	20	0	84.7	70 - 130				
Tetrachloroethene	16.35	1.0	20	0	81.7	70 - 130				
Toluene	16.67	1.0	20	0	83.4	70 - 123				
trans-1,2-Dichloroethene	16.15	1.0	20	0	80.7	70 - 130				
trans-1,3-Dichloropropene	15.22	1.0	20	0	76.1	70 - 121				
Trichloroethene	18.13	1.0	20	0	90.6	70 - 129				
Trichlorofluoromethane	15.8	1.0	20	0	79.0	70 - 130				
Vinyl chloride	14.09	1.0	20	0	70.4	70 - 130				
Xylenes, Total	51.02	3.0	60	0	85.0	70 - 130				
Surr: 1,2-Dichloroethane-d4	*47.87*	*1.0*	*50*	*0*	*95.7*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.41*	*1.0*	*50*	*0*	*98.8*	*77 - 113*				
Surr: Dibromofluoromethane	*49.73*	*1.0*	*50*	*0*	*99.5*	*77 - 123*				
Surr: Toluene-d8	*48.62*	*1.0*	*50*	*0*	*97.2*	*82 - 127*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: R460329 (0) **Instrument:** VOA4 **Method:** LOW LEVEL VOLATILES BY SW8260C

MSD Sample ID: **HS24021708-10MSD** Units: **ug/L** Analysis Date: **02-Mar-2024 04:56**
Client ID: Run ID: **VOA4_460329** SeqNo: **7865158** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1-Trichloroethane	16.82	1.0	20	0	84.1	70 - 130	17.46	3.75	20	
1,1,2,2-Tetrachloroethane	14.29	1.0	20	0	71.5	70 - 123	14.24	0.363	20	
1,1,2-Trichlor-1,2,2-trifluoroethane	16.01	1.0	20	0	80.0	70 - 130	16.7	4.25	20	
1,1,2-Trichloroethane	15.22	1.0	20	0	76.1	70 - 117	15.61	2.55	20	
1,1-Dichloroethane	15.6	1.0	20	0	78.0	70 - 127	15.1	3.29	20	
1,1-Dichloroethene	16.85	1.0	20	0	84.2	70 - 130	16.54	1.82	20	
1,2,4-Trichlorobenzene	16.11	1.0	20	0	80.6	70 - 125	15.78	2.07	20	
1,2-Dibromo-3-chloropropane	14.11	1.0	20	0	70.5	70 - 130	13.87	1.66	20	
1,2-Dibromoethane	16.03	1.0	20	0	80.2	70 - 124	16.38	2.13	20	
1,2-Dichlorobenzene	16.23	1.0	20	0	81.1	70 - 115	16	1.41	20	
1,2-Dichloroethane	16.01	1.0	20	0	80.0	70 - 127	16	0.0404	20	
1,2-Dichloropropane	15.61	1.0	20	0	78.1	70 - 122	15.69	0.511	20	
1,3-Dichlorobenzene	16.48	1.0	20	0	82.4	70 - 119	15.99	3.04	20	
1,4-Dichlorobenzene	16.31	1.0	20	0	81.5	70 - 114	15.99	1.94	20	
2-Butanone	25.91	2.0	40	0	64.8	70 - 130	26.21	1.16	20	S
2-Hexanone	26.72	2.0	40	0	66.8	70 - 130	28.25	5.54	20	S
4-Methyl-2-pentanone	24.3	2.0	40	0	60.7	70 - 130	25.36	4.29	20	S
Acetone	27.49	2.0	40	0	68.7	70 - 130	26.75	2.71	20	S
Benzene	16.12	1.0	20	0	80.6	70 - 127	16.93	4.89	20	
Bromodichloromethane	15.87	1.0	20	0	79.4	70 - 124	16.06	1.19	20	
Bromoform	14.36	1.0	20	0	71.8	70 - 129	14.95	4.03	20	
Bromomethane	15.54	1.0	20	0	77.7	70 - 130	15.49	0.325	20	
Carbon disulfide	30.4	2.0	40	0	76.0	70 - 130	29.78	2.04	20	
Carbon tetrachloride	16.56	1.0	20	0	82.8	70 - 130	17.53	5.67	20	
Chlorobenzene	16.24	1.0	20	0	81.2	70 - 114	16.87	3.84	20	
Chloroethane	18.75	1.0	20	0	93.8	70 - 130	13.54	32.3	20	R
Chloroform	16.44	1.0	20	0	82.2	70 - 125	15.86	3.55	20	
Chloromethane	15.3	1.0	20	0	76.5	70 - 130	15.24	0.394	20	
cis-1,2-Dichloroethene	17.36	1.0	20	0	86.8	70 - 128	16.72	3.72	20	
cis-1,3-Dichloropropene	15.26	1.0	20	0	76.3	70 - 125	15.64	2.44	20	
Cyclohexane	6.399	1.0	20	0	32.0	70 - 130	6.658	3.96	20	S
Dibromochloromethane	15.12	1.0	20	0	75.6	70 - 124	15.56	2.82	20	
Dichlorodifluoromethane	13.01	1.0	20	0	65.0	70 - 130	12.26	5.93	20	S
Ethylbenzene	16.21	1.0	20	0	81.0	70 - 124	16.57	2.21	20	

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: R460329 (0) **Instrument:** VOA4 **Method:** LOW LEVEL VOLATILES BY SW8260C

MSD Sample ID: **HS24021708-10MSD** Units: **ug/L** Analysis Date: **02-Mar-2024 04:56**
Client ID: Run ID: **VOA4_460329** SeqNo: **7865158** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Isopropylbenzene	17.42	1.0	20	0	87.1	70 - 130	18.1	3.84	20	
m,p-Xylene	33.71	2.0	40	0	84.3	70 - 130	34.02	0.911	20	
Methyl acetate	13.05	1.0	20	0	65.2	76 - 122	12.77	2.14	20	S
Methyl tert-butyl ether	13.46	1.0	20	0	67.3	70 - 130	14.13	4.88	20	S
Methylcyclohexane	6.517	1.0	20	0	32.6	61 - 158	6.853	5.03	20	S
Methylene chloride	18.13	2.0	20	0	90.7	70 - 128	17.64	2.76	20	
o-Xylene	16.56	1.0	20	0	82.8	70 - 124	17	2.66	20	
Styrene	16.29	1.0	20	0	81.5	70 - 130	16.94	3.9	20	
Tetrachloroethene	15.3	1.0	20	0	76.5	70 - 130	16.35	6.65	20	
Toluene	15.8	1.0	20	0	79.0	70 - 123	16.67	5.36	20	
trans-1,2-Dichloroethene	16.19	1.0	20	0	80.9	70 - 130	16.15	0.27	20	
trans-1,3-Dichloropropene	15.06	1.0	20	0	75.3	70 - 121	15.22	1.1	20	
Trichloroethene	16.99	1.0	20	0	84.9	70 - 129	18.13	6.5	20	
Trichlorofluoromethane	16.41	1.0	20	0	82.0	70 - 130	15.8	3.75	20	
Vinyl chloride	14.35	1.0	20	0	71.8	70 - 130	14.09	1.89	20	
Xylenes, Total	50.27	3.0	60	0	83.8	70 - 130	51.02	1.49	20	
Surr: 1,2-Dichloroethane-d4	*49.44*	*1.0*	*50*	*0*	*98.9*	*70 - 126*	*47.87*	*3.24*	*20*	
Surr: 4-Bromofluorobenzene	*49.69*	*1.0*	*50*	*0*	*99.4*	*77 - 113*	*49.41*	*0.556*	*20*	
Surr: Dibromofluoromethane	*52.7*	*1.0*	*50*	*0*	*105*	*77 - 123*	*49.73*	*5.79*	*20*	
Surr: Toluene-d8	*47.63*	*1.0*	*50*	*0*	*95.3*	*82 - 127*	*48.62*	*2.07*	*20*	

The following samples were analyzed in this batch: HS24021485-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: R460226 (0) **Instrument:** WetChem_HS **Method:** PH BY SW9040C

DUP Sample ID: **HS24021485-01DUP** Units: **pH Units** Analysis Date: **01-Mar-2024 10:04**
Client ID: **WW-1620-sumps-240222** Run ID: **WetChem_HS_460226** SeqNo: **7862963** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.91	0.100					7.91	0	10	
Temp Deg C @pH	20.3	0					20.2	0.494	10	

The following samples were analyzed in this batch: HS24021485-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24021485

QC BATCH REPORT

Batch ID: R460927 (0) **Instrument:** WetChem_HS **Method:** FLASH POINT BY PENSKY-MARTENS SW1010A

LCS Sample ID: **LCS-R460927** Units: **°F** Analysis Date: **10-Mar-2024 12:00**
Client ID: Run ID: **WetChem_HS_460927** SeqNo: **7878691** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	80.1	70.0	81	0	98.9	95 - 105				

DUP Sample ID: **HS24021544-03DUP** Units: **°F** Analysis Date: **10-Mar-2024 12:00**
Client ID: Run ID: **WetChem_HS_460927** SeqNo: **7878692** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	> 212	70.0					0	0	20	

The following samples were analyzed in this batch: HS24021485-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: **HS24021485**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L22-90-R2	31-Mar-2024
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352 2023-2024	31-Jul-2024
Louisiana	03087 2023-2024	30-Jun-2024
Maryland	343; 2023-2024	30-Jun-2024
North Carolina	624 - 2024	31-Dec-2024
North Dakota	R-193 2023-2024	30-Apr-2024
Oklahoma	2023-140	31-Aug-2024
Texas	T104704231-23-32	30-Apr-2024
Utah	TX026932023-14	31-Jul-2024

Sample Receipt Checklist

Work Order ID: HS24021485 **Date/Time Received:** 22-Feb-2024 16:24

Client Name: PBW **Received by:** Jacob Coronado

Completed By:	/S/ Jacob Coronado	26-Feb-2024 10:43	**Reviewed by:**	/S/ luis.aguilar	26-Feb-2024 13:44
	eSignature	Date/Time		eSignature	Date/Time

Matrices: W Carrier name: Client

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:310033
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.8UC/1.7C	IR31	
Cooler(s)/Kit(s):	47753		
Date/Time sample(s) sent to storage:	02/26/2024 1043		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Middletown, PA +1 717 944 5541
Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 1

COC ID: 310033

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	4300042071/Kevin Peterburs 162	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W
Work Order		Project Number	1620-32-Rev0 SiteRem NID 92688	B	TX1005_W_Low
Company Name	WSP Austin	Bill To Company	Union Pacific Railroad- A/P	C	ICP_TW
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	pH_W_9040C
Address	1601 S. MoPac Expressway Suite 325D	Address	1400 Douglas Street Stop 0750	E	IGN_W
				F	
City/State/Zip	Austin, TX 78746	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	Eric.Matzner@wsp.com	e-Mail Address	arthur.gibson@alsglobal.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WW-1620-sumps-240222	2/22/24	1445	W	1,2,8	8	X	X	X	X	X						
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

HS24021485
WSP Austin
Houston TX-Wood Preserving Works IDWW

Sampler(s) Please Print & Sign: Madeline Mertes

Shipment Method: hand delivery

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: Madeline Mertes	Date: 2/22/24	Time: 1624	Received by:	Notes: Houston TX-Wood Preserving Works 1620-37	
Relinquished by:	Date: 2/22/24	Time: 1624	Received by (Laboratory): JC	Cooler ID	Cooler Temp.
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	42253	1.8

QC Package: (Check One Box Below)
[X] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[ ] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

1831

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

47753

CUSTODY SEAL

Date: 2/22/24 Time: 3:30
Name: Madeline Mertz
Company: USP

Seal Broken By:
Date: 02/22/24

47753 FEB 2 2 2024

BILL OF LADING–SHORT FORM-NOT NEGOTIABLE

SHIP FROM (GENERATOR NAME):	Bill of Lading Number:
[Name] Union Pacific Rail Road [Street Address] 4910 Liberty Road [City, ST ZIP Code] Houston, Tx 77026 [Phone#:]	**BOL#: 035-24-0015-01** (BOL#=E3OMI JOB #- FOR MULTIPLE LOADS, ADD -01, 02, ETC.)
RECEIVING FACILITY/CONSIGNEE NAME:	**TRANSPORTER/CARRIER NAME**
[Name] Delta Water Processing [Street Address] 18511 Beaumont Hwy [City, ST ZIP Code] Houston, Tx 77049 [Phone#:] (281) 404-4424	Company Name: E3 OMI Transporter EPA #: TXD981055163 Vehicle/Unit/Trailer #: 3137 Roll box/Vac box/Tanker #: 0001
DISPOSAL BILL TO	**JOB TYPE**
All Invoices must have a PO#: 035-2024-0033 Mail Invoices: E3 OMI PO Box 1300 Clinton, MS 39060 Email invoices: admin@e3omi.com/ claraque@e3omi.com	X_WASTE DISPOSAL PICK-UP/DELIVERY __WASHOUT __IN PLANT WORK NO DISPOSAL

Special Instructions:
Profile Approval# EOMI 0559 P

Containers		Carrier Information			
No.	Type	Total Quantity	Unit Wt./Vol.	HM (X)	**Commodity Description/Material** Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged as to ensure safe transportation with ordinary care. See Section 2(e) of NMFC item 360
1	TT	5,000	G		Non DOT Regulated Material (Oily Water)

Note: Liability limitation for loss or damage in this shipment may be applicable. See 49 USC § 14706(c)(1)(A) and (B).

Received, subject to individually determined rates or contracts that have Been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications, and rules that have been established by the carrier and are available to the shipper, on request, and to all applicable state and federal regulations.

Transporter Print Name: Miguel Sosa

Signature: Miguel Sosa 2/2/24

Shipper Signature/Date

Anthony McMullins OBO UPRR Anthony McMullins 2/2/24

This is to certify that the above-named materials are properly classified, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the DOT.

Transporter Pickup Date:

Carrier acknowledges receipt of packages and required placards. Carrier certifies emergency response information was made available and/or carrier has the DOT emergency response guidebook or equivalent documentation in the vehicle. Property described above is received in good order, except as noted.

Received By Facility (Consignee)

Print Name: Manuel Mendoza

Signature: Manuel Mendoza Date: 2/2/24

Anthony McMullins, Corporate Waste Coordinator, E3 OMI, Deer Park 409-229-5858 File: BOL 10.04.23

BILL OF LADING–SHORT FORM-NOT NEGOTIABLE

SHIP FROM (GENERATOR NAME):	Bill of Lading Number:
[Name] Union Pacific Rail Road [Street Address] 4910 Liberty Road [City, ST ZIP Code] Houston, Tx 77026 [Phone#:]	**BOL#: 035-24-0015-02** (BOL#=E3OMI JOB #- FOR MULTIPLE LOADS, ADD -01, 02, ETC.)
RECEIVING FACILITY/CONSIGNEE NAME:	**TRANSPORTER/CARRIER NAME**
[Name] Delta Water Processing [Street Address] 18511 Beaumont Hwy [City, ST ZIP Code] Houston, Tx 77049 [Phone#:] (281) 404-4424	Company Name: E3 OMI Transporter EPA #: TXD981055163 Vehicle/Unit/Trailer #: 3137 Roll box/Vac box/Tanker #: 0001
DISPOSAL BILL TO	**JOB TYPE**
All Invoices must have a PO#: 035-2024-0033 Mail Invoices: E3 OMI PO Box 1300 Clinton, MS 39060 Email invoices: admin@e3omi.com/ claraque@e3omi.com	X_WASTE DISPOSAL PICK-UP/DELIVERY __WASHOUT __IN PLANT WORK NO DISPOSAL

Special Instructions:
Profile Approval# EOMI 0559 P

Containers		Carrier Information			
No.	Type	Total Quantity	Unit Wt./Vol.	HM (X)	**Commodity Description/Material** Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged as to ensure safe transportation with ordinary care. See Section 2(e) of NMFC item 360
1	TT	9500	G		Non DOT Regulated Material (Oily Water)

Note: Liability limitation for loss or damage in this shipment may be applicable. See 49 USC § 14706(c)(1)(A) and (B).

Received, subject to individually determined rates or contracts that have Been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications, and rules that have been established by the carrier and are available to the shipper, on request, and to all applicable state and federal regulations.

Transporter
Print Name: Miguel Segura

Signature: Miguel Segura 2/2/24

Shipper Signature/Date
Anthony McMullins OBO UPRR Anthony McMullins 2/2/24

This is to certify that the above-named materials are properly classified, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the DOT.

Transporter Pickup Date:

Carrier acknowledges receipt of packages and required placards. Carrier certifies emergency response information was made available and/or carrier has the DOT emergency response guidebook or equivalent documentation in the vehicle. Property described above is received in good order, except as noted.

Received By Facility (Consignee)

Print Name: Manuel Mendoza

Signature: Manuel Mendoza Date: 2/2/24

BILL OF LADING--SHORT FORM-NOT NEGOTIABLE

SHIP FROM (GENERATOR NAME):	Bill of Lading Number:
[Name] Union Pacific Rail road [Street Address] 4910 Liberty Road [City, ST ZIP Code] Houston, TX 77026 [Phone#:]	**BOL#: 135-24-0294** (BOL#=E3OMI JOB #- FOR MULTIPLE LOADS, ADD -01, 02, ETC.)
RECEIVING FACILITY/CONSIGNEE NAME:	**TRANSPORTER/CARRIER NAME**
[Name] Delta Water Processing [Street Address] 18511 Beaumont Hwy [City, ST ZIP Code] Houston, Tx 77049 [Phone#:] (281) 404-4424	Company Name: E3 OMI Transporter EPA #: TXD981055163 Vehicle/Unit/Trailer #: Roll box/Vac box/Tanker #:
DISPOSAL BILL TO	**JOB TYPE**
All Invoices must have a PO#: 035-2024-0033 Mail invoices: E3 OMI PO Box 1300 Clinton, MS 39060 Email Invoices: admin@e3omi.com/ clarague@e3omi.com	X WASTE DISPOSAL PICK-UP/DELIVERY __WASHOUT __IN PLANT WORK NO DISPOSAL

Special Instructions:
Profile Approval# EOMI 0559 P
WR # 0174472

Containers		Carrier Information			
No.	Type	Total Quantity	Unit Wt./Vol.	HM (X)	**Commodity Description/Material** Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged as to ensure safe transportation with ordinary care. See Section 2(e) of NMFC Item 360
1	TT	2500	G		Non-DOT Regulated Material (Oily water)

Note: Liability limitation for loss or damage in this shipment may be applicable. See 49 USC § 14706(c)(1)(A) and (B).

Received, subject to individually determined rates or contracts that have Been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications, and rules that have been established by the carrier and are available to the shipper, on request, and to all applicable state and federal regulations.

Transporter
Print Name: [illegible]

Signature: [illegible]

Shipper Signature/Date
[illegible] Mercer DBA YRR 4/26/24
This is to certify that the above-named materials are properly classified, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the DOT.

Transporter Pickup Date:
[illegible]
Carrier acknowledges receipt of packages and required placards. Carrier certifies emergency response information was made available and/or carrier has the DOT emergency response guidebook or equivalent documentation in the vehicle. Property described above is received in good order, except as noted.

Received By Facility (Consignee)

Print Name: Cameron Johnson

Signature: [illegible] Date: 4/26/24

BILL OF LADING--SHORT FORM-NOT NEGOTIABLE

SHIP FROM (GENERATOR NAME):	Bill of Lading Number:
[Name] Union Pacific Rail road [Street Address] 4910 Liberty Road [City, ST ZIP Code] Houston, TX 77026 [Phone#:]	**BOL#: 135-24-0294** (BOL#=E3OMI JOB #- FOR MULTIPLE LOADS, ADD -01, 02, ETC.)
RECEIVING FACILITY/CONSIGNEE NAME:	**TRANSPORTER/CARRIER NAME**
[Name] Delta Water Processing [Street Address] 18511 Beaumont Hwy [City, ST ZIP Code] Houston, Tx 77049 [Phone#:] (281) 404-4424	Company Name: E3 OMI Transporter EPA #: TXD981055163 Vehicle/Unit/Trailer #: Roll box/Vac box/Tanker #:
DISPOSAL BILL TO	**JOB TYPE**
All Invoices must have a PO#: 035-2024-0033 Mail invoices: E3 OMI PO Box 1300 Clinton, MS 39060 Email invoices: admin@e3omi.com/ claraque@e3omi.com	X_WASTE DISPOSAL PICK-UP/DELIVERY __WASHOUT __IN PLANT WORK NO DISPOSAL

Special Instructions:
Profile Approval# EOMI 0559 P
WR# 017442

Containers		Carrier Information			
No.	Type	Total Quantity	Unit Wt./Vol.	HM (X)	**Commodity Description/Material** Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged as to ensure safe transportation with ordinary care. See Section 2(e) of NMFC Item 360
1	TT	2580	G		Non-DOT Regulated Material (Oily water)

Note: Liability limitation for loss or damage in this shipment may be applicable. See 49 USC § 14706(c)(1)(A) and (B).

Received, subject to individually determined rates or contracts that have Been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications, and rules that have been established by the carrier and are available to the shipper, on request, and to all applicable state and federal regulations.

Transporter Print Name: DERRICK JONES

Signature: Derrick Jones

Shipper Signature/Date
Victor Mena OBO UPRR 4/2/24
This is to certify that the above-named materials are properly classified, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the DOT.

Transporter Pickup Date:
4-20-24
Carrier acknowledges receipt of packages and required placards. Carrier certifies emergency response information was made available and/or carrier has the DOT emergency response guidebook or equivalent documentation in the vehicle. Property described above is received in good order, except as noted.

Received By Facility (Consignee)

Print Name: Cameron Johnson

Signature: Cameron Johnson Date: 4/2/24

(3)

BILL OF LADING--SHORT FORM-NOT NEGOTIABLE

SHIP FROM (GENERATOR NAME):	Bill of Lading Number:
[Name] Union Pacific Rail road [Street Address] 4910 Liberty Road [City, ST ZIP Code] Houston, TX 77026 [Phone#:]	**BOL#: 135-24-0294** (BOL#=E3OMI JOB #- FOR MULTIPLE LOADS, ADD -01, 02, ETC.)
RECEIVING FACILITY/CONSIGNEE NAME:	**TRANSPORTER/CARRIER NAME**
[Name] Delta Water Processing [Street Address] 18511 Beaumont Hwy [City, ST ZIP Code] Houston, Tx 77049 [Phone#:] (281) 404-4424	Company Name: E3 OMI Transporter EPA #: TXD981055163 Vehicle/Unit/Trailer #: Roll box/Vac box/Tanker #:
DISPOSAL BILL TO	**JOB TYPE**
All Invoices must have a PO#: 035-2024-0033 Mail invoices: E3 OMI PO Box 1300 Clinton, MS 39060 Email invoices: admin@e3omi.com/ claraque@e3omi.com	X WASTE DISPOSAL PICK-UP/DELIVERY _WASHOUT _IN PLANT WORK NO DISPOSAL

Special Instructions:
Profile Approval# EOMI 0559 P
WR# 0179443

Containers		Carrier Information			
No.	Type	Total Quantity	Unit Wt./Vol.	HM (X)	**Commodity Description/Material** Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged as to ensure safe transportation with ordinary care. See Section 2(e) of NMFC item 360
1	TT	2500	G		Non-DOT Regulated Material (Oily water)

Note: Liability limitation for loss or damage in this shipment may be applicable. See 49 USC § 14706(c)(1)(A) and (B).

Received, subject to individually determined rates or contracts that have Been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications, and rules that have been established by the carrier and are available to the shipper, on request, and to all applicable state and federal regulations.

Transporter Print Name: Derrick Jones

Signature: Derrick Jones

Shipper Signature/Date

Anthony McMullins OBO UPRR 4/26/24

This is to certify that the above-named materials are properly classified, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the DOT.

Transporter Pickup Date:

4-26-24

Carrier acknowledges receipt of packages and required placards. Carrier certifies emergency response information was made available and/or carrier has the DOT emergency response guidebook or equivalent documentation in the vehicle. Property described above is received in good order, except as noted.

Received By Facility (Consignee)

Print Name: Cameron Johnson

Signature: Cameron Johnson Date: 4/26/24

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

December 05, 2024

Emmanuel Higa
WSP Austin
1601 S. MoPac Expressway
Suite 325D
Austin, TX 78746

Work Order: **HS24111128**

Laboratory Results for: **Houston TX-Wood Preserving Works IDW**

Dear Emmanuel Higa,

ALS Environmental received 1 sample(s) on Nov 18, 2024 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Luis Aguilar

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Work Order: HS24111128

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS24111128-01	WW-1620-FRC248006-SW-20241118	Water		18-Nov-2024 09:55	18-Nov-2024 11:01	☐

Client: WSP Austin **CASE NARRATIVE**
Project: Houston TX-Wood Preserving Works IDW
Work Order: HS24111128

Work Order Comments

- Log In Notes : No RCI bottle received.
  Split volume from ambers for analysis.

Work Order Comments

- The analysis for Dioxins/Furans was subcontracted to Pace Analytical Services in Minneapolis, MN. Final report attached.
- Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

  The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

GC Semivolatiles by Method TX1005

Batch ID: 220913

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Semivolatiles by Method SW8270

Batch ID: 220928

Sample ID: LCSD-220928

- The RPD between the LCS and LCSD was outside of the control limit.

GCMS Volatiles by Method SW8260

Batch ID: R501008

Sample ID: VLCSW-241125

- Insufficient sample received to perform MS/MSD. An LCS/LCSD was performed as batch quality control.

Metals by Method SW7470A

Batch ID: 221012

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method SW6020A

Batch ID: 220848

Sample ID: HS24110931-04MS

- MS and MSD are for an unrelated sample

Sample ID: HS24110931-04PDS

- PDS is for an unrelated sample

WetChemistry by Method SW7.3.4.2

Batch ID: R500967

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: WSP Austin **CASE NARRATIVE**
Project: Houston TX-Wood Preserving Works IDW
Work Order: HS24111128

WetChemistry by Method SW7.3.3.2

Batch ID: R500962

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW9040C

Batch ID: R500908

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SW1010

Batch ID: R500672

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Sample ID: WW-1620-FRC248006-SW-20241118
Collection Date: 18-Nov-2024 09:55

ANALYTICAL REPORT
WorkOrder:HS24111128
Lab ID:HS24111128-01
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,1,1-Trichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	25-Nov-2024 13:14
1,1,2,2-Tetrachloroethane	< 0.00050		0.00050	0.0010	mg/L	1	25-Nov-2024 13:14
1,1,2-Trichloroethane	< 0.00030		0.00030	0.0010	mg/L	1	25-Nov-2024 13:14
1,1-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	25-Nov-2024 13:14
1,1-Dichloroethene	< 0.00020		0.00020	0.0010	mg/L	1	25-Nov-2024 13:14
1,2-Dichlorobenzene	< 0.00050		0.00050	0.0010	mg/L	1	25-Nov-2024 13:14
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	25-Nov-2024 13:14
1,2-Dichloropropane	< 0.00050		0.00050	0.0010	mg/L	1	25-Nov-2024 13:14
1,3-Dichlorobenzene	< 0.00040		0.00040	0.0010	mg/L	1	25-Nov-2024 13:14
1,4-Dichlorobenzene	< 0.00040		0.00040	0.0010	mg/L	1	25-Nov-2024 13:14
2-Butanone	< 0.00050		0.00050	0.0020	mg/L	1	25-Nov-2024 13:14
2-Hexanone	< 0.0010		0.0010	0.0020	mg/L	1	25-Nov-2024 13:14
4-Methyl-2-pentanone	< 0.00070		0.00070	0.0020	mg/L	1	25-Nov-2024 13:14
Acetone	**0.020**		**0.0014**	**0.0020**	**mg/L**	1	25-Nov-2024 13:14
Benzene	**0.0076**		**0.00020**	**0.0010**	**mg/L**	1	25-Nov-2024 13:14
Bromochloromethane	< 0.00020		0.00020	0.0010	mg/L	1	25-Nov-2024 13:14
Bromodichloromethane	**0.0015**		**0.00020**	**0.0010**	**mg/L**	1	25-Nov-2024 13:14
Bromoform	< 0.00040		0.00040	0.0010	mg/L	1	25-Nov-2024 13:14
Bromomethane	< 0.00040		0.00040	0.0010	mg/L	1	25-Nov-2024 13:14
Carbon disulfide	< 0.00060		0.00060	0.0020	mg/L	1	25-Nov-2024 13:14
Carbon tetrachloride	< 0.00050		0.00050	0.0010	mg/L	1	25-Nov-2024 13:14
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	25-Nov-2024 13:14
Chloroethane	< 0.00030		0.00030	0.0010	mg/L	1	25-Nov-2024 13:14
Chloroform	**0.00097**	J	**0.00020**	**0.0010**	**mg/L**	1	25-Nov-2024 13:14
Chloromethane	< 0.00020		0.00020	0.0010	mg/L	1	25-Nov-2024 13:14
cis-1,2-Dichloroethene	< 0.00020		0.00020	0.0010	mg/L	1	25-Nov-2024 13:14
cis-1,3-Dichloropropene	< 0.00010		0.00010	0.0010	mg/L	1	25-Nov-2024 13:14
Dibromochloromethane	**0.0015**		**0.00030**	**0.0010**	**mg/L**	1	25-Nov-2024 13:14
Ethylbenzene	**0.0073**		**0.00030**	**0.0010**	**mg/L**	1	25-Nov-2024 13:14
m,p-Xylene	**0.023**		**0.00050**	**0.0020**	**mg/L**	1	25-Nov-2024 13:14
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	25-Nov-2024 13:14
o-Xylene	**0.011**		**0.00030**	**0.0010**	**mg/L**	1	25-Nov-2024 13:14
Styrene	< 0.00030		0.00030	0.0010	mg/L	1	25-Nov-2024 13:14
Tetrachloroethene	< 0.00030		0.00030	0.0010	mg/L	1	25-Nov-2024 13:14
Toluene	**0.025**		**0.00020**	**0.0010**	**mg/L**	1	25-Nov-2024 13:14
trans-1,2-Dichloroethene	< 0.00020		0.00020	0.0010	mg/L	1	25-Nov-2024 13:14
trans-1,3-Dichloropropene	< 0.00020		0.00020	0.0010	mg/L	1	25-Nov-2024 13:14
Trichloroethene	< 0.00030		0.00030	0.0010	mg/L	1	25-Nov-2024 13:14
Vinyl acetate	< 0.00050		0.00050	0.0010	mg/L	1	25-Nov-2024 13:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Austin
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works IDW
WorkOrder:HS24111128
Sample ID: WW-1620-FRC248006-SW-20241118
Lab ID:HS24111128-01
Collection Date: 18-Nov-2024 09:55
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
Vinyl chloride	< 0.00020		0.00020	0.0010	mg/L	1	25-Nov-2024 13:14
Xylenes, Total	**0.033**		**0.00030**	**0.0030**	**mg/L**	1	25-Nov-2024 13:14
1,2-Dichloroethene, Total	< 0.00020		0.00020	0.0020	mg/L	1	25-Nov-2024 13:14
Surr: 1,2-Dichloroethane-d4	*118*			*70-126*	*%REC*	*1*	*25-Nov-2024 13:14*
Surr: 4-Bromofluorobenzene	*108*			*77-113*	*%REC*	*1*	*25-Nov-2024 13:14*
Surr: Dibromofluoromethane	*111*			*77-123*	*%REC*	*1*	*25-Nov-2024 13:14*
Surr: Toluene-d8	*99.9*			*82-127*	*%REC*	*1*	*25-Nov-2024 13:14*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Sample ID: WW-1620-FRC248006-SW-20241118
Collection Date: 18-Nov-2024 09:55

ANALYTICAL REPORT
WorkOrder:HS24111128
Lab ID:HS24111128-01
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**			Prep:SW3510 / 21-Nov-2024			Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	25-Nov-2024 18:07
2,4,5-Trichlorophenol	< 0.000057		0.000057	0.00020	mg/L	1	25-Nov-2024 18:07
2,4,6-Trichlorophenol	< 0.000048		0.000048	0.00020	mg/L	1	25-Nov-2024 18:07
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	25-Nov-2024 18:07
2,4-Dinitrotoluene	< 0.000058		0.000058	0.00020	mg/L	1	25-Nov-2024 18:07
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	25-Nov-2024 18:07
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	25-Nov-2024 18:07
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	25-Nov-2024 18:07
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.0010	mg/L	1	25-Nov-2024 18:07
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	25-Nov-2024 18:07
Acenaphthene	< 0.000027		0.000027	0.00010	mg/L	1	25-Nov-2024 18:07
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	25-Nov-2024 18:07
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	25-Nov-2024 18:07
Benz(a)anthracene	< 0.000050		0.000050	0.00010	mg/L	1	25-Nov-2024 18:07
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	25-Nov-2024 18:07
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	25-Nov-2024 18:07
Bis(2-ethylhexyl)phthalate	**0.00028**		**0.000037**	**0.00020**	**mg/L**	1	25-Nov-2024 18:07
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	25-Nov-2024 18:07
Cresols, Total	< 0.000036		0.000036	0.00020	mg/L	1	25-Nov-2024 18:07
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	25-Nov-2024 18:07
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	25-Nov-2024 18:07
Fluoranthene	**0.00013**		**0.000010**	**0.00010**	**mg/L**	1	25-Nov-2024 18:07
Fluorene	< 0.000030		0.000030	0.00010	mg/L	1	25-Nov-2024 18:07
Hexachlorobenzene	< 0.000044		0.000044	0.00020	mg/L	1	25-Nov-2024 18:07
Hexachlorobutadiene	< 0.000030		0.000030	0.00020	mg/L	1	25-Nov-2024 18:07
Hexachloroethane	< 0.000059		0.000059	0.00020	mg/L	1	25-Nov-2024 18:07
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	25-Nov-2024 18:07
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	25-Nov-2024 18:07
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	25-Nov-2024 18:07
Pentachlorophenol	< 0.000079		0.000079	0.00020	mg/L	1	25-Nov-2024 18:07
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	25-Nov-2024 18:07
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	25-Nov-2024 18:07
Pyrene	**0.000043**	J	**0.000019**	**0.00010**	**mg/L**	1	25-Nov-2024 18:07
Pyridine	< 0.000030		0.000030	0.0010	mg/L	1	25-Nov-2024 18:07
Surr: 2,4,6-Tribromophenol	*80.4*			*34-129*	*%REC*	*1*	*25-Nov-2024 18:07*
Surr: 2-Fluorobiphenyl	*67.0*			*40-125*	*%REC*	*1*	*25-Nov-2024 18:07*
Surr: 2-Fluorophenol	*62.4*			*20-120*	*%REC*	*1*	*25-Nov-2024 18:07*
Surr: 4-Terphenyl-d14	*94.1*			*40-135*	*%REC*	*1*	*25-Nov-2024 18:07*
Surr: Nitrobenzene-d5	*62.6*			*41-120*	*%REC*	*1*	*25-Nov-2024 18:07*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
Sample ID: WW-1620-FRC248006-SW-20241118
Collection Date: 18-Nov-2024 09:55

ANALYTICAL REPORT
WorkOrder:HS24111128
Lab ID:HS24111128-01
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 21-Nov-2024		Analyst: GEY
Surr: Phenol-d6	*55.8*			*20-120*	*%REC*	*1*	*25-Nov-2024 18:07*
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 21-Nov-2024		Analyst: DB
nC6 to nC12	< 0.20		0.20	0.49	mg/L	1	22-Nov-2024 14:29
>nC12 to nC28	< 0.20		0.20	0.49	mg/L	1	22-Nov-2024 14:29
>nC28 to nC35	< 0.20		0.20	0.49	mg/L	1	22-Nov-2024 14:29
Total Petroleum Hydrocarbon	< 0.20		0.20	0.49	mg/L	1	22-Nov-2024 14:29
Surr: 2-Fluorobiphenyl	*98.6*			*70-130*	*%REC*	*1*	*22-Nov-2024 14:29*
Surr: Trifluoromethyl benzene	*107*			*70-130*	*%REC*	*1*	*22-Nov-2024 14:29*
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 20-Nov-2024		Analyst: JC
Arsenic	**0.00729**		**0.000400**	**0.00200**	**mg/L**	1	22-Nov-2024 00:52
Barium	**0.120**		**0.00190**	**0.00400**	**mg/L**	1	22-Nov-2024 00:52
Cadmium	**0.000733**	J	**0.000200**	**0.00200**	**mg/L**	1	22-Nov-2024 00:52
Chromium	**2.43**		**0.00800**	**0.0800**	**mg/L**	20	22-Nov-2024 11:51
Lead	**0.0114**		**0.000600**	**0.00200**	**mg/L**	1	22-Nov-2024 00:52
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	22-Nov-2024 00:52
Silver	< 0.000200		0.000200	0.00200	mg/L	1	22-Nov-2024 00:52
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 22-Nov-2024		Analyst: DH
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	22-Nov-2024 15:32
FLASH POINT BY PENSKY-MARTENS SW1010A		**Method:SW1010**					Analyst: MH
Ignitability	> 212		70.0	70.0	°F	1	21-Nov-2024 07:52
REACTIVE CYANIDE		**Method:SW7.3.3.2**					Analyst: SG
Reactive Cyanide	< 100	n	100	100	mg/L	1	25-Nov-2024 15:02
REACTIVE SULFIDE		**Method:SW7.3.4.2**					Analyst: SG
Reactive Sulfide	< 100	n	100	100	mg/L	1	25-Nov-2024 08:15
PH BY SW9040C		**Method:SW9040C**					Analyst: CD
pH	**7.60**	H	**0.100**	**0.100**	**pH Units**	1	25-Nov-2024 12:18
Temp Deg C @pH	**21.9**	H	**0**	**0**	**DEG C**	1	25-Nov-2024 12:18
SUBCONTRACT ANALYSIS - DIOXINS/FURANS 8290A		**Method:NA**					Analyst: SUB
Subcontract Analysis	**See Attaxhed**		**0**	**0**	**none**	1	04-Dec-2024 10:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

Batch ID: 220848 **Start Date:** 20 Nov 2024 09:30 **End Date:** 20 Nov 2024 09:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24111128-01		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 220913 **Start Date:** 21 Nov 2024 11:02 **End Date:** 21 Nov 2024 11:02
Method: TX 1005 PREP **Prep Code:** TX 1005_W PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24111128-01		30.56 (g)	3 (mL)	0.09817	40 mL VOA w/ HCL

Batch ID: 220928 **Start Date:** 21 Nov 2024 14:13 **End Date:** 21 Nov 2024 14:13
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24111128-01	1	1000 (mL)	1 (mL)	0.001	1-liter amber glass, Neat

Batch ID: 221012 **Start Date:** 22 Nov 2024 08:00 **End Date:** 22 Nov 2024 08:00
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS24111128-01		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 220848 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS24111128-01	WW-1620-FRC248006-SW-20241118	18 Nov 2024 09:55		20 Nov 2024 09:30	22 Nov 2024 11:51	20
HS24111128-01	WW-1620-FRC248006-SW-20241118	18 Nov 2024 09:55		20 Nov 2024 09:30	22 Nov 2024 00:52	1
Batch ID: 220913 (0)	**Test Name :** LOW-LEVEL TEXAS TPH BY TX1005				**Matrix:** Water	
HS24111128-01	WW-1620-FRC248006-SW-20241118	18 Nov 2024 09:55		21 Nov 2024 11:02	22 Nov 2024 14:29	1
Batch ID: 220928 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS24111128-01	WW-1620-FRC248006-SW-20241118	18 Nov 2024 09:55		21 Nov 2024 14:13	25 Nov 2024 18:07	1
Batch ID: 221012 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Water	
HS24111128-01	WW-1620-FRC248006-SW-20241118	18 Nov 2024 09:55		22 Nov 2024 08:00	22 Nov 2024 15:32	1
Batch ID: R500672 (0)	**Test Name :** FLASH POINT BY PENSKY-MARTENS SW1010A				**Matrix:** Water	
HS24111128-01	WW-1620-FRC248006-SW-20241118	18 Nov 2024 09:55			21 Nov 2024 07:52	1
Batch ID: R500908 (0)	**Test Name :** PH BY SW9040C				**Matrix:** Water	
HS24111128-01	WW-1620-FRC248006-SW-20241118	18 Nov 2024 09:55			25 Nov 2024 12:18	1
Batch ID: R500962 (0)	**Test Name :** REACTIVE CYANIDE				**Matrix:** Water	
HS24111128-01	WW-1620-FRC248006-SW-20241118	18 Nov 2024 09:55			25 Nov 2024 15:02	1
Batch ID: R500967 (0)	**Test Name :** REACTIVE SULFIDE				**Matrix:** Water	
HS24111128-01	WW-1620-FRC248006-SW-20241118	18 Nov 2024 09:55			25 Nov 2024 08:15	1
Batch ID: R501008 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS24111128-01	WW-1620-FRC248006-SW-20241118	18 Nov 2024 09:55			25 Nov 2024 13:14	1
Batch ID: R501544 (0)	**Test Name :** SUBCONTRACT ANALYSIS - DIOXINS/FURANS 8290A				**Matrix:** Water	
HS24111128-01	WW-1620-FRC248006-SW-20241118	18 Nov 2024 09:55			04 Dec 2024 10:04	1

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 220913 (0) **Instrument: FID-13** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MBLK Sample ID: **MBLK-220913** Units: **mg/L** Analysis Date: **22-Nov-2024 08:10**
Client ID: Run ID: **FID-13_500791** SeqNo: **8546852** PrepDate: **21-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	< 0.20	0.50								
>nC12 to nC28	< 0.20	0.50								
>nC28 to nC35	< 0.20	0.50								
Total Petroleum Hydrocarbon	< 0.20	0.50								
Surr: 2-Fluorobiphenyl	*2.45*	*0*	*2.5*	*0*	*98.0*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.657*	*0*	*2.5*	*0*	*106*	*70 - 130*				

LCS Sample ID: **LCS-220913** Units: **mg/L** Analysis Date: **22-Nov-2024 08:39**
Client ID: Run ID: **FID-13_500791** SeqNo: **8546853** PrepDate: **21-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	22.34	0.50	25	0	89.4	75 - 125				
>nC12 to nC28	24.93	0.50	25	0	99.7	75 - 125				
Surr: 2-Fluorobiphenyl	*2.45*	*0*	*2.5*	*0*	*98.0*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.37*	*0*	*2.5*	*0*	*94.8*	*70 - 130*				

LCSD Sample ID: **LCSD-220913** Units: **mg/L** Analysis Date: **22-Nov-2024 09:08**
Client ID: Run ID: **FID-13_500791** SeqNo: **8546854** PrepDate: **21-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	21.38	0.50	25	0	85.5	75 - 125	22.34	4.4	20	
>nC12 to nC28	24.69	0.50	25	0	98.8	75 - 125	24.93	0.972	20	
Surr: 2-Fluorobiphenyl	*2.333*	*0*	*2.5*	*0*	*93.3*	*70 - 130*	*2.45*	*4.9*	*20*	
Surr: Trifluoromethyl benzene	*2.275*	*0*	*2.5*	*0*	*91.0*	*70 - 130*	*2.37*	*4.13*	*20*	

MS Sample ID: **HS24110992-07MS** Units: **mg/L** Analysis Date: **22-Nov-2024 10:06**
Client ID: Run ID: **FID-13_500791** SeqNo: **8546856** PrepDate: **21-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	25.16	0.48	24.24	0	104	75 - 125				
>nC12 to nC28	27.44	0.48	24.24	0	113	75 - 125				
Surr: 2-Fluorobiphenyl	*2.323*	*0*	*2.424*	*0*	*95.8*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.369*	*0*	*2.424*	*0*	*97.7*	*70 - 130*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 220913 (0) **Instrument: FID-13** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MSD Sample ID: **HS24110992-07MSD** Units: **mg/L** Analysis Date: **22-Nov-2024 10:35**
Client ID: Run ID: **FID-13_500791** SeqNo: **8546857** PrepDate: **21-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	24.4	0.52	26.04	0	93.7	75 - 125	25.16	3.04	20	
>nC12 to nC28	27.83	0.52	26.04	0	107	75 - 125	27.44	1.4	20	
Surr: 2-Fluorobiphenyl	*2.623*	*0*	*2.604*	*0*	*101*	*70 - 130*	*2.323*	*12.1*	*20*	
Surr: Trifluoromethyl benzene	*2.585*	*0*	*2.604*	*0*	*99.3*	*70 - 130*	*2.369*	*8.73*	*20*	

The following samples were analyzed in this batch: HS24111128-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 220848 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-220848** Units: **mg/L** Analysis Date: **21-Nov-2024 23:48**
Client ID: Run ID: **ICPMS06_500601** SeqNo: **8544760** PrepDate: **20-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	< 0.000400	0.00200								
Barium	< 0.00190	0.00400								
Cadmium	< 0.000200	0.00200								
Chromium	< 0.000400	0.00400								
Lead	< 0.000600	0.00200								
Selenium	< 0.00110	0.00200								
Silver	< 0.000200	0.00200								

LCS Sample ID: **LCS-220848** Units: **mg/L** Analysis Date: **21-Nov-2024 23:50**
Client ID: Run ID: **ICPMS06_500601** SeqNo: **8544761** PrepDate: **20-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04734	0.00200	0.05	0	94.7	80 - 120				
Barium	0.04505	0.00400	0.05	0	90.1	80 - 120				
Cadmium	0.04553	0.00200	0.05	0	91.1	80 - 120				
Chromium	0.04716	0.00400	0.05	0	94.3	80 - 120				
Lead	0.04523	0.00200	0.05	0	90.5	80 - 120				
Selenium	0.04801	0.00200	0.05	0	96.0	80 - 120				
Silver	0.04727	0.00200	0.05	0	94.6	80 - 120				

MS Sample ID: **HS24110931-04MS** Units: **mg/L** Analysis Date: **22-Nov-2024 11:43**
Client ID: Run ID: **ICPMS06_500724** SeqNo: **8545463** PrepDate: **20-Nov-2024** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.6553	0.0100	0.05	0.665	-19.6	80 - 120				SO
Barium	14.94	0.0200	0.25	15.68	-294	80 - 120				SEO
Cadmium	0.04495	0.0100	0.05	0	89.9	80 - 120				
Chromium	0.05602	0.0200	0.05	0.007785	96.5	80 - 120				
Lead	0.05074	0.0100	0.05	0.003802	93.9	80 - 120				
Selenium	0.04976	0.0100	0.05	0	99.5	80 - 120				
Silver	0.04432	0.0100	0.05	0	88.6	80 - 120				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 220848 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MSD Sample ID: **HS24110931-04MSD** Units: **mg/L** Analysis Date: **22-Nov-2024 11:45**
Client ID: Run ID: **ICPMS06_500724** SeqNo: **8545464** PrepDate: **20-Nov-2024** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.6428	0.0100	0.05	0.665	-44.6	80 - 120	0.6553	1.93	20	SO
Barium	14.96	0.0200	0.25	15.68	-286	80 - 120	14.94	0.126	20	SEO
Cadmium	0.0466	0.0100	0.05	0	93.2	80 - 120	0.04495	3.6	20	
Chromium	0.05579	0.0200	0.05	0.007785	96.0	80 - 120	0.05602	0.41	20	
Lead	0.05026	0.0100	0.05	0.003802	92.9	80 - 120	0.05074	0.939	20	
Selenium	0.04858	0.0100	0.05	0	97.2	80 - 120	0.04976	2.4	20	
Silver	0.04432	0.0100	0.05	0	88.6	80 - 120	0.04432	0.0135	20	

PDS Sample ID: **HS24110931-04PDS** Units: **mg/L** Analysis Date: **22-Nov-2024 11:47**
Client ID: Run ID: **ICPMS06_500724** SeqNo: **8545465** PrepDate: **20-Nov-2024** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.7153	0.0100	0.1	0.665	50.3	75 - 125				SO
Cadmium	0.09051	0.0100	0.1	0	90.5	75 - 125				
Chromium	0.1052	0.0200	0.1	0.007785	97.4	75 - 125				
Lead	0.09804	0.0100	0.1	0.003802	94.2	75 - 125				
Selenium	0.09767	0.0100	0.1	0	97.7	75 - 125				
Silver	0.09984	0.0100	0.1	0	99.8	75 - 125				

PDS Sample ID: **HS24110931-04PDS** Units: **mg/L** Analysis Date: **22-Nov-2024 13:19**
Client ID: Run ID: **ICPMS06_500724** SeqNo: **8546093** PrepDate: **20-Nov-2024** DF: **500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	63.93	2.00	50	15.65	96.6	75 - 125				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 220848 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

SD Sample ID: **HS24110931-04SD** Units: **mg/L** Analysis Date: **22-Nov-2024 11:41**
Client ID: Run ID: **ICPMS06_500724** SeqNo: **8545462** PrepDate: **20-Nov-2024** DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.6137	0.0500					0.665	7.73	10	
Cadmium	< 0.00500	0.0500					0.000018	0	10	
Chromium	0.01059	0.100					0.007785	0	10	J
Lead	< 0.0150	0.0500					0.003802	0	10	
Selenium	< 0.0275	0.0500					0.001606	0	10	
Silver	< 0.00500	0.0500					0.000116	0	10	

SD Sample ID: **HS24110931-04SD** Units: **mg/L** Analysis Date: **22-Nov-2024 12:50**
Client ID: Run ID: **ICPMS06_500724** SeqNo: **8546089** PrepDate: **20-Nov-2024** DF: **2500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	15.55	10.0					15.65	0.626	10	

The following samples were analyzed in this batch: HS24111128-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 221012 (0) **Instrument: HG04** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLKF1-220709** Units: **mg/L** Analysis Date: **22-Nov-2024 15:05**
Client ID: Run ID: **HG04_500742** SeqNo: **8546887** PrepDate: **22-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	< 0.0000300	0.000200								

MBLK Sample ID: **MBLK-221012** Units: **mg/L** Analysis Date: **22-Nov-2024 15:01**
Client ID: Run ID: **HG04_500742** SeqNo: **8546885** PrepDate: **22-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	< 0.0000300	0.000200								

LCS Sample ID: **LCS-221012** Units: **mg/L** Analysis Date: **22-Nov-2024 15:03**
Client ID: Run ID: **HG04_500742** SeqNo: **8546886** PrepDate: **22-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00504	0.000200	0.005	0	101	80 - 120				

MS Sample ID: **HS24110973-04MS** Units: **mg/L** Analysis Date: **22-Nov-2024 15:08**
Client ID: Run ID: **HG04_500742** SeqNo: **8546889** PrepDate: **22-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00453	0.000200	0.005	0.000004	90.5	75 - 125				

MSD Sample ID: **HS24110973-04MSD** Units: **mg/L** Analysis Date: **22-Nov-2024 15:10**
Client ID: Run ID: **HG04_500742** SeqNo: **8546890** PrepDate: **22-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00438	0.000200	0.005	0.000004	87.5	75 - 125	0.00453	3.37	20	

The following samples were analyzed in this batch: HS24111128-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 220928 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-220928** Units: **ug/L** Analysis Date: **25-Nov-2024 12:49**
Client ID: Run ID: **SV-7_500937** SeqNo: **8550628** PrepDate: **21-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	< 0.021	0.20								
2,4,5-Trichlorophenol	< 0.057	0.20								
2,4,6-Trichlorophenol	< 0.048	0.20								
2,4-Dimethylphenol	< 0.040	0.20								
2,4-Dinitrotoluene	< 0.058	0.20								
2,6-Dinitrotoluene	< 0.042	0.20								
2-Chloronaphthalene	< 0.021	0.20								
2-Methylnaphthalene	< 0.019	0.10								
4,6-Dinitro-2-methylphenol	< 0.020	1.0								
4-Nitrophenol	< 0.047	1.0								
Acenaphthene	< 0.027	0.10								
Acenaphthylene	< 0.015	0.10								
Anthracene	< 0.014	0.10								
Benz(a)anthracene	< 0.050	0.10								
Benzo(a)pyrene	< 0.020	0.10								
Bis(2-chloroethoxy)methane	< 0.030	0.20								
Bis(2-ethylhexyl)phthalate	< 0.037	0.20								
Chrysene	< 0.021	0.10								
Dibenzofuran	< 0.020	0.10								
Di-n-butyl phthalate	< 0.020	0.20								
Fluoranthene	< 0.010	0.10								
Fluorene	< 0.030	0.10								
Hexachlorobenzene	< 0.044	0.20								
Hexachlorobutadiene	< 0.030	0.20								
Hexachloroethane	< 0.059	0.20								
Naphthalene	< 0.020	0.10								
Nitrobenzene	< 0.024	0.20								
N-Nitrosodiphenylamine	< 0.025	0.20								
Pentachlorophenol	< 0.079	0.20								
Phenanthrene	< 0.021	0.10								
Phenol	< 0.035	0.20								
Pyrene	< 0.019	0.10								
Pyridine	< 0.030	1.0								
Cresols, Total	< 0.036	0.20								

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 220928 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-220928** Units: **ug/L** Analysis Date: **25-Nov-2024 12:49**
Client ID: Run ID: **SV-7_500937** SeqNo: **8550628** PrepDate: **21-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	*4.183*	*0.20*	*5*	*0*	*83.7*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.379*	*0.20*	*5*	*0*	*108*	*40 - 125*				
Surr: 2-Fluorophenol	*5.581*	*0.20*	*5*	*0*	*112*	*20 - 120*				
Surr: 4-Terphenyl-d14	*6.204*	*0.20*	*5*	*0*	*124*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.703*	*0.20*	*5*	*0*	*94.1*	*41 - 120*				
Surr: Phenol-d6	*4.629*	*0.20*	*5*	*0*	*92.6*	*20 - 120*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 220928 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-220928** Units: **ug/L** Analysis Date: **25-Nov-2024 13:11**
Client ID: Run ID: **SV-7_500937** SeqNo: **8550629** PrepDate: **21-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.836	0.20	5	0	76.7	39 - 127				
2,4,5-Trichlorophenol	4.831	0.20	5	0	96.6	46 - 120				
2,4,6-Trichlorophenol	4.535	0.20	5	0	90.7	42 - 120				
2,4-Dimethylphenol	4.173	0.20	5	0	83.5	35 - 120				
2,4-Dinitrotoluene	4.493	0.20	5	0	89.9	50 - 122				
2,6-Dinitrotoluene	4.468	0.20	5	0	89.4	50 - 120				
2-Chloronaphthalene	4.448	0.20	5	0	89.0	50 - 120				
2-Methylnaphthalene	4.03	0.10	5	0	80.6	50 - 120				
4,6-Dinitro-2-methylphenol	3.109	1.0	5	0	62.2	25 - 121				
4-Nitrophenol	3.398	1.0	5	0	68.0	30 - 130				
Acenaphthene	3.902	0.10	5	0	78.0	45 - 120				
Acenaphthylene	4.01	0.10	5	0	80.2	47 - 120				
Anthracene	4.219	0.10	5	0	84.4	45 - 120				
Benz(a)anthracene	4.677	0.10	5	0	93.5	40 - 120				
Benzo(a)pyrene	4.497	0.10	5	0	89.9	45 - 120				
Bis(2-chloroethoxy)methane	4.028	0.20	5	0	80.6	45 - 120				
Bis(2-ethylhexyl)phthalate	3.872	0.20	5	0	77.4	40 - 139				
Chrysene	4.449	0.10	5	0	89.0	43 - 120				
Dibenzofuran	4.034	0.10	5	0	80.7	50 - 120				
Di-n-butyl phthalate	4.007	0.20	5	0	80.1	45 - 123				
Fluoranthene	4.606	0.10	5	0	92.1	45 - 125				
Fluorene	4.108	0.10	5	0	82.2	49 - 120				
Hexachlorobenzene	4.957	0.20	5	0	99.1	48 - 120				
Hexachlorobutadiene	4.422	0.20	5	0	88.4	40 - 120				
Hexachloroethane	3.567	0.20	5	0	71.3	40 - 120				
Naphthalene	3.829	0.10	5	0	76.6	45 - 120				
Nitrobenzene	3.869	0.20	5	0	77.4	44 - 120				
N-Nitrosodiphenylamine	4.127	0.20	5	0	82.5	40 - 125				
Pentachlorophenol	3.784	0.20	5	0	75.7	19 - 121				
Phenanthrene	4.179	0.10	5	0	83.6	45 - 121				
Phenol	3.478	0.20	5	0	69.6	20 - 124				
Pyrene	4.385	0.10	5	0	87.7	40 - 130				
Pyridine	2.78	1.0	5	0	55.6	15 - 120				
Cresols, Total	7.829	0.20	10	0	78.3	40 - 140				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 220928 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-220928** Units: **ug/L** Analysis Date: **25-Nov-2024 13:11**
Client ID: Run ID: **SV-7_500937** SeqNo: **8550629** PrepDate: **21-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	*4.163*	*0.20*	*5*	*0*	*83.3*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.072*	*0.20*	*5*	*0*	*81.4*	*40 - 125*				
Surr: 2-Fluorophenol	*3.568*	*0.20*	*5*	*0*	*71.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.027*	*0.20*	*5*	*0*	*101*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.858*	*0.20*	*5*	*0*	*77.2*	*41 - 120*				
Surr: Phenol-d6	*3.344*	*0.20*	*5*	*0*	*66.9*	*20 - 120*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 220928 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-220928** Units: **ug/L** Analysis Date: **25-Nov-2024 13:34**
Client ID: Run ID: **SV-7_500937** SeqNo: **8550630** PrepDate: **21-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.906	0.20	5	0	78.1	39 - 127	3.836	1.8	20	
2,4,5-Trichlorophenol	4.786	0.20	5	0	95.7	46 - 120	4.831	0.935	20	
2,4,6-Trichlorophenol	4.408	0.20	5	0	88.2	42 - 120	4.535	2.85	20	
2,4-Dimethylphenol	4.348	0.20	5	0	87.0	35 - 120	4.173	4.1	20	
2,4-Dinitrotoluene	4.57	0.20	5	0	91.4	50 - 122	4.493	1.69	20	
2,6-Dinitrotoluene	4.374	0.20	5	0	87.5	50 - 120	4.468	2.13	20	
2-Chloronaphthalene	4.336	0.20	5	0	86.7	50 - 120	4.448	2.56	20	
2-Methylnaphthalene	3.677	0.10	5	0	73.5	50 - 120	4.03	9.17	20	
4,6-Dinitro-2-methylphenol	3.111	1.0	5	0	62.2	25 - 121	3.109	0.0723	30	
4-Nitrophenol	3.81	1.0	5	0	76.2	30 - 130	3.398	11.4	20	
Acenaphthene	3.834	0.10	5	0	76.7	45 - 120	3.902	1.76	20	
Acenaphthylene	3.95	0.10	5	0	79.0	47 - 120	4.01	1.51	20	
Anthracene	4.189	0.10	5	0	83.8	45 - 120	4.219	0.712	20	
Benz(a)anthracene	4.666	0.10	5	0	93.3	40 - 120	4.677	0.25	20	
Benzo(a)pyrene	4.558	0.10	5	0	91.2	45 - 120	4.497	1.33	20	
Bis(2-chloroethoxy)methane	4.364	0.20	5	0	87.3	45 - 120	4.028	8.01	20	
Bis(2-ethylhexyl)phthalate	3.905	0.20	5	0	78.1	40 - 139	3.872	0.853	20	
Chrysene	4.565	0.10	5	0	91.3	43 - 120	4.449	2.58	20	
Dibenzofuran	4.032	0.10	5	0	80.6	50 - 120	4.034	0.039	20	
Di-n-butyl phthalate	4.088	0.20	5	0	81.8	45 - 123	4.007	2.02	20	
Fluoranthene	4.512	0.10	5	0	90.2	45 - 125	4.606	2.07	20	
Fluorene	4.119	0.10	5	0	82.4	49 - 120	4.108	0.264	20	
Hexachlorobenzene	4.804	0.20	5	0	96.1	48 - 120	4.957	3.13	20	
Hexachlorobutadiene	4.181	0.20	5	0	83.6	40 - 120	4.422	5.61	20	
Hexachloroethane	3.527	0.20	5	0	70.5	40 - 120	3.567	1.15	20	
Naphthalene	3.784	0.10	5	0	75.7	45 - 120	3.829	1.18	20	
Nitrobenzene	3.739	0.20	5	0	74.8	44 - 120	3.869	3.42	20	
N-Nitrosodiphenylamine	4.102	0.20	5	0	82.0	40 - 125	4.127	0.608	20	
Pentachlorophenol	4.164	0.20	5	0	83.3	19 - 121	3.784	9.54	20	
Phenanthrene	4.18	0.10	5	0	83.6	45 - 121	4.179	0.0433	20	
Phenol	3.614	0.20	5	0	72.3	20 - 124	3.478	3.82	20	
Pyrene	4.426	0.10	5	0	88.5	40 - 130	4.385	0.917	20	
Pyridine	3.616	1.0	5	0	72.3	15 - 120	2.78	26.2	20	R
Cresols, Total	8.107	0.20	10	0	81.1	40 - 140	7.829	3.49	20	

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: 220928 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-220928** Units: **ug/L** Analysis Date: **25-Nov-2024 13:34**
Client ID: Run ID: **SV-7_500937** SeqNo: **8550630** PrepDate: **21-Nov-2024** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Surr: 2,4,6-Tribromophenol	*4.715*	*0.20*	*5*	*0*	*94.3*	*34 - 129*	*4.163*	*12.4*	*20*	
Surr: 2-Fluorobiphenyl	*3.996*	*0.20*	*5*	*0*	*79.9*	*40 - 125*	*4.072*	*1.89*	*20*	
Surr: 2-Fluorophenol	*3.539*	*0.20*	*5*	*0*	*70.8*	*20 - 120*	*3.568*	*0.804*	*20*	
Surr: 4-Terphenyl-d14	*4.772*	*0.20*	*5*	*0*	*95.4*	*40 - 135*	*5.027*	*5.22*	*20*	
Surr: Nitrobenzene-d5	*3.962*	*0.20*	*5*	*0*	*79.2*	*41 - 120*	*3.858*	*2.68*	*20*	
Surr: Phenol-d6	*3.585*	*0.20*	*5*	*0*	*71.7*	*20 - 120*	*3.344*	*6.98*	*20*	

The following samples were analyzed in this batch: HS24111128-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: R501008 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-241125** Units: **ug/L** Analysis Date: **25-Nov-2024 10:51**
Client ID: Run ID: **VOA4_501008** SeqNo: **8552228** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	< 0.20	1.0								
1,1,2,2-Tetrachloroethane	< 0.50	1.0								
1,1,2-Trichloroethane	< 0.30	1.0								
1,1-Dichloroethane	< 0.20	1.0								
1,1-Dichloroethene	< 0.20	1.0								
1,2-Dichlorobenzene	< 0.50	1.0								
1,2-Dichloroethane	< 0.20	1.0								
1,2-Dichloropropane	< 0.50	1.0								
1,3-Dichlorobenzene	< 0.40	1.0								
1,4-Dichlorobenzene	< 0.40	1.0								
2-Butanone	< 0.50	2.0								
2-Hexanone	< 1.0	2.0								
4-Methyl-2-pentanone	< 0.70	2.0								
Acetone	< 1.4	2.0								
Benzene	< 0.20	1.0								
Bromochloromethane	< 0.20	1.0								
Bromodichloromethane	< 0.20	1.0								
Bromoform	< 0.40	1.0								
Bromomethane	< 0.40	1.0								
Carbon disulfide	< 0.60	2.0								
Carbon tetrachloride	< 0.50	1.0								
Chlorobenzene	< 0.30	1.0								
Chloroethane	< 0.30	1.0								
Chloroform	< 0.20	1.0								
Chloromethane	< 0.20	1.0								
cis-1,2-Dichloroethene	< 0.20	1.0								
cis-1,3-Dichloropropene	< 0.10	1.0								
Dibromochloromethane	< 0.30	1.0								
Ethylbenzene	< 0.30	1.0								
m,p-Xylene	< 0.50	2.0								
Methylene chloride	< 1.0	2.0								
o-Xylene	< 0.30	1.0								
Styrene	< 0.30	1.0								
Tetrachloroethene	< 0.30	1.0								

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: R501008 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-241125** Units: **ug/L** Analysis Date: **25-Nov-2024 10:51**
Client ID: Run ID: **VOA4_501008** SeqNo: **8552228** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	< 0.20	1.0								
trans-1,2-Dichloroethene	< 0.20	1.0								
trans-1,3-Dichloropropene	< 0.20	1.0								
Trichloroethene	< 0.30	1.0								
Vinyl acetate	< 0.50	1.0								
Vinyl chloride	< 0.20	1.0								
Xylenes, Total	< 0.30	3.0								
1,2-Dichloroethene, Total	< 0.20	2.0								
Surr: 1,2-Dichloroethane-d4	*59.35*	*1.0*	*50*	*0*	*119*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.74*	*1.0*	*50*	*0*	*99.5*	*77 - 113*				
Surr: Dibromofluoromethane	*54.96*	*1.0*	*50*	*0*	*110*	*73 - 126*				
Surr: Toluene-d8	*50.43*	*1.0*	*50*	*0*	*101*	*81 - 120*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: R501008 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

LCS Sample ID: **VLCSW-241125** Units: **ug/L** Analysis Date: **25-Nov-2024 09:45**
Client ID: Run ID: **VOA4_501008** SeqNo: **8552226** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	21.1	1.0	20	0	106	70 - 130				
1,1,2,2-Tetrachloroethane	18.82	1.0	20	0	94.1	70 - 120				
1,1,2-Trichloroethane	17.38	1.0	20	0	86.9	77 - 113				
1,1-Dichloroethane	20.35	1.0	20	0	102	71 - 122				
1,1-Dichloroethene	19.82	1.0	20	0	99.1	70 - 130				
1,2-Dichlorobenzene	17.19	1.0	20	0	85.9	77 - 113				
1,2-Dichloroethane	18.68	1.0	20	0	93.4	70 - 124				
1,2-Dichloropropane	18.84	1.0	20	0	94.2	72 - 119				
1,3-Dichlorobenzene	16.93	1.0	20	0	84.6	78 - 118				
1,4-Dichlorobenzene	17.15	1.0	20	0	85.8	79 - 113				
2-Butanone	41.72	2.0	40	0	104	70 - 130				
2-Hexanone	37.47	2.0	40	0	93.7	70 - 130				
4-Methyl-2-pentanone	37.88	2.0	40	0	94.7	70 - 130				
Acetone	40.44	2.0	40	0	101	70 - 130				
Benzene	18.62	1.0	20	0	93.1	74 - 120				
Bromochloromethane	17.68	1.0	20	0	88.4	76 - 124				
Bromodichloromethane	18.46	1.0	20	0	92.3	74 - 122				
Bromoform	15.03	1.0	20	0	75.2	73 - 128				
Bromomethane	19.41	1.0	20	0	97.1	70 - 130				
Carbon disulfide	42.26	2.0	40	0	106	70 - 130				
Carbon tetrachloride	20.19	1.0	20	0	101	71 - 125				
Chlorobenzene	17.33	1.0	20	0	86.6	76 - 113				
Chloroethane	21.77	1.0	20	0	109	70 - 130				
Chloroform	19.54	1.0	20	0	97.7	71 - 121				
Chloromethane	22.77	1.0	20	0	114	70 - 129				
cis-1,2-Dichloroethene	19.87	1.0	20	0	99.4	75 - 122				
cis-1,3-Dichloropropene	19.01	1.0	20	0	95.1	73 - 127				
Dibromochloromethane	16.72	1.0	20	0	83.6	77 - 122				
Ethylbenzene	18.01	1.0	20	0	90.1	77 - 117				
m,p-Xylene	37.27	2.0	40	0	93.2	77 - 122				
Methylene chloride	20.81	2.0	20	0	104	70 - 127				
o-Xylene	18.29	1.0	20	0	91.4	75 - 119				
Styrene	18.42	1.0	20	0	92.1	72 - 126				
Tetrachloroethene	16.97	1.0	20	0	84.8	76 - 119				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: R501008 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

LCS Sample ID: **VLCSW-241125** Units: **ug/L** Analysis Date: **25-Nov-2024 09:45**
Client ID: Run ID: **VOA4_501008** SeqNo: **8552226** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	17.61	1.0	20	0	88.0	77 - 118				
trans-1,2-Dichloroethene	19.1	1.0	20	0	95.5	72 - 127				
trans-1,3-Dichloropropene	18.92	1.0	20	0	94.6	77 - 119				
Trichloroethene	17.13	1.0	20	0	85.7	77 - 121				
Vinyl acetate	41.11	1.0	40	0	103	70 - 130				
Vinyl chloride	21.54	1.0	20	0	108	70 - 130				
Xylenes, Total	55.56	3.0	60	0	92.6	75 - 122				
1,2-Dichloroethene, Total	38.97	2.0	40	0	97.4	72 - 127				
Surr: 1,2-Dichloroethane-d4	*58.69*	*1.0*	*50*	*0*	*117*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*51.86*	*1.0*	*50*	*0*	*104*	*77 - 113*				
Surr: Dibromofluoromethane	*53.75*	*1.0*	*50*	*0*	*107*	*73 - 126*				
Surr: Toluene-d8	*51.78*	*1.0*	*50*	*0*	*104*	*81 - 120*				

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: R501008 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

LCSD Sample ID: **VLCSDW-241125** Units: **ug/L** Analysis Date: **25-Nov-2024 10:07**
Client ID: Run ID: **VOA4_501008** SeqNo: **8552227** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1-Trichloroethane	20.32	1.0	20	0	102	70 - 130	21.1	3.8	20	
1,1,2,2-Tetrachloroethane	19.05	1.0	20	0	95.3	70 - 120	18.82	1.22	20	
1,1,2-Trichloroethane	17.64	1.0	20	0	88.2	77 - 113	17.38	1.47	20	
1,1-Dichloroethane	19.45	1.0	20	0	97.2	71 - 122	20.35	4.53	20	
1,1-Dichloroethene	19	1.0	20	0	95.0	70 - 130	19.82	4.22	20	
1,2-Dichlorobenzene	17.24	1.0	20	0	86.2	77 - 113	17.19	0.301	20	
1,2-Dichloroethane	19.14	1.0	20	0	95.7	70 - 124	18.68	2.42	20	
1,2-Dichloropropane	18.2	1.0	20	0	91.0	72 - 119	18.84	3.49	20	
1,3-Dichlorobenzene	16.99	1.0	20	0	84.9	78 - 118	16.93	0.382	20	
1,4-Dichlorobenzene	16.66	1.0	20	0	83.3	79 - 113	17.15	2.93	20	
2-Butanone	42.11	2.0	40	0	105	70 - 130	41.72	0.924	20	
2-Hexanone	36.27	2.0	40	0	90.7	70 - 130	37.47	3.24	20	
4-Methyl-2-pentanone	37.9	2.0	40	0	94.7	70 - 130	37.88	0.0379	20	
Acetone	42.99	2.0	40	0	107	70 - 130	40.44	6.13	20	
Benzene	18.39	1.0	20	0	92.0	74 - 120	18.62	1.23	20	
Bromochloromethane	17.76	1.0	20	0	88.8	76 - 124	17.68	0.434	20	
Bromodichloromethane	18.48	1.0	20	0	92.4	74 - 122	18.46	0.105	20	
Bromoform	15.13	1.0	20	0	75.6	73 - 128	15.03	0.624	20	
Bromomethane	18.12	1.0	20	0	90.6	70 - 130	19.41	6.88	20	
Carbon disulfide	39.56	2.0	40	0	98.9	70 - 130	42.26	6.59	20	
Carbon tetrachloride	18.87	1.0	20	0	94.4	71 - 125	20.19	6.76	20	
Chlorobenzene	16.95	1.0	20	0	84.7	76 - 113	17.33	2.22	20	
Chloroethane	21.17	1.0	20	0	106	70 - 130	21.77	2.79	20	
Chloroform	18.89	1.0	20	0	94.5	71 - 121	19.54	3.41	20	
Chloromethane	21.37	1.0	20	0	107	70 - 129	22.77	6.37	20	
cis-1,2-Dichloroethene	19.27	1.0	20	0	96.3	75 - 122	19.87	3.08	20	
cis-1,3-Dichloropropene	19.2	1.0	20	0	96.0	73 - 127	19.01	1.02	20	
Dibromochloromethane	16.66	1.0	20	0	83.3	77 - 122	16.72	0.371	20	
Ethylbenzene	17.37	1.0	20	0	86.9	77 - 117	18.01	3.6	20	
m,p-Xylene	35.83	2.0	40	0	89.6	77 - 122	37.27	3.94	20	
Methylene chloride	20.43	2.0	20	0	102	70 - 127	20.81	1.87	20	
o-Xylene	18.27	1.0	20	0	91.4	75 - 119	18.29	0.0604	20	
Styrene	18.29	1.0	20	0	91.4	72 - 126	18.42	0.737	20	
Tetrachloroethene	16.25	1.0	20	0	81.2	76 - 119	16.97	4.33	20	

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: R501008 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

LCSD Sample ID: **VLCSDW-241125** Units: **ug/L** Analysis Date: **25-Nov-2024 10:07**
Client ID: Run ID: **VOA4_501008** SeqNo: **8552227** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Toluene	17.19	1.0	20	0	86.0	77 - 118	17.61	2.39	20	
trans-1,2-Dichloroethene	18.12	1.0	20	0	90.6	72 - 127	19.1	5.29	20	
trans-1,3-Dichloropropene	19.18	1.0	20	0	95.9	77 - 119	18.92	1.37	20	
Trichloroethene	16.93	1.0	20	0	84.7	77 - 121	17.13	1.19	20	
Vinyl acetate	41.22	1.0	40	0	103	70 - 130	41.11	0.286	20	
Vinyl chloride	20.37	1.0	20	0	102	70 - 130	21.54	5.57	20	
Xylenes, Total	54.1	3.0	60	0	90.2	75 - 122	55.56	2.65	20	
1,2-Dichloroethene, Total	37.38	2.0	40	0	93.5	72 - 127	38.97	4.16	20	
Surr: 1,2-Dichloroethane-d4	*57.89*	*1.0*	*50*	*0*	*116*	*70 - 123*	*58.69*	*1.37*	*20*	
Surr: 4-Bromofluorobenzene	*53.14*	*1.0*	*50*	*0*	*106*	*77 - 113*	*51.86*	*2.43*	*20*	
Surr: Dibromofluoromethane	*52.93*	*1.0*	*50*	*0*	*106*	*73 - 126*	*53.75*	*1.53*	*20*	
Surr: Toluene-d8	*51.25*	*1.0*	*50*	*0*	*103*	*81 - 120*	*51.78*	*1.02*	*20*	

The following samples were analyzed in this batch: HS24111128-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: R500672 (0) **Instrument:** WetChem_HS **Method:** FLASH POINT BY PENSKY-MARTENS SW1010A

LCS Sample ID: **LCS-R500672** Units: **°F** Analysis Date: **21-Nov-2024 07:52**
Client ID: Run ID: **WetChem_HS_500672** SeqNo: **8544126** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	81.06	70.0	81	0	100	95 - 105				

DUP Sample ID: **HS24110876-01DUP** Units: **°F** Analysis Date: **21-Nov-2024 07:52**
Client ID: Run ID: **WetChem_HS_500672** SeqNo: **8544127** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	> 212	70.0					0	0	20	

The following samples were analyzed in this batch: HS24111128-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: R500908 (0) **Instrument:** WetChem_HS **Method:** PH BY SW9040C

DUP Sample ID: **HS24111001-06DUP** Units: **pH Units** Analysis Date: **25-Nov-2024 12:18**
Client ID: Run ID: **WetChem_HS_500908** SeqNo: **8549975** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.58	0.100					7.56	0.264	10	
Temp Deg C @pH	20.5	0					20.5	0	10	

The following samples were analyzed in this batch: HS24111128-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: R500962 (0) **Instrument: UV-2450** **Method: REACTIVE CYANIDE**

MBLK Sample ID: **MBLK-R500962** Units: **mg/L** Analysis Date: **25-Nov-2024 15:02**
Client ID: Run ID: **UV-2450_500962** SeqNo: **8550986** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Cyanide	< 100	100								

LCS Sample ID: **LCS-R500962** Units: **mg/L** Analysis Date: **25-Nov-2024 15:02**
Client ID: Run ID: **UV-2450_500962** SeqNo: **8550985** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Cyanide	0.54	100	10	0	5.40	5 - 100				J

MS Sample ID: **HS24111128-01MS** Units: **mg/L** Analysis Date: **25-Nov-2024 15:02**
Client ID: **WW-1620-FRC248006-SW-20241118** Run ID: **UV-2450_500962** SeqNo: **8550987** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Cyanide	0.6	100	10	0	6.00	5 - 100				J

The following samples were analyzed in this batch: HS24111128-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: HS24111128

QC BATCH REPORT

Batch ID: R500967 (0) **Instrument: WetChem_HS** **Method: REACTIVE SULFIDE**

MBLK Sample ID: **MBLK-R500967** Units: **mg/L** Analysis Date: **25-Nov-2024 08:15**
Client ID: Run ID: **WetChem_HS_500967** SeqNo: **8551094** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Sulfide	< 100	100								

LCS Sample ID: **LCS-R500967** Units: **mg/L** Analysis Date: **25-Nov-2024 08:15**
Client ID: Run ID: **WetChem_HS_500967** SeqNo: **8551093** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Sulfide	77.6	100	100	0	77.6	20 - 120				J

MS Sample ID: **HS24111128-01MS** Units: **mg/L** Analysis Date: **25-Nov-2024 08:15**
Client ID: **WW-1620-FRC248006-SW-20241118** Run ID: **WetChem_HS_500967** SeqNo: **8551095** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Reactive Sulfide	77.6	100	100	0	77.6	20 - 120				J

The following samples were analyzed in this batch: HS24111128-01

Client: WSP Austin
Project: Houston TX-Wood Preserving Works IDW
WorkOrder: **HS24111128**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arizona	AZ0793	27-May-2025
Arkansas	88-00356_2024	27-Mar-2025
California	2919; 2025	30-Apr-2025
Dept of Defense	L24-240	30-Apr-2026
Dept of Defense	L24-239	30-Apr-2026
Florida	E87611-38	30-Jun-2025
Illinois	2000322023-11	31-Jul-2025
Kansas	E-10352 2023-2024	31-Jul-2025
Kentucky	123043	30-Apr-2025
Louisiana	03087 2023-2024	30-Jun-2025
Maine	2024017	23-Jun-2026
Michigan	9971	30-Apr-2025
Nebraska	NE-OS-25-13	30-Apr-2025
New Jersey	TX008	30-Jun-2025
North Carolina	624 - 2024	31-Dec-2024
Pennsylvania	018	30-Jun-2025
Tennessee	04016	30-Apr-2025
Texas	T104704231 TX-C24-00130	30-Apr-2025
Utah	TX026932023-14	31-Jul-2025

Sample Receipt Checklist

Work Order ID: HS24111128 **Date/Time Received:** **18-Nov-2024 11:01**

Client Name: PBW **Received by:** **Jacob Coronado**

Completed By: */S/ Paresh M. Giga* (eSignature) 19-Nov-2024 14:30 (Date/Time) **Reviewed by:** */S/ salina zaid* (eSignature) 19-Nov-2024 16:46 (Date/Time)

Matrices: **Water** Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:320985
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.3C U/C	IR36
Cooler(s)/Kit(s):	43607	
Date/Time sample(s) sent to storage:	11/19/24 14:45	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Log In Notes : No RCI bottle received.
Split volume from ambers for analysis.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 320985

HS24111128

WSP Austin

Houston TX-Wood Preserving Works IDW

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-21-Rev0 SR 92683
Company Name	WSP Austin	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	1601 S. MoPac Expressway Suite 325D	Address	1400 Douglas Street Stop 0750
City/State/Zip	Austin, TX 78746	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	ematzner@wsp.com	e-Mail Address	arthur.gibson@alsglobal.com

A	8260_LL_W (8260 Volatile Organics (8)) Select List
B	8270_LOW_W (SemiVolatiles Select List (8270))
C	ICP_TW (ICP Metals (RCRA 8))
D	TX1005_W_ Low (TPH TX1005)
E	PH_W_9040C (ph (RCI))
F	IGN_W_(Ignitability-RCI IDWW)
G	RCN_W (Reactive Cyanide (RCI))
H	RS_W_(Reactive Sulfide (RCI))
I	Sub_ DIOXINS / FURANS
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WW-1620-FRC248006-SW-																
2	20241118	11-18-24	0955	W	1,2	9	X	X	X	X	X	X	X	X	X		
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Charles YOUNG

Shipment Method: Hand Carry

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour

Results Due Date:

Relinquished by:	Date: 11-18-24	Time: 1101	Received by:	
Relinquished by:	Date: 11/18/24	Time: 1101	Received by (Laboratory):	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Notes: UPRR HWPW1620-21

Cooler ID	Cooler Temp.
43607	1.3

QC Package: (Check One Box Below)

[ ] Level II Std QC
[ ] Level II Std QC/Raw Data
[ ] Level IV SVM/SOCP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

1236

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

www.pacelabs.com

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Luis Aguilar
ALS Global USA Corp.
10450 Stancliff Road
Suite 210
Houston TX 77099

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

Pace Project #: 10716440
Sample Receipt Date: 11/21/2024
Client Project #: ALS HS24111128
Client Sub PO #: N/A
State Cert #: T104704192

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed by:

December 04, 2024

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

Report Prepared Date:
December 4, 2024

Report of Laboratory Analysis

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DISCUSSION

This report presents the results from the analysis performed on one sample submitted by a representative of ALS Global USA Corp. The sample was analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using USEPA Method 1613B. The reporting limits were set to correspond to the lowest calibration points and a nominal 1-liter sample amount, and the sensitivity was verified by signal-to-noise measurements. The quantitation limits, adjusted for sample extraction amount, may be somewhat higher or lower than the reporting limits provided in this report. Estimated maximum possible concentration (EMPC) values were treated as positives in the toxic equivalence calculations.

The isotopically-labeled PCDD/PCDF internal standards in the sample extracts were recovered at 39-89%. All of the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1613B. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCDDs and PCDFs at the reporting limits.

Laboratory spike samples were also prepared using clean reference matrix that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 90-116% with relative percent differences of 0.0-3.7%. These results were within the target ranges for the method. Matrix spikes were not prepared with the sample batch.

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Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
		Missouri	10100
A2LA	2926.01	Montana	CERT0092
Alabama	40770	Nebraska	NE-OS-18-06
Alaska-DW	MN00064	Nevada	MN00064
Alaska-UST	17-009	New Hampshire	2081
Arizona	AZ0014	New Jersey	MN002
Arkansas - WW	88-0680	New York	11647
Arkansas-DW	MN00064	North Carolina-DW	27700
California	2929	North Carolina-WW	530
Colorado	MN00064	North Dakota	R-036
Connecticut	PH-0256	Ohio-DW	41244
Florida	E87605	Ohio-VAP (1700)	CL101
Georgia	959	Ohio-VAP (1800)	CL110
Hawaii	MN00064	Oklahoma	9507
Idaho	MN00064	Oregon-Primary	MN300001
Illinois	200011	Oregon-Secondary	MN200001
Indiana	C-MN-01	Pennsylvania	68-00563
Iowa	368	Puerto Rico	MN00064
Kansas	E-10167	South Carolina	74003
Kentucky-DW	90062	Tennessee	TN02818
Kentucky-WW	90062	Texas	T104704192
Louisiana-DEQ	AI-84596	Utah	MN00064
Louisiana-DW	MN00064	Vermont	VT-027053137
Maine	MN00064	Virginia	460163
Maryland	322	Washington	C486
Michigan	9909	West Virginia-DEP	382
Minnesota	027-053-137	West Virginia-DW	9952C
Minnesota-Ag	via MN 027-053-137	Wisconsin	999407970
Minnesota-Petrofund	1240	Wyoming-UST	via A2LA 2926.01
Mississippi	MN00064		

REPORT OF LABORATORY ANALYSIS

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Appendix A

Sample Management

10450 Stancliff Rd, Ste 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: Texas **COC ID:** 27458

001

SUBCONTRACT TO:

Pace Analytical
12065 Lebanon Road
Mount Juliet, TN 37122-2508

Phone: +1 615 758 5858

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Luis Aguilar
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	luis.aguilar@alsglobal.com
Alternate Contact:	Jumoke M. Lawal
Email:	jumoke.lawal@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Houston
Contact:	Accounts Payable
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Reference:	HS24111128
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS24111128-01**	**WW-1620-FRC248006-SW-20241118**	**Water**	**18 Nov 2024 09:55**
	DIOXINS/FURANS Sub PACE - STD TAT RUSH			25 Nov 2024

Comments: Please analyze for the analysis listed above.
Send report to the emails shown above.

QC Level: STD (Laboratory Standard QC: method blank and LCS required)

WO#: 10716440

10716440

Relinquished By: _____ Date/Time: _____

Received By: Pace Date/Time: 11-21-24 1050

Cooler ID(s): _____ Temperature(s): _____

RIGHT SOLUTIONS | RIGHT PARTNER

ENV-FRM-MIN4-0150 v17_Sample Condition Upon Receipt

CLIENT NAME: ALS Env. **PROJECT #:** **WO#: 10716440**

PM: SCU Due Date: 11/25/24
CLIENT: ALS Global

COURIER: ☐ Client ☐ Commercial ☑ FedEx ☐ Pace ☐ SpeeDee ☐ UPS ☐ USPS

TRACKING NUMBER: 4257 0964 1797 ☐ See Exceptions form ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present: ☑ YES ☐ NO **Seals Intact:** ☑ YES ☐ NO **Biological Tissue Frozen:** ☐ YES ☐ NO ☑ N/A

Packing Material: ☑ Bubble Bags ☐ Bubble Wrap ☐ None ☐ Other **Temp Blank:** ☑ YES ☐ NO **Type of Ice:** ☐ Blue ☐ Dry ☑ Wet ☐ Melted ☐ None

Thermometer: ☑ T1 (0461) ☐ T2 (0436) ☐ T3 (0459) ☐ T4 (0402) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ T9 (0727) ☐ 01339252 (1710)

Did Samples Originate in West Virginia: ☐ YES ☑ NO	**Were All Container Temps taken:** ☐ YES ☐ NO ☑ N/A
Correction Factor: 4.0 **Cooler Temp Read w/Temp Blank:** 1.7 °C **Cooler Temp Corrected w/Temp Blank:** 1.8 °C	**Average Corrected Temp (no Temp Blank Only):** _____ °C
***NOTE:** Temp should be above freezing to 6°C.*	☐ See Exceptions Form ENV-FRM-MIN4-0142 ☐ 1 Container
USDA Regulated Soil: ☑ N/A – Water Sample/Other (describe): _____	**Initials & Date of Person Examining Contents:** EC 11-21-24
Did Samples originate from one of the following states (check maps) – AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA: ☐ YES ☐ NO	Did samples originate from a foreign source (international, including Hawaii and Puerto Rico): ☐ YES ☐ NO
NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.	

LOCATION (check one): ☐ DULUTH ☑ MINNEAPOLIS ☐ VIRGINIA	YES	NO	N/A	COMMENT(S)
Chain of Custody Present and Filled Out?	☑	☐		1.
Chain of Custody Relinquished?	☑	☐		2.
Sampler Name and/or Signature on COC?	☑	☐	☐	3.
Samples Arrived within Hold Time?	☑	☐		4. If Fecal: ☐ <8 hrs ☐ >8 hr, <24 hr ☐ No
Short Hold Time Analysis (<72 hr)?	☐	☑		5. ☐ BOD / cBOD ☐ Fecal coliform ☐ Hex Chrom ☐ HPC ☐ Nitrate ☐ Nitrite ☐ Ortho Phos ☐ Total coliform/*E. coli* ☐ Other: _____
Rush Turn Around Time Requested?	☑	☐		6. 11-25-24
Sufficient Sample Volume?	☑	☐		7.
Correct Containers Used?	☑	☐	☐	8.
– Pace Containers Used?	☑	☐		
Containers Intact?	☑	☐		9.
Field Filtered Volume Received for Dissolved Tests?	☐	☐	☑	10. Is sediment visible in the dissolved container: ☐ YES ☐ NO
Is sufficient information available to reconcile the samples to the COC? **NOTE:** If ID/Date/Time don't match fill out section 11. Matrix: ☐ Oil ☐ Soil ☑ Water ☐ Other	☑	☐		11. **If NO, write ID/Date/Time of container below:** ☐ See Exceptions form ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☐	☐	☑	12. Sample #:
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide)	☐	☐	☑	☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC, Oil & Grease, DRO/8015 (water) and Dioxins/PFAS	☐	☐	☑	Positive for Residual Chlorine: ☐ YES ☐ NO
NOTE: If adding preservation to the container, **verify with the PM first.** Clients may require adding preservative to the field and equipment blanks when this occurs.				**pH Paper Lot #** Residual Chlorine / 0-6 Roll / 0-6 Strip / 0-14 Strip ☐ See Exceptions form ENV-FRM-MIN4-0142
Headspace in Methyl Mercury Container?	☐	☐	☑	13.
Extra labels present on soil VOA or WIDRO containers?	☐	☐	☑	14.
Headspace in VOA Vials (greater than 6mm)?	☐	☐	☑	☐ See Exceptions form ENV-FRM-MIN4-0140
Trip Blanks Present?	☐	☐	☑	15.
Trip Blank Custody Seals Present?	☐	☐	☑	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION / RESOLUTION **FIELD DATA REQUIRED:** ☐ YES ☐ NO

Person Contacted: _____ Date & Time: _____

Comments / Resolution: _____

Project Manager Review: _____ **Date:** 11/21/24

***NOTE:** When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).*

Labeled By: EC **Line:** 2

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Reporting Flags

A = Reporting Limit based on signal to noise (EDL)

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

H2 = Extracted outside of holding time

I = Isotope ratio out of specification

J = Estimated value

L = Suppressive interference, analyte may be biased low

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

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Appendix B

Sample Analysis Summary

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1613B Sample Analysis Results

Client - ALS Global USA Corp.

Client's Sample ID	HS24111128-01		
Lab Sample ID	10716440001		
Filename	L241130C_08		
Injected By	KAS		
Total Amount Extracted	813 mL	Matrix	WATER
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	11/18/2024 09:45
ICAL ID	L240918	Received	11/21/2024 10:50
CCal Filename(s)	L241130B_18	Extracted	11/27/2024 10:15
Method Blank ID	BLANK-115805	Analyzed	12/01/2024 09:20

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	10	2,3,7,8-TCDF-13C	2.00	82
Total TCDF	ND	-----	10	2,3,7,8-TCDD-13C	2.00	75
				1,2,3,7,8-PeCDF-13C	2.00	74
2,3,7,8-TCDD	ND	-----	10	2,3,4,7,8-PeCDF-13C	2.00	78
Total TCDD	ND	-----	10	1,2,3,7,8-PeCDD-13C	2.00	83
				1,2,3,4,7,8-HxCDF-13C	2.00	84
1,2,3,7,8-PeCDF	ND	-----	50	1,2,3,6,7,8-HxCDF-13C	2.00	70
2,3,4,7,8-PeCDF	ND	-----	50	2,3,4,6,7,8-HxCDF-13C	2.00	82
Total PeCDF	ND	-----	50	1,2,3,7,8,9-HxCDF-13C	2.00	84
				1,2,3,4,7,8-HxCDD-13C	2.00	74
1,2,3,7,8-PeCDD	ND	-----	50	1,2,3,6,7,8-HxCDD-13C	2.00	89
Total PeCDD	ND	-----	50	1,2,3,4,6,7,8-HpCDF-13C	2.00	66
				1,2,3,4,7,8,9-HpCDF-13C	2.00	57
1,2,3,4,7,8-HxCDF	ND	-----	50	1,2,3,4,6,7,8-HpCDD-13C	2.00	66
1,2,3,6,7,8-HxCDF	ND	-----	50	OCDD-13C	4.00	39
2,3,4,6,7,8-HxCDF	ND	-----	50			
1,2,3,7,8,9-HxCDF	ND	-----	50	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	50	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	50	2,3,7,8-TCDD-37Cl4	0.20	83
1,2,3,6,7,8-HxCDD	ND	-----	50			
1,2,3,7,8,9-HxCDD	ND	-----	50			
Total HxCDD	ND	-----	50			
1,2,3,4,6,7,8-HpCDF	ND	-----	50	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	50	Equivalence: 0.093 pg/L		
Total HpCDF	ND	-----	50	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	50			
Total HpCDD	ND	-----	50			
OCDF	ND	-----	100			
OCDD	310	-----	100			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
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Method 1613B Blank Analysis Results

Lab Sample Name	DFBLKWN		
Lab Sample ID	BLANK-115805	Matrix	Water
Filename	L241130B_03	Dilution	NA
Total Amount Extracted	914 mL	Extracted	11/27/2024 10:15
ICAL ID	L240918	Analyzed	11/30/2024 15:55
CCal Filename(s)	L241130A_18	Injected By	KAS

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	10	2,3,7,8-TCDF-13C	2.00	77
Total TCDF	ND	-----	10	2,3,7,8-TCDD-13C	2.00	71
				1,2,3,7,8-PeCDF-13C	2.00	75
2,3,7,8-TCDD	ND	-----	10	2,3,4,7,8-PeCDF-13C	2.00	78
Total TCDD	ND	-----	10	1,2,3,7,8-PeCDD-13C	2.00	83
				1,2,3,4,7,8-HxCDF-13C	2.00	76
1,2,3,7,8-PeCDF	ND	-----	50	1,2,3,6,7,8-HxCDF-13C	2.00	64
2,3,4,7,8-PeCDF	ND	-----	50	2,3,4,6,7,8-HxCDF-13C	2.00	79
Total PeCDF	ND	-----	50	1,2,3,7,8,9-HxCDF-13C	2.00	83
				1,2,3,4,7,8-HxCDD-13C	2.00	71
1,2,3,7,8-PeCDD	ND	-----	50	1,2,3,6,7,8-HxCDD-13C	2.00	83
Total PeCDD	ND	-----	50	1,2,3,4,6,7,8-HpCDF-13C	2.00	66
				1,2,3,4,7,8,9-HpCDF-13C	2.00	63
1,2,3,4,7,8-HxCDF	ND	-----	50	1,2,3,4,6,7,8-HpCDD-13C	2.00	73
1,2,3,6,7,8-HxCDF	ND	-----	50	OCDD-13C	4.00	49
2,3,4,6,7,8-HxCDF	ND	-----	50			
1,2,3,7,8,9-HxCDF	ND	-----	50	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	50	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	50	2,3,7,8-TCDD-37Cl4	0.20	79
1,2,3,6,7,8-HxCDD	ND	-----	50			
1,2,3,7,8,9-HxCDD	ND	-----	50			
Total HxCDD	ND	-----	50			
1,2,3,4,6,7,8-HpCDF	ND	-----	50	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	50	Equivalence: 0.00 pg/L		
Total HpCDF	ND	-----	50	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	50			
Total HpCDD	ND	-----	50			
OCDF	ND	-----	100			
OCDD	ND	-----	100			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

REPORT OF LABORATORY ANALYSIS

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Method 1613B Laboratory Control Spike Results

Lab Sample ID	LCS-115806		
Filename	L241130B_04	Matrix	Water
Total Amount Extracted	909 mL	Dilution	NA
ICAL ID	L240918	Extracted	11/27/2024 10:15
CCal Filename	L241130A_18	Analyzed	11/30/2024 16:40
Method Blank ID	BLANK-115805	Injected By	KAS

Compound	Cs	Cr	Lower Limit	Upper Limit	% Rec.
2,3,7,8-TCDF	10	10	7.5	15.8	103
2,3,7,8-TCDD	10	11	6.7	15.8	106
1,2,3,7,8-PeCDF	50	54	40.0	67.0	108
2,3,4,7,8-PeCDF	50	52	34.0	80.0	104
1,2,3,7,8-PeCDD	50	47	35.0	71.0	94
1,2,3,4,7,8-HxCDF	50	49	36.0	67.0	98
1,2,3,6,7,8-HxCDF	50	56	42.0	65.0	112
2,3,4,6,7,8-HxCDF	50	52	35.0	78.0	105
1,2,3,7,8,9-HxCDF	50	51	39.0	65.0	103
1,2,3,4,7,8-HxCDD	50	56	35.0	82.0	113
1,2,3,6,7,8-HxCDD	50	51	38.0	67.0	101
1,2,3,7,8,9-HxCDD	50	52	32.0	81.0	103
1,2,3,4,6,7,8-HpCDF	50	54	41.0	61.0	107
1,2,3,4,7,8,9-HpCDF	50	45	39.0	69.0	90
1,2,3,4,6,7,8-HpCDD	50	49	35.0	70.0	99
OCDF	100	110	63.0	170.0	111
OCDD	100	110	78.0	144.0	112
2,3,7,8-TCDD-37Cl4	10	8.7	3.1	19.1	87
2,3,7,8-TCDF-13C	100	86	22.0	152.0	86
2,3,7,8-TCDD-13C	100	79	20.0	175.0	79
1,2,3,7,8-PeCDF-13C	100	84	21.0	192.0	84
2,3,4,7,8-PeCDF-13C	100	86	13.0	328.0	86
1,2,3,7,8-PeCDD-13C	100	93	21.0	227.0	93
1,2,3,4,7,8-HxCDF-13C	100	80	19.0	202.0	80
1,2,3,6,7,8-HxCDF-13C	100	63	21.0	159.0	63
2,3,4,6,7,8-HxCDF-13C	100	82	22.0	176.0	82
1,2,3,7,8,9-HxCDF-13C	100	86	17.0	205.0	86
1,2,3,4,7,8-HxCDD-13C	100	74	21.0	193.0	74
1,2,3,6,7,8-HxCDD-13C	100	88	25.0	163.0	88
1,2,3,4,6,7,8-HpCDF-13C	100	69	21.0	158.0	69
1,2,3,4,7,8,9-HpCDF-13C	100	67	20.0	186.0	67
1,2,3,4,6,7,8-HpCDD-13C	100	76	26.0	166.0	76
OCDD-13C	200	98	26.0	397.0	49

Cs = Concentration Spiked (ng/mL)
Cr = Concentration Recovered (ng/mL)
Rec. = Recovery (Expressed as Percent)
Control Limit Reference: Method 1613, Table 6, 10/94 Revision
R = Recovery outside of control limits
Nn = Value obtained from additional analysis
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Tel: 612-607-1700
Fax: 612- 607-6444

Method 1613B Laboratory Control Spike Results

Lab Sample ID	LCSD-115807		
Filename	L241130B_05	Matrix	Water
Total Amount Extracted	953 mL	Dilution	NA
ICAL ID	L240918	Extracted	11/27/2024 10:15
CCal Filename	L241130A_18	Analyzed	11/30/2024 17:26
Method Blank ID	BLANK-115805	Injected By	KAS

Compound	Cs	Cr	Lower Limit	Upper Limit	% Rec.
2,3,7,8-TCDF	10	10	7.5	15.8	104
2,3,7,8-TCDD	10	11	6.7	15.8	110
1,2,3,7,8-PeCDF	50	54	40.0	67.0	108
2,3,4,7,8-PeCDF	50	51	34.0	80.0	102
1,2,3,7,8-PeCDD	50	48	35.0	71.0	95
1,2,3,4,7,8-HxCDF	50	50	36.0	67.0	99
1,2,3,6,7,8-HxCDF	50	56	42.0	65.0	112
2,3,4,6,7,8-HxCDF	50	53	35.0	78.0	107
1,2,3,7,8,9-HxCDF	50	51	39.0	65.0	103
1,2,3,4,7,8-HxCDD	50	57	35.0	82.0	115
1,2,3,6,7,8-HxCDD	50	51	38.0	67.0	103
1,2,3,7,8,9-HxCDD	50	53	32.0	81.0	106
1,2,3,4,6,7,8-HpCDF	50	53	41.0	61.0	106
1,2,3,4,7,8,9-HpCDF	50	46	39.0	69.0	92
1,2,3,4,6,7,8-HpCDD	50	50	35.0	70.0	99
OCDF	100	110	63.0	170.0	110
OCDD	100	120	78.0	144.0	116
2,3,7,8-TCDD-37Cl4	10	8.7	3.1	19.1	87
2,3,7,8-TCDF-13C	100	88	22.0	152.0	88
2,3,7,8-TCDD-13C	100	80	20.0	175.0	80
1,2,3,7,8-PeCDF-13C	100	85	21.0	192.0	85
2,3,4,7,8-PeCDF-13C	100	90	13.0	328.0	90
1,2,3,7,8-PeCDD-13C	100	95	21.0	227.0	95
1,2,3,4,7,8-HxCDF-13C	100	87	19.0	202.0	87
1,2,3,6,7,8-HxCDF-13C	100	68	21.0	159.0	68
2,3,4,6,7,8-HxCDF-13C	100	83	22.0	176.0	83
1,2,3,7,8,9-HxCDF-13C	100	92	17.0	205.0	92
1,2,3,4,7,8-HxCDD-13C	100	80	21.0	193.0	80
1,2,3,6,7,8-HxCDD-13C	100	93	25.0	163.0	93
1,2,3,4,6,7,8-HpCDF-13C	100	74	21.0	158.0	74
1,2,3,4,7,8,9-HpCDF-13C	100	70	20.0	186.0	70
1,2,3,4,6,7,8-HpCDD-13C	100	82	26.0	166.0	82
OCDD-13C	200	100	26.0	397.0	51

Cs = Concentration Spiked (ng/mL)
Cr = Concentration Recovered (ng/mL)
Rec. = Recovery (Expressed as Percent)
Control Limit Reference: Method 1613, Table 6, 10/94 Revision
R = Recovery outside of control limits
Nn = Value obtained from additional analysis
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1613B

Spike Recovery Relative Percent Difference (RPD) Results

Client ALS Global USA Corp.

Spike 1 ID LCS-115806 Spike 2 ID LCSD-115807
Spike 1 Filename L241130B_04 Spike 2 Filename L241130B_05

Compound	Spike 1 %REC	Spike 2 %REC	%RPD
2,3,7,8-TCDF	103	104	1.0
2,3,7,8-TCDD	106	110	3.7
1,2,3,7,8-PeCDF	108	108	0.0
2,3,4,7,8-PeCDF	104	102	1.9
1,2,3,7,8-PeCDD	94	95	1.1
1,2,3,4,7,8-HxCDF	98	99	1.0
1,2,3,6,7,8-HxCDF	112	112	0.0
2,3,4,6,7,8-HxCDF	105	107	1.9
1,2,3,7,8,9-HxCDF	103	103	0.0
1,2,3,4,7,8-HxCDD	113	115	1.8
1,2,3,6,7,8-HxCDD	101	103	2.0
1,2,3,7,8,9-HxCDD	103	106	2.9
1,2,3,4,6,7,8-HpCDF	107	106	0.9
1,2,3,4,7,8,9-HpCDF	90	92	2.2
1,2,3,4,6,7,8-HpCDD	99	99	0.0
OCDF	111	110	0.9
OCDD	112	116	3.5

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPUBLIC SERVICES

Please print or type.

NON-HAZARDOUS WASTE MANIFEST

3426045

1. ☐ Generator's US EPA ID Number	☐ Generator's State ID Number	Manifest Document Number	2. Page 1 of
		3426045	1

GENERATOR

3. Generator's Name and Mailing Address	5. Generating Location (if different)
Union Pacific Railroad c/o GHD Services, Inc. 9100 Centre Pointe Dr Suite 240 West Chester, OH 45069 4. Phone ( )	Union Pacific Railroad (UPRR) 4910 Liberty Road Houston, TX 77026 6. Phone ( )

7. Transporter #1 Company Name	8. US EPA ID Number	9. Transporter #1's Phone
Enhanced Environmental & Emergency Services, Inc.	TXR000083939	(800)645-6671
10. Transporter #2 Company Name	11. US EPA ID Number	12. Transporter #2's Phone

13. Designated T/S/D Facility Name and Site Address	14. US EPA ID Number	15. Facility's Phone
(5113) McCarty Landfill (Republic Services) 5757 A Oates Rd Houston, TX 77078	261B	(713)-676-7500

16. Waste Shipping Name and Description	17. Republic Services Approval # and Exp. Date	18. Containers No.	18. Containers Type	19. Total Quantity	20. Unit Wt/Vol
a. Non-Dot Regulated Material (Purge Water)	5113252239	1	TT	2400	G
b.					
c.					

21. Additional Descriptions for Materials Listed Above

22. Special Handling Instructions and Additional Information

Profile #5113252239 (Purge Water) WR #: 020623
Bill to: E3 Enviromental- PO Box 7, Clinton, MS 39060
Email Invoices: e3admin@e3enviro.com/amcmullins@e3enviro.com
Job#: 135-25-0031
Po#: 135-2025-0174
Washout-135-2025-0175

23. **GENERATOR'S CERTIFICATION:** I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a hazardous waste as defined by 40 CFR 261.

Printed/Typed Name	Signature	Month	Day	Year
Anthony McMullins obo UPRR		3	4	25

TRANSPORTER

24. **Transporter #1:** Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
James Hevel	James Hevel	3	4	25

25. **Transporter #2:** Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

T/S/D FACILITY

26. Discrepancy Indication Space

Republic Services
McCarty Rd Landfill, TX LP
TDH Permit # 261B

27. **Facility Owner or Operator:** Certification of receipt of waste materials covered by this manifest (except as noted in Item 19).

MAR 04 2025

Printed/Typed Name	Signature	Month	Day	Year
	5757 A Oates Rd Houston, Tx 77078 713 676 7600	3	4	25

REV 06/22

TRANSPORTER #1

COM000033
Form_NHWM2

APPENDIX 3

CHRONOLOGY

Below is a summary of the site investigation and regulatory chronology at the UPRR Former Houston Wood Preserving Works facility (listed in reverse order).

Date	Description
February 2025	WSP USA Inc (WSP), on behalf of Union Pacific Railroad (UPRR), submits the Post-Response Action Completion Report (PRACR) Monthly Update to the Texas Commission on Environmental Quality (TCEQ) (February 15, 2025)and submits 4th Quarter 2024 DNAPL Recovery Report dated February 26, 2024 to TCEQ Stormwater generated during the Focused Excavation (FE) activities detailed in the Revised Interim Measures Work Plan (IMWP) dated October 23, 2023 (updated August 2024) has not been discharged this month due to the temporary closure of UPRR Settegast Yard (Industrial Wastewater Treatment Plant (IWTP)).
January 2025	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (January 15, 2025); submits the Off-site Notification Update (TRRP 350.55) for the First Semi-Annual 2024 Site-Wide Groundwater Monitoring Report to the TCEQ (January 15, 2025); submits to the TCEQ the Solid Waste Management Unit (SWMU) No. 1 Corrective Action Monitoring Report: 2024 Second Semi-Annual Event dated January 16, 2025 to the TCEQ; WSP conducts 2025 first semi-annual groundwater monitoring event for the SWMU No. 1 and site-wide groundwater sampling event. WSP conducts the 1st Quarter cap inspection on January 28, 2025. The COH Public Works Department authorizes UPRR to discharge stormwater generated during the FE activities detailed in the Revised Interim Measures Work Plan (IMWP) dated October 23, 2023 (updated August 2024) under the Temporary Discharge Authorization (TDA). Stormwater discharge began on January 29, 2025. The COH Public Works Department ordered UPRR to stop discharging treated stormwater from the UPRR Settegast Yard (Industrial Wastewater Treatment Plant (IWTP)) due to an exceedance on January 31, 2025.
December 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (December 15, 2024); conducts an inspection of monitoring wells and conducts repairs to well plugs and locks. WSP on behalf of UPRR submits the TDA application to the COH Public Works Department for managing stormwater generated during the FE response actions.
November 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (November 15, 2024); submits 3rd Quarter 2024 DNAPL Recovery Report to TCEQ (November 22, 2024); submits First Semi-Annual 2024 Site-Wide Groundwater Monitoring Report to TCEQ (November 22, 2024); submits the Off-site Notification Update (TRRP 350.55) for the Second Semi-Annual 2023 Site-Wide Groundwater Monitoring Report to the TCEQ (November 15, 2024).

Date	Description
	UPRR Remediation Contractor E3 completes sealing the joints for newly reconstructed concrete and asphalt caps as part of the FE response action per the Revised IMWP.
October 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (October 15, 2024). WSP conducts the 4th Quarter cap inspection on October 18, 2024.
	UPRR Remediation Contractor E3 sealing joints for newly reconstructed concrete and asphalt caps as part of the FE response action per the Revised IMWP.
September 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (September 15, 2024); submits 2nd Quarter 2024 DNAPL Recovery Report to TCEQ (September 30, 2024); submits Second Semi-Annual 2023 Site-Wide Groundwater Monitoring Report to TCEQ (September 16, 2024).
	UPRR remediation contractor E3 completes backfilling, liner installation, and cap reconstruction at the 13 FE locations.
August 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (August 15, 2024); completes the 2024 second semi-annual site-wide groundwater sampling event.
	WSP, on behalf of UPRR, submits the Updated Revised IMWP dated August 8, 2024, detailing the updated backfill design. Remediation contractor E3 begins backfilling FEs once they sufficiently dried from the July rain events.
July 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (July 15, 2024); submits 1st Quarter 2024 DNAPL Recovery Report to TCEQ (July 11, 2024). WSP conducts the second semi-annual groundwater monitoring event for the SWMU No. 1 and begins the site-wide groundwater monitoring event. WSP conducts the 3rd Quarter cap inspection on July 24, 2024.
	Weather delays impact the progress of the FE response actions. On July 8, 2024, Hurricane Beryl made landfall which led to management of stormwater within the FEs. No additional excavation activities of the FEs were conducted in July.
June 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (June 15, 2024). WSP on behalf of UPRR submits the RACR for the fiber optic manway cap disturbance (June 7, 2024).
	UPRR remediation contractor E3 excavated FEs FE-5, FE-6, FE-8, FE-9, FE-10, FE-12, FE-13.

Date	Description
May 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (May 15, 2024). UPRR remediation contractor E3 excavates FEs FE-1, FE-2, FE-3, FE-4, FE-7, and FE-11.
April 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (April 15, 2024). WSP conducts the 2nd Quarter cap inspection on April 24, 2024. Remediation contractor E3 assists UPRR and Lumen Technologies (fiber optic utility operator) with the fiber optic manway soil cap disturbance excavation activities from April 1 to 8, 2024. UPRR remediation contractor E3 mobilizes to the EIY April 29, 2024 to begin the response actions detailed in the Revised IMWP (FEs). On April 30, 2024, E3 begins to excavate FEs FE-1, FE-2, FE-3, FE-4, and FE-7.
March 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (March 15, 2024).
February 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (February 14, 2024) and submits 4th Quarter 2023 DNAPL Recovery Report dated February 22, 2024 to TCEQ; WSP, on behalf of UPRR, submits the Off-site Notification Update (TRRP 350.55) dated February 19, 2024 for the First Semi-Annual 2023 Site-Wide Groundwater Monitoring Report to the TCEQ.
January 2024	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (January 12, 2024); UPRR submits to the TCEQ the Corrective Action Monitoring Report: 2023 Second Semi-Annual Event dated January 9, 2024 to the TCEQ; submits 3rd Quarter 2023 DNAPL Recovery Report dated January 9, 2024 to TCEQ; WSP on behalf of UPRR, submits the Response Action Completion Report (RACR) for the Englewood Yard North By-Pass Project dated January 12, 2024; WSP, on behalf of UPRR, conducts 2024 first semi-annual groundwater monitoring event for the SWMU No. 1 and site-wide groundwater sampling event; TCEQ issues conditional approval letter for the Revised Interim Measures Work Plan (Revised Work Plan) in a letter dated January 9; WSP, on behalf of UPRR, submits the Updated Notification of Soil Cap Disturbance (Fiber Handhold Reconstruction) letter dated January 4th to the TCEQ. WSP conducts the 1st Quarter cap inspection on January 19, 2024.
December 2023	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (December 15, 2023); and Corrective Action Monitoring Report, 2023 First Semi-Annual Event, dated December 21, 2023. WSP, on behalf of UPRR, submits to the TCEQ the Notification of Soil Cap Disturbance (Fiber Handhold Reconstruction) letter dated December 1st. TCEQ provided preliminary comments during a teleconference meeting with UPRR, WSP, and TCEQ on December 7th.

Date	Description
November 2023	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (November 15, 2023)
October 2023	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (October 15, 2023); UPRR submits responses to the TCEQ comments on the Interim Measures Work Plan and a Revised Work Plan dated October 20, 2023
September 2023	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (September 15, 2023); WSP, on behalf of UPRR, submits the Off-site Notification Update (TRRP 350.55) dated September 27, 2023 for the Second Semi-Annual 2022 Site-wide Groundwater Monitoring Report to the TCEQ.
August 2023	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (August 15, 2023) and submits 2nd Quarter 2023 DNAPL Recovery Report dated August 15, 2023 to TCEQ
July 2023	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (July 14, 2023); submits the Corrective Action Monitoring Report: 2023 First Semi-Annual Event dated July 10, 2023 to the TCEQ; and Corrective Action Monitoring Report, 2022 Second Semi-Annual Event, dated July 10, 2023. TCEQ provided comments on the Interim Measures Work Plan dated July 5, 2023. WSP, on behalf of UPRR, conducts 2023 second semi-annual groundwater monitoring event for the SWMU No. 1 and site-wide groundwater sampling event.
June 2023	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (June 9, 2023); UPRR contractor OMI was called to the concrete cap area to pressure wash areas where brown staining and a small amount of seep water was observed in the cracks in the paved areas. OMI collected the fluids into a tote which was profiled and disposed of according to federal and state rules and regulations.
May 2023	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (May 12, 2023); submits 1st Quarter 2023 DNAPL Recovery Report dated May 5, 2023 to TCEQ and submits the Interim Measures Work Plan dated May 17, 2023; UPRR contractor OMI was called to the concrete cap area to pressure wash areas where brown staining and a small amount of seep water was observed in the cracks in the paved areas. OMI collected the fluids into a tote which was profiled and disposed of according to federal and state rules and regulations.
April 2023	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (April 13, 2023); UPRR contractor OMI mobilized to the concrete cap area to address the brown staining and seep water observed in the cracks in the paved areas. OMI was not able to mobilize a pressure-washing crew but used absorbent pads to soak up standing seep water. The absorbent pads were placed in a drum, profiled and disposed.

Date	Description
March 2023	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (March 15, 2023) and submits Annual PRACR for 2022 on March 29, 2023; UPRR contractor OMI was called to the concrete cap area to pressure wash areas where brown staining was observed in the cracks in the paved areas. OMI collected the fluids into a tote which was profiled and disposed of according to federal and state rules and regulations.
February 2023	WSP, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (February 14, 2023); UPRR submits 4th Quarter 2022 Dense Non-Aqueous Phase Liquid (DNAPL) Recovery Report dated February 13, 2023 to TCEQ; Administrative Settlement Agreement and Order of Consent (ASAOC) for Removal Action Site Evaluation signed by U.S. Environmental Protection Agency (EPA) and Union Pacific in February 2023; WSP, on behalf of UPRR, submits the Updated Baseline Soil Assessment Report dated February 14, 2023; WSP, on behalf of UPRR, submits the Off-site Notification Update (TRRP 350.55) dated February 24, 2023 for the First Semi-Annual 2022 Site-wide Groundwater Monitoring Report to the TCEQ.
January 2023	WSP (formerly Golder Associates USA Inc (Golder)), on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (January 17, 2023); UPRR submits to the TCEQ the Corrective Action Monitoring Report: 2022 Second Semi-Annual Event dated January 16, 2023 to the TCEQ; WSP, on behalf of UPRR, conducts 2023 first semi-annual groundwater monitoring event for the SWMU No. 1 and site-wide groundwater sampling event.
December 2022	Golder (now WSP), on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (December 15, 2022); UPRR submits 3rd Quarter 2022 DNAPL Recovery Report dated December 22, 2022 to TCEQ; UPRR submits First Semi-Annual 2022 Site-Wide Groundwater Monitoring Report dated December 28, 2022 to TCEQ; Golder, on behalf of UPRR, submits the Updated Baseline Soil Assessment Report dated December 2, 2022.
November 2022	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (November 15, 2022).
October 2022	TCEQ issues approval dated October 7, 2022 of Baseline Soil Assessment dated September 19, 2022 and proposed additional soil sampling. Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (October 17, 2022); UPRR contractor OMI conducts repairs to soil cap. TCEQ issues approval dated October 25, 2022 of Corrective Action Monitoring Report: 2022 First Semi-Annual Event dated July 15, 2022.
September 2022	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (September 15, 2022); and submits to the TCEQ the Baseline Soil Assessment – Union Pacific Railroad Englewood Intermodal Yard dated September 19, 2022.

Date	Description
August 2022	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (August 15, 2022); UPRR submits 2nd Quarter 2022 DNAPL Recovery Report dated August 23, 2022 to TCEQ;
July 2022	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (July 15, 2022); and submits the Corrective Action Monitoring Report: 2022 First Semi-Annual Event dated July 15, 2022 to the TCEQ; Golder, on behalf of UPRR, conducts 2022 second semi-annual groundwater monitoring event for the SWMU No. 1 and site-wide groundwater sampling event;
June 2022	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (June 14, 2022); UPRR contractor OMI was called out twice to the concrete cap area to pressure wash areas with brown standing water observed along asphalt joints and cracks in the pavement in A and B rows. OMI collected the fluids into a tote which was profiled and disposed of according to federal and state rules and regulations; UPRR submits 1st Quarter 2022 DNAPL Recovery Report dated June 24, 2022 to TCEQ;
May 2022	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (May 13, 2022); TCEQ holds 2nd public meeting for Permit Renewal on May 3, 2022; UPRR contractor OMI was called out twice to the concrete cap area to pressure wash areas with brown standing water observed along asphalt joints and cracks in the pavement in A and B rows. OMI collected the fluids into a tote which was profiled and disposed of according to federal and state rules and regulations. TCEQ holds public meeting on the RCRA Permit Renewal at the Deluxe Theater on May 3, 2022.
April 2022	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (April 13, 2022); Golder, on behalf of UPRR, submits the City of Houston Storm Water Sewer Assessment dated April 29, 2022.
March 2022	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (March 15, 2022); submits 3rd Quarter 2021 DNAPL Recovery Report dated March 3, 2022 to TCEQ; submits 4th Quarter 2021 DNAPL Recovery Report dated March 9, 2022 to TCEQ; and submits Annual PRACR for 2021 on March 30, 2022. UPRR submits Site-wide 2021 Groundwater Monitoring Report dated March 31, 2022 to TCEQ.
February 2022	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (February 14, 2022); TCEQ issues approval dated February 16, 2022 of Corrective Action Monitoring Report: 2021 Second Semi-Annual Event dated January 10, 2022.
January 2022	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (January 18, 2022); and submits to the TCEQ the Corrective Action Monitoring Report: 2021 Second Semi-Annual Event dated January 10, 2022; WSP, on behalf of UPRR, conducts 2022 first semi-annual groundwater monitoring event for the SWMU No. 1 and site-wide groundwater sampling event. TCEQ issues

Date	Description
	Comment Letter dated January 26, 2022 on Interim Groundwater Monitoring Report (July 2020), dated April 30, 2021, Englewood Intermodal Yard (EIY) Test Pit Evaluation Report, dated June 2, 2021, and Corrective Action Monitoring Report, 2021 First Semi-Annual Event, dated July 9, 2021.
December 2021	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (December 14, 2021);
November 2021	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (November 15, 2021).
October 2021	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (October 15, 2021). UPRR contractor United States Environmental Services (USES) was called to the concrete cap area to pressure wash areas where track marks from seep material was observed. USES collected the fluids into a tote which was profiled and disposed of according to federal and state rules and regulations. UPRR contractor US Ecology removed the damaged test pit concrete at the July 2020 test pit locations and completed installation of new rebar and concrete patches.
September 2021	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (September 15, 2021).
August 2021	TCEQ issues Comment Letter dated August 10, 2021 on Englewood Yard - North Bypass Soil Management Plan (SMP), dated April 12, 2021; and Stormwater Pollution Prevention Plan (SWPPP), UP Englewood Yard North Bypass Construction Project, dated July 8, 2021. UPRR, Golder, and TCEQ held a conference call on August 12, 2021 to discuss comment letter. Golder provided additional information requested during the call on August 13, 2021. On August 12, 2021, TCEQ, UPRR, Golder, and the City of Houston (Public Works) hold a conference call to discuss the Proposed City of Houston Storm Water Sewer Assessment Work Plan dated July 12, 2021.UPRR submits the PRACR Monthly Update to the TCEQ (August 13, 2021).
July 2021	Golder, on behalf of UPRR, submits 2nd Quarter 2021 DNAPL Recovery Report dated July 28, 2021 to TCEQ; UPRR submits the PRACR Monthly Update to the TCEQ (July 15, 2021); UPRR submits to the TCEQ the Corrective Action Monitoring Report: 2021 First Semi-Annual Event dated July 9, 2021. Golder, on behalf of UPRR, conducts 2021 second semi-annual groundwater monitoring event for the SWMU No. 1 and site-wide groundwater sampling event; Golder, on behalf of UPRR, submits Proposed City of Houston Storm Water Sewer Assessment Work Plan dated July 12, 2021 to the TCEQ.
June 2021	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (June 15, 2021); TCEQ holds public meeting (on-line) for the RCRA Permit Renewal on June 21, 2021; Golder, on behalf of UPRR, submitted to the TCEQ

Date	Description
	the Englewood IM Yard Test Pit Evaluation Report dated June 2, 2021 summarizing the findings from the test pits installed in July 2020.
May 2021	Golder, on behalf of UPRR, submits 1st Quarter 2021 DNAPL Recovery Report dated May 14, 2021 to TCEQ. UPRR submits the PRACR Monthly Update to the TCEQ (May 14, 2021); UPRR contractor United States Environmental Services (USES) was called to the concrete cap area to pressure wash areas with brown standing water observed along asphalt joints and cracks in the pavement in A and B rows. USES collected the fluids into a tote which was profiled and disposed of according to federal and state rules and regulations.
April 2021	TCEQ sends Final Draft Permit Renewal with Major Amendment to UPRR in letter dated April 19, 2021. UPRR submits Notification of Planned Construction Activities for North By-Pass Project on April 23, 2021, including Soil Management Plan; UPRR submits the PRACR Monthly Update to the TCEQ (April 15, 2021). UPRR submits Site-wide Groundwater Monitoring Report (July 2020) dated April 30, 2021 to TCEQ. TCEQ, UPRR, and Golder on conference call to discuss Liberty Road Storm Sewer Survey work completed by the City of Houston on April 22, 2021. TCEQ forwards the files that the City of Houston provided regarding the storm sewer survey on April 22, 2021.
March 2021	Golder, on behalf of UPRR submits the PRACR Monthly Update to the TCEQ (March 17, 2021); UPRR submits Annual PRACR for 2020 on March 29, 2021.
February 2021	Golder, on behalf of UPRR submits the PRACR Monthly Update to the TCEQ (February 12, 2021); UPRR submits 4th Quarter DNAPL Recovery Report dated February 12, 2021. TCEQ, UPRR, and Golder holds conference call on February 9, 2021 to discuss Responses to Comments and Final Draft Permit.
January 2021	The TCEQ approved the extension for submitting additional information on the proposed engineering project at the Site via email dated January 7, 2021. UPRR submits additional information for the TCEQ Initial Draft Permit (IDP) with Response Action Plan (RAP) Revision 7 dated January 15, 2021; Golder, on behalf of UPRR submits to the TCEQ the Corrective Action Monitoring Report: 2020 Second Semi-Annual Event dated January 14, 2021; UPRR submits the PRACR Monthly Update to the TCEQ for December 2020 (January 20, 2021); Golder, on behalf of UPRR, conducts 2021 first semi-annual groundwater monitoring event for the SWMU No. 1 and site-wide groundwater sampling event.
December 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for November 2020 (December 10, 2020); TCEQ issues IDP on December 7, 2020 via email; A conference call between TCEQ, UPRR, and Golder is held on December 21, 2020 to discuss a planned UPRR engineering railroad project that may disturb portions of the soil, asphalt, and railroad ballast cap areas; UPRR submits comments on IDP on December 22, 2020 with an extension request to

Date	Description
	submit additional information regarding the engineering project by January 15, 2021.
November 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for October 2020 (November 19, 2020); UPRR submits the 3rd Quarter 2020 DNAPL Recovery Activities Quarterly Report to the TCEQ.
October 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for September 2020 (October 20, 2020); UPRR submits RAP Revision 6 dated October 26, 2020 in response to conference call between TCEQ, UPRR, and Golder on October 12, 2020.
September 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for August 2020 (September 16, 2020).
August 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for July 2020 (August 19, 2020); UPRR submits the RCRA Part A and B Permit Renewal Application with RAP Revision 5 to the TCEQ dated August 31, 2020 in response to the Technical Notice of Deficiency (TNOD) dated April 11, 2019; UPRR submits the 2nd Quarter 2020 DNAPL Recovery Activities Quarterly Report to the TCEQ.
July 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for June 2020 (July 10, 2020); UPRR submits Updated Pentachlorophenol Soil Assessment Interim Report dated July 14, 2020 and Updated Soil Vapor Intrusion Assessment Interim Report dated August 4, 2020 to the TCEQ; UPRR submits to the TCEQ the Corrective Action Monitoring Report: 2020 First Semi-Annual Event dated July 6, 2020; Golder, on behalf of UPRR, conducts 2020 second semi-annual groundwater monitoring event for the SWMU No. 1 and site-wide groundwater sampling event.
June 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for May 2020 (June 2, 2020); UPRR installs additional soil gas probes to evaluate potential vapor intrusion (VI) pathway and collects additional soil samples for PCP assessment; UPRR submits the 1st Quarter 2020 DNAPL Recovery Activities Quarterly Report to the TCEQ.
May 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for April 2020 (May 8, 2020); UPRR contractor United States Environmental Services (USES) was called to the concrete cap area to pressure wash areas with brown standing water observed along asphalt joints and cracks in the pavement in A and B rows. USES collected the fluids into a tote which was profiled and disposed of according to federal and state rules and regulations; UPRR submits the non-aqueous phase liquid (NAPL) and total petroleum hydrocarbon (TPH)-NAPL interim report dated May 29, 2020 and prepared by Golder on behalf of UPRR to TCEQ; UPRR submits Bimonthly Status Update of Sampling Activities to TCEQ (May 15, 2020); UPRR submits Response to TCEQ Approval with Comments Letter Dated April 23, 2020 on Soil Vapor Intrusion Assessment

Date	Description
	Report (May 1, 2020) and Response to TCEQ Approval with Comments Letter Dated April 23, 2020 on Pentachlorophenol Soil Assessment Report (May 8, 2020); Golder, on behalf of UPRR, conducts second sampling event of monitoring wells installed in 2020.
April 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for March 2020 (April 3, 2020); UPRR submits Interim Groundwater Monitoring Report (2019-2020) to TCEQ (April 30, 2020); TCEQ issues Approval with Comments Letters dated April 23, 2020 on Soil Vapor Intrusion Assessment Interim Report dated March 31, 2020 and Pentachlorophenol Soil Assessment Interim Report dated March 30, 2020.
March 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for February 2020 (March 5, 2020); UPRR completes monitoring well installation activities and sampling of newly installed wells after development; UPRR submits Soil Vapor Intrusion Assessment Interim Report dated March 31, 2020 to TCEQ; UPRR submits Pentachlorophenol Soil Assessment Interim Report dated March 30, 2020 to TCEQ; UPRR submits the 4th Quarter 2019 DNAPL Recovery Activities Quarterly Report to the TCEQ
February 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for January 2020 (February 5, 2020); UPRR continues TPH/NAPL assessment activities and vapor intrusion assessment activities; UPRR begins monitoring well installation activities; UPRR conducts soil sampling for pentachlorophenol analysis; UPRR submits extension request letter dated February 7, 2020 to TCEQ; TCEQ grants extension request in letter dated February 21, 2020; UPRR submits Bi-monthly status update of sampling activities to the TCEQ (February 28, 2020)
January 2020	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ for December 2019 (January 15, 2020); UPRR continues TPH/NAPL assessment activities and begins vapor intrusion assessment activities; UPRR submits revised vapor intrusion work plan dated January 2, 2020 to the TCEQ which is approved by the TCEQ in a letter dated January 3, 2020; UPRR submits additional revisions to the vapor intrusion work plan on January 31, 2020; UPRR submits to the TCEQ the Corrective Action Monitoring Report: 2019 Second Semi-Annual Event dated January 17, 2020; Golder, on behalf of UPRR, conducts 2020 first semi-annual groundwater monitoring event for the SWMU No. 1 and site-wide groundwater sampling event.
December 2019	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (December 6, 2019); TCEQ issues a comment letter dated December 13, 2019 in response to UPRR Response to TCEQ Additional Comment Letter dated October 23, 2019 and to request a meeting on December 19, 2019; Golder submits the bi-monthly status update of sampling activities to the TCEQ in a letter dated December 13, 2019. Meeting with UPRR, Golder, and TCEQ to discuss TCEQ Additional Comment Letter on December 19, 2019. Based on that meeting, Golder on behalf of UPRR, submitted the Proposed Vapor Intrusion Assessment

Date	Description
	Work Plan (VI Work Plan) dated December 20, 2019 to the TCEQ for review. The TCEQ issued a comment letter on the Work Plan dated December 23, 2019. A revised VI Work Plan was submitted to the TCEQ on January 2, 2020 and was approved by the TCEQ in a letter dated January 3, 2020.
November 2019	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (November 5, 2019); UPRR submits the 3rd Quarter 2019 DNAPL Recovery Activities Quarterly Report to the TCEQ.
October 2019	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (October 3, 2019); UPRR submits a response letter dated October 23, 2019 to the TCEQ's letter dated September 6, 2019 providing additional comments for the 4th Technical NOD.
September 2019	Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (September 4, 2019); UPRR receives additional comments on the 4th TNOD dated September 6, 2019 from the TCEQ; Meeting with UPRR, Golder, and TCEQ to discuss additional comments on the 4th Technical NOD on September 23, 2019. Golder on behalf of UPRR submits the Waterline Leak Release Response Report for the water leak discussed below dated September 18, 2019 to the TCEQ Region 12.
August 2019	TCEQ issues a comment letter dated August 9, 2019 on the PRACR Monthly Update dated July 31, 2019. On August 9, 2019, a contractor opened a valve to an abandoned water line that is located beneath the Soil Cap at the Site. This led to water emanating from the location of a former fire hydrant that was present prior to the construction of the soil cap. Water flowed through the capped soils, up through the soil cap, and over the soil cap to the south-southeast, across an asphalt road, and then to a ditch along the railroad tracks. The water flowed down the ditch approximately 200 yards to the northeast to Liberty Road and under the Lockwood Drive Bridge. UPRR was notified of the water leak on the morning of August 10, 2019 and emergency response activities were initiated. Once the source of the water was identified, the valve was closed at approximately 10:36 am on August 10, 2019. Because the water may have come into contact with contaminated soils, UPRR promptly reported the incident and subsequent release to the TCEQ (Spill Report No. 20192773 and NRC Report No. 1254765) upon discovery and began the initial spill response actions on August 10, 2019.
July 2019	UPRR submits the RCRA Part A and B Permit Renewal Application (Revision No. 5) with RAP (Revision No. 4) the TCEQ dated July 10, 2019 in response to the TNOD Letter dated April 11,2019; Golder, on behalf of UPRR, submits the PRACR Monthly Update to the TCEQ (July 31, 2019). Golder submits to the TCEQ the Corrective Action Monitoring Report: 2019 First Semi-Annual Event dated July 11, 2019; Golder conducts 2019 second semi-annual groundwater monitoring event for the SWMU No. 1 and site-wide groundwater sampling event.

Date	Description
June 2019	UPRR receives letter granting extension to July 10, 2019 for submittal of response to 4th TNOD Letter dated April 11, 2019 from the TCEQ; Meeting with UPRR, Golder, and TCEQ to discuss 4th Technical NOD on June 12, 2019; Golder submits the 1st Quarter 2019 DNAPL Recovery Activities Quarterly Report to the TCEQ; and Golder submits the PRACR Monthly Update to the TCEQ (June 28, 2019).
May 2019	UPRR submits an Extension Request for response to 4th Technical NOD Letter dated April 11, 2019 to TCEQ; UPRR installs additional well as requested in 4th Technical NOD letter; and Golder submits the PRACR Monthly Update to the TCEQ (May 31, 2019).
April 2019	UPRR receives 4th Technical NOD dated April 11, 2019 from the TCEQ; Meeting with UPRR, Golder and TCEQ to discuss 4th Technical NOD on April 24, 2019; and Golder submits the PRACR Monthly Update to the TCEQ (April 30, 2019).
March 2019	UPRR submits Response Action Completion Report (RACR) summarizing the NAPL Collection System installation in the Englewood Intermodal Yard with the HWPW Site; and Golder submits the PRACR Monthly Update to the TCEQ (March 29, 2019).
February 2019	TCEQ issues a comment letter dated February 6, 2019 on the Response to Comments dated January 9, 2019; Golder completes the interim remedial activities by installing the non-aqueous phase liquid (NAPL) collection system; and Golder submits the PRACR Monthly Update to the TCEQ (February 28, 2019) that includes a response to TCEQ comment letter dated February 6, 2019. The response includes details on the proposed additional total petroleum hydrocarbon (TPH) assessment in soils at the UPRR Englewood Intermodal Yard within the Houston Wood Preserving Works (HWPW) Site.
July 2009	PBW submits APAR Addendum to TCEQ.
January 2009	PBW conducts additional soil and groundwater investigation.
July 2008	PBW conducts additional CPT-ROST and groundwater investigation
January 2007	PBW conducts additional soil and groundwater investigation
August 2006	ERM-Southwest, Inc. (ERM) conducted additional soil and groundwater investigation
April 2006	ERM conducted additional soil and groundwater investigation
September 6, 2005	UPRR Response to TCEQ Response Letter dated August 1, 2005
August 2005	TCEQ Response to UPRR Response Letter dated June 9, 2005

Date	Description
June 9, 2005	UPRR Response to TCEQ Letter dated April 15, 2005
April 15, 2005	TCEQ Response to UPRR Response Letter dated November 19, 2004
November 19, 2004	UPRR Response to October 8, 2004 TCEQ Letter
October 8, 2004	TCEQ Comment Letter on Revised APAR
June 10, 2004	Revised APAR submitted to the TCEQ by ERM, Inc. on behalf of UPRR
November 7, 2001	Texas Natural Resources Conservation Commission (TNRCC) provides comments to July 5, 2001 response letter.
July 5, 2001	Follow-up response to November 6, 2000 TNRCC comment letter on the On-Site APAR submitted to TNRCC on behalf of UPRR.
January 9, 2001	Initial response to November 6, 2000 TNRCC comments.
November 6, 2000	TNRCC provides comments to On-Site APAR.
July 10, 2000	Affected Property Assessment Report for On-Site Property (On-Site APAR) submitted to TNRCC on behalf of UPRR by ERM.
February 20, 2000	Letter submitted to the TNRCC regarding proposed Phase 2-C investigation for further delineation of off-site areas
September 10, 1999	Phase 2-B RFI/EOC Investigation Report submitted to TNRCC on behalf of UPRR by ERM
April 27, 1998	Interim Stabilization Measures Report – Southern Drainage Ditch, submitted to TNRCC on behalf of UPRR by ERM
February 13, 1998	Phase 2-A RFI/EOC Investigation Report submitted to TNRCC on behalf of UPRR by ERM
January 13, 1997	RFI portion of the Phase 1 RFI/EOC Investigation Report approved by TNRCC
November 26, 1996	EOC portion of the Phase 1 RFI/EOC Investigation Report approved by TNRCC
May 23, 1996	Phase 1 RFI/EOC Report submitted on behalf of Southern Pacific Transportation Company (SPTCo) by Terranext
October 16, 1995	RFI Work Plan approved by TNRCC
September 29, 1995	EOC Work Plan approved by TNRCC

Date	Description
January 10, 1995	Operation and Maintenance Plan approved by TNRCC
November 3, 1994	Revised Compliance Schedule approved by TNRCC
October 14, 1994	RCRA Facility Investigation (RFI) Work Plan submitted on behalf of SPTCo
September 16, 1994	Extent of Contamination (EOC) Work Plan submitted on behalf of SPTCo
September 7, 1994	Revised Compliance Schedule submitted on behalf of SPTCo
August 19, 1994	Operation and Maintenance Plan and Compliance Schedule submitted on behalf of SPTCo
June 20, 1994	Permit No. HW-50343-000 and Compliance Plan CP-50343-000 issued by TNRCC.
October 1993	RCRA Facility Assessment completed on behalf of U.S. EPA by PRC Environmental Management, Inc.
May 13, 1991	RCRA Permit Application submitted by SPTCo

Note: Not all groundwater sampling events are listed in the chronology

ATTACHMENT A

2024 QUARTERLY INSPECTION RECORDS AND PHOTOGRAPHIC LOGS

ATTACHMENT A1

FIRST QUARTER 2024 (JANUARY 19th) INSPECTION RECORD AND PHOTOGRAPHIC LOG

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
1	01/19/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap well-vegetated in most areas. No major erosion or ruts observed during inspection. Minor stress on vegetation due to the hard freeze cold season. Facing southwest.

Lat: 29.787189
Long: -95.318653

Photo No.	Date:
2	01/19/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap well-vegetated in most areas. No major erosion or ruts observed during inspection. Minor stress on vegetation due to the hard freeze cold season. Facing southeast.

Lat: 29.786494
Long: -95.320214

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
3	01/19/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap well-vegetated in most areas. No major erosion or ruts observed during inspection. Minor stress on vegetation due to the hard freeze cold season. Facing northeast.

Lat: 29.787447
Long: -95.317292

Photo No.	Date:
4	01/19/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap is well-vegetated in most areas. The electric pole fell on the soil cap. Facing east.

Lat: 29.787514
Long: -95.316794

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
5	01/19/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap is well-vegetated in most areas. The electric pole is being removed from the soil cap. Facing northeast.

Lat: 29.787544
Long: -95.316747

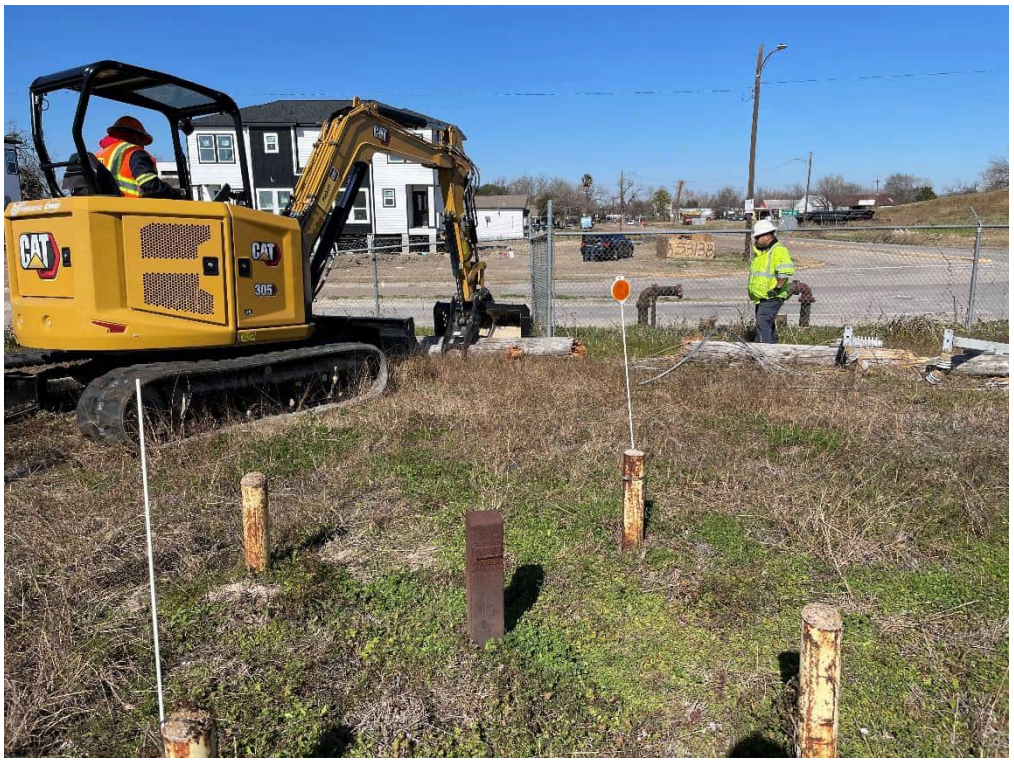


Photo No.	Date:
6	01/19/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap asphalt cap, and ballast cap in good condition. Minor trash is seen. Facing west.

Lat: 29.787375
Long: -95.317003

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
7	01/19/2024

Description:

HWPW Yard Area and Soil Cap:

Erosion of soil from joints of concrete jersey at west signal bridge bumpout. Observed near east, central, and west signal bridge bumpouts. Facing south.

Lat: 29.785911
Long: -95.320494

Photo No.	Date:
8	01/19/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap well-vegetated in most areas. Minor stress on vegetation due to the hard freeze cold season. Facing south.

Lat: 29.787189
Long: -95.318650

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
9	01/19/2024

Description:

Asphalt Road Cap and Railroad Ballast Cap:

Asphalt roadway and ballast cap in good condition. Vegetation not observed between Asphalt roadway and Ballast Cap. Facing west.

Lat: 29.787475
Long: -95.316708

Photo No.	Date:
10	01/19/2024

Description:

Asphalt Road Cap and Railroad Ballast Cap:

Asphalt roadway and ballast cap in good condition. Facing east.

Lat: 29.786586
Long: -95.318669

Client Name: Union Pacific Railroad	Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. US0039040.4227

Photo No. 11	Date: 01/19/2024

Description:

Asphalt Road Cap and Railroad Ballast Cap:

Ballast cap and Asphalt roadway in good condition. Facing east.

Lat: 29.784422
Long: -95.323742

Photo No. 12	Date: 01/19/2024

Description:

Railroad Ballast Cap:

Ballast cap in good condition. Facing southeast.

Lat: 29.786572
Long: -95.318786

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
13	01/19/2024

Description:

Concrete Sidewalk Cap and Perimeter Fence:

Sidewalk outside security fence in good condition. Facing east.

Lat: 29.787561
Long: -95.318931

Photo No.	Date:
14	01/19/2024

Description:

Concrete Sidewalk Cap and Perimeter Fence:

Sidewalk outside security fence in good condition. Facing west.

Lat: 29.787639
Long: -95.316964

Client Name: Union Pacific Railroad	Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. US0039040.4227

Photo No. 15	Date: 01/19/2024

Description:

Concrete Cap (Englewood Intermodal Yard):

Concrete cap within yard in good condition. Some cracking and potholes, with minimal vegetative growth. Facing west.

Lat: 29.785647
Long: -95.318197

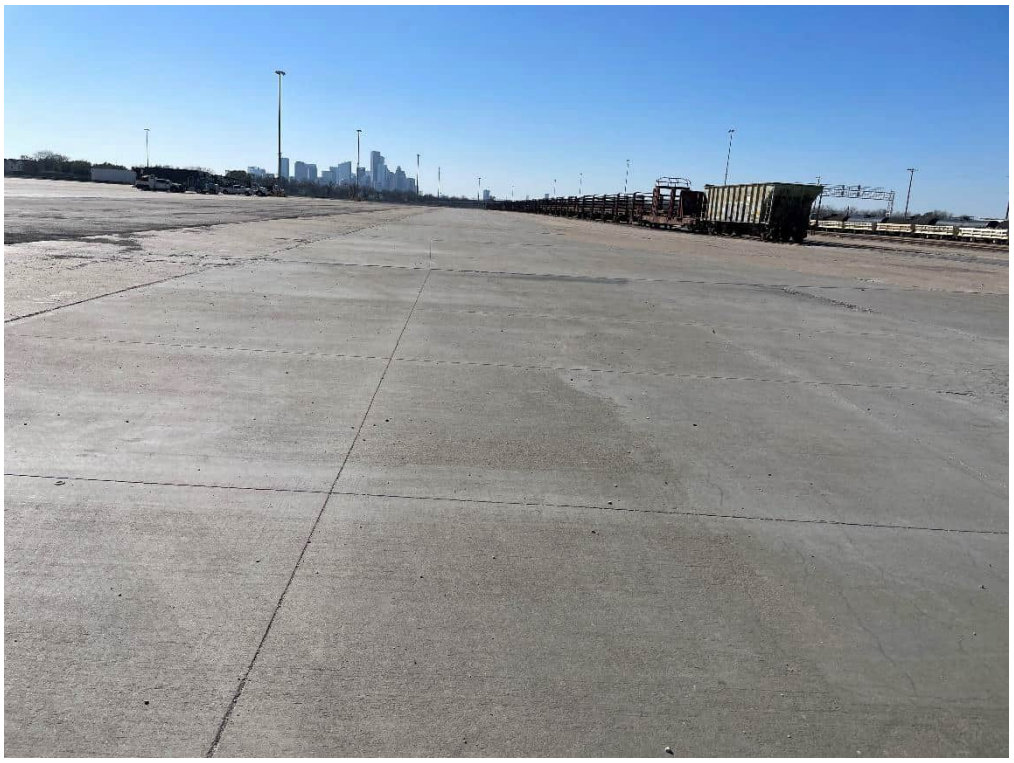


Photo No. 16	Date: 01/19/2024

Description:

Concrete Cap (Englewood Intermodal Yard):

Stall A006. Crack on concrete pavement. Facing west.

Lat: 29.785639
Long: -95.318214

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
17	01/19/2024

Description:

Concrete Cap (Englewood Intermodal Yard):

Cracking in concrete in stalls A010 and A011, at former test pit (TP-07) location. Facing west.

Lat: 29.785531
Long: -95.318378

Photo No.	Date:
18	01/19/2024

Description:

Concrete Cap (Englewood Intermodal Yard):

Cracking in concrete in stalls A066 and A067. Facing west.

Lat: 29.784861
Long: -95.319939

PHOTOGRAPH LOG

Client Name: Union Pacific Railroad	**Site Location:** Englewood Intermodal Yard, Houston, Texas	**Project No.** US0039040.4227

Photo No. 19	**Date:** 01/19/2024

Description:

Concrete Cap (Englewood Intermodal Yard):

Cracking in concrete stalls A101 and A102. Facing west.

Lat: 29.784436
Long: -95.320944

Photo No. 20	**Date:** 01/19/2024

Description:

Concrete Cap (Englewood Intermodal Yard):

Black tar visible at the concrete joint at stall B107 at the NAPL Collection System. Facing east.

Lat: 29.784133
Long: -95.320997

PHOTOGRAPH LOG

Client Name: Union Pacific Railroad	**Site Location:** Englewood Intermodal Yard, Houston, Texas	**Project No.** US0039040.4227

Photo No. 21	**Date:** 01/19/2024

Description:

Concrete Cap (Englewood Intermodal Yard):

Black tar visible on the concrete pavement surface between railway lines. Facing west.

Lat: 29.785044
Long: -95.321258

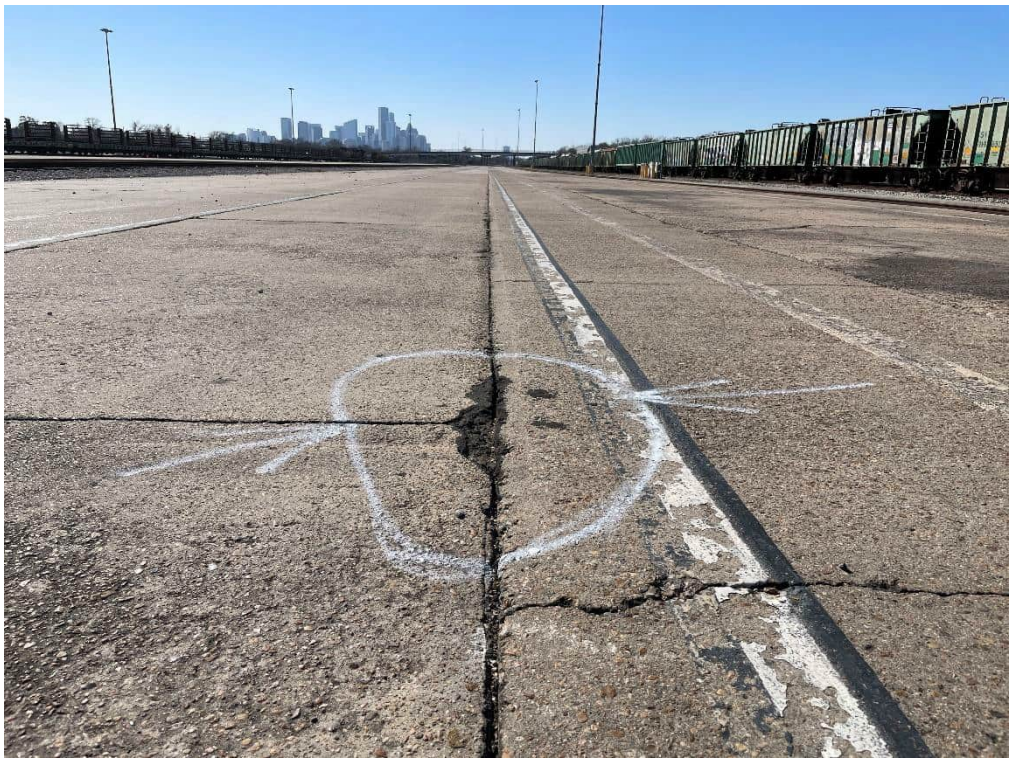


Photo No. 22	**Date:** 01/19/2024

Description:

Concrete Cap (Englewood Intermodal Yard):

Black tar seepage in concrete pavement joint at stall B102. Facing west.

Lat: 29.784203
Long: -95.320844

PHOTOGRAPH LOG

Client Name:	**Site Location:**	**Project No.**
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	**Date:**
23	01/19/2024

Description:

Concrete Cap (Englewood Intermodal Yard):

Expansion joint crack on the concrete pavement along north-south directions. Facing north.

Lat: 29.783494
Long: -95.321278

ATTACHMENT A2

SECOND QUARTER 2024 (APRIL 24th) INSPECTION RECORD AND PHOTOGRAPHIC LOG

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
1	04/24/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap is well-vegetated in most areas. No major erosion or ruts were observed during the inspection. Facing West.

Lat: 29.786667
Long: -95.319167

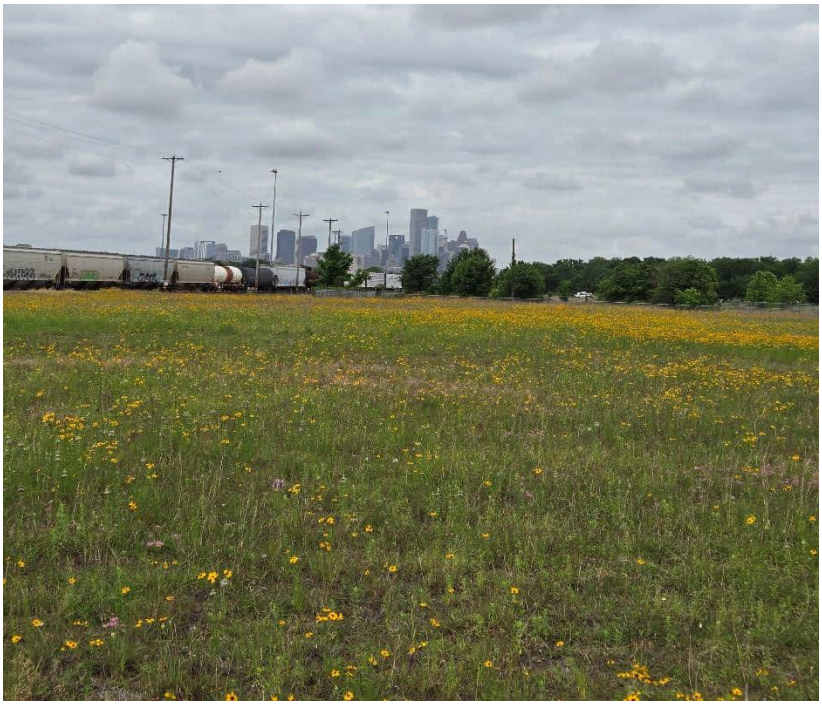


Photo No.	Date:
2	04/24/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap is well-vegetated in most areas. No major erosion or ruts were observed during the inspection. Grass needs to be trimmed. Facing East.

Lat: 29.786667
Long: -95.318889

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
3	04/24/2024

Description:

HWPW Yard Area and Soil Cap:

Minor insect burrows in the soil cap. Good coverage of pollinator plants.

Lat: 29.786667
Long: -95.320000

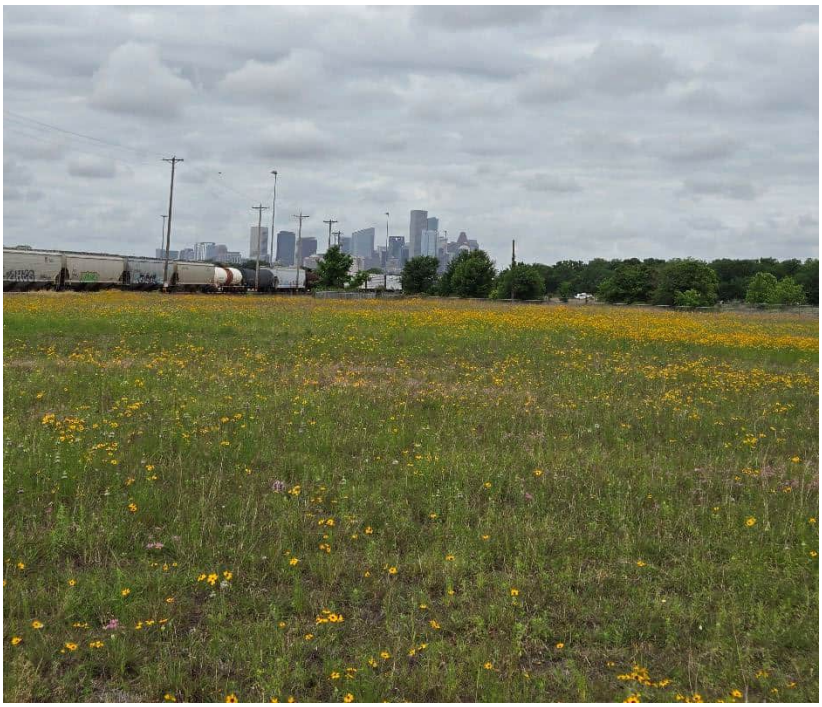
Photo No.	Date:
4	04/24/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap is well-vegetated in most areas. Facing West.

Lat: 29.786667
Long: -95.319167



PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
5	04/24/2024

Description:

HWPW Yard Area and Soil Cap:

Signal bridge bump-outs (from North By-Pass Project) are in good condition. Minor trash was seen. Facing Northeast.

Lat: 29.785833
Long: -95.320556

Photo No.	Date:
6	04/24/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap well vegetated. MW 23C is in good condition and locked. Facing West.

Lat: 29.786944
Long: -95.319167

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
7	04/24/2024

Description:

HWPW Yard Area and Soil Cap:

Inside of perimeter fence facing West. Vegetation along fence line needs to be cut.

Lat: 29.785833
Long: -95.320556

Photo No.	Date:
8	04/24/2024

Description:

HWPW Yard Area and Soil Cap:

Inside of perimeter fence facing East. Vegetation along fence line needs to be cut.

Lat: 29.785833
Long: -95.320556

Client Name: Union Pacific Railroad	Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. US0039040.4227

Photo No. 9	Date: 04/24/2024

Description:

Asphalt Roadway and Ballast Cap:

Asphalt roadway in good condition at the signal bridge bump-out area, free of major cracking/damage. Vegetation not observed between asphalt roadway and ballast Cap. Facing West.

Lat: 29.787500
Long: -95.316667

Photo No. 10	Date: 04/24/2024

Description:

Asphalt Roadway and Ballast Cap:

Asphalt roadway and ballast in good condition. Facing East.

Lat: 29.786667
Long: -95.318611

Client Name: Union Pacific Railroad	Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. US0039040.4227

Photo No. 11	Date: 04/24/2024

Description:

Asphalt Roadway and Ballast Cap:

Asphalt roadway at signal bridge bump out and ballast in good condition. Facing southeast.

Lat: 29.786550
Long: -95.318984

Photo No. 12	Date: 04/24/2024

Description:

Asphalt Roadway and Ballast Cap:

Railroad Ballast Cap in good condition. Facing South.

Lat: 29.784444
Long: -95.323611

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
13	04/24/2024

Description:

Perimeter Fence:

Security fence in good condition. Facing east.

Lat: 29.787500
Long: -95.318889

Photo No.	Date:
14	04/24/2024

Description:

Perimeter Fence:

Security fence in good condition. Facing west.

Lat: 29.787500
Long: -95.316944

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
15	04/24/2024

Description:

Concrete Cap Area (Englewood Yard):

Concrete cap within the yard in good condition (Row D). Facing West.

Lat: 29.785556
Long: -95.318333

Photo No.	Date:
16	04/24/2024

Description:

Concrete Cap Area (Englewood Yard):

Crack on concrete on stall B13 (Test Pit TP-06) . Facing West.

Lat: 29.785556
Long: -95.318333

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
17	04/24/2024

Description:

Concrete Cap Area (Englewood Yard):

Cracking in concrete in stalls A011 to A013. Facing East.

Lat: 29.785556
Long: -95.318333

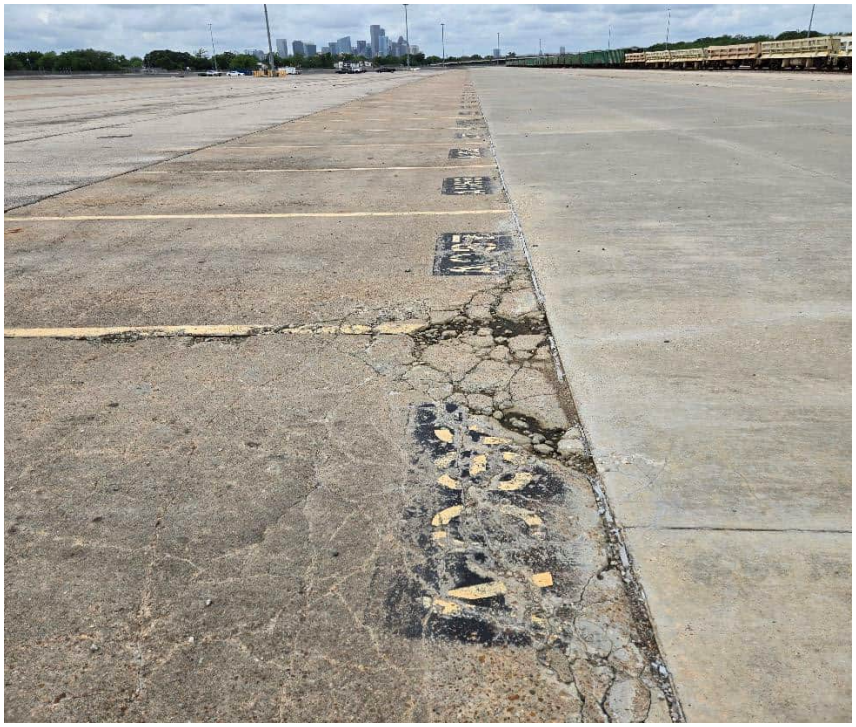
Photo No.	Date:
18	04/24/2024

Description:

Concrete Cap Area (Englewood Yard):

Cracking in concrete in stalls A066 and A067. Facing West.

Lat: 29.784861
Long: -95.320000



PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
19	04/24/2024

Description:

Concrete Cap Area (Englewood Yard):

Cracking in concrete stalls A70 and A71. Facing West.

Lat: 29.784444
Long: -95.320833

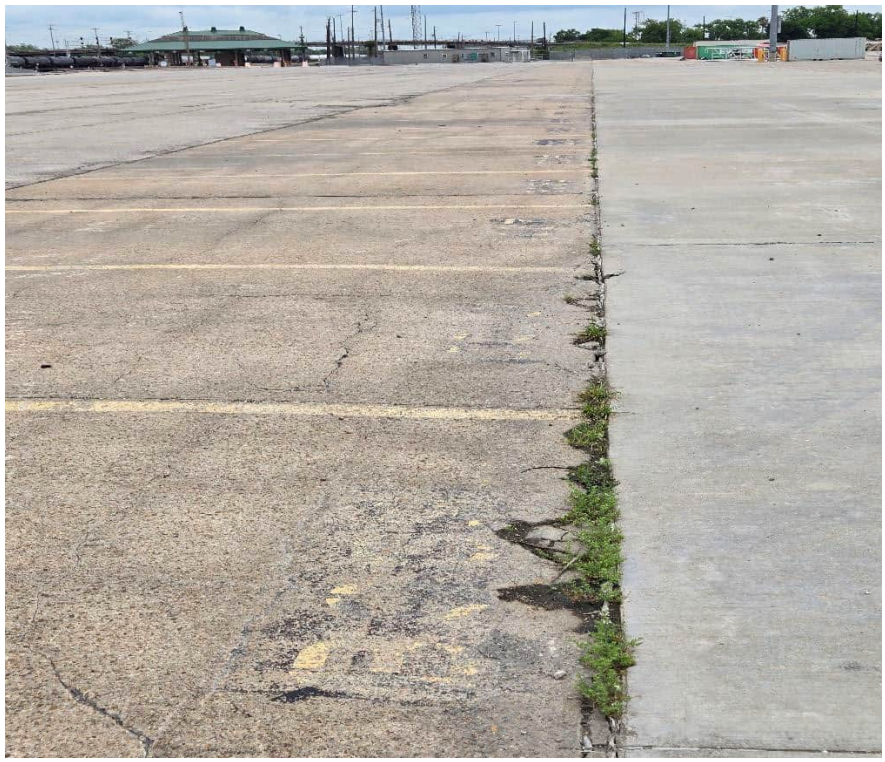
Photo No.	Date:
20	04/24/2024

Description:

Concrete Cap Area (Englewood Yard):

Vegetation along joints along stall B60 to B70. Facing East.

Lat: 29.784167
Long: -95.321111



PHOTOGRAPH LOG

Client Name: Union Pacific Railroad	Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. US0039040.4227

Photo No. 21	Date: 04/24/2024

Description:

Concrete Cap Area (Englewood Yard):

Ballast cover around the rail tracks are in good condition. No visible intrusion of grass. Facing Southwest.

Lat: 29.785000
Long: -95.321111

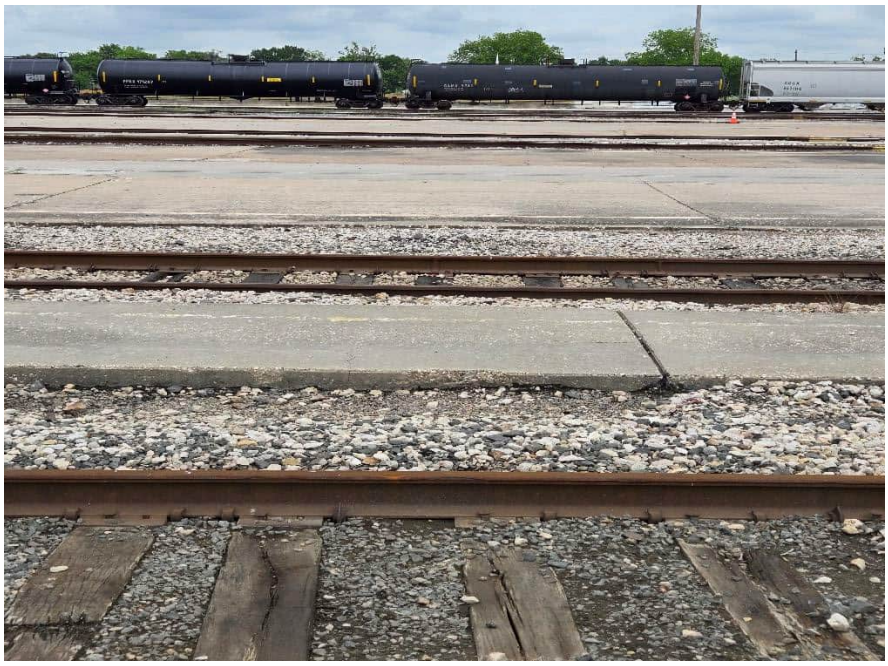


Photo No. 22	Date: 04/24/2024

Description:

Concrete Cap Area (Englewood Yard):

Puddle of water in low lying area in the middle of Row F and Row G, that does not drain. Facing North.

Lat: 29.784167
Long: -95.320833

PHOTOGRAPH LOG

Client Name: Union Pacific Railroad	**Site Location:** Englewood Intermodal Yard, Houston, Texas	**Project No.** US0039040.4227

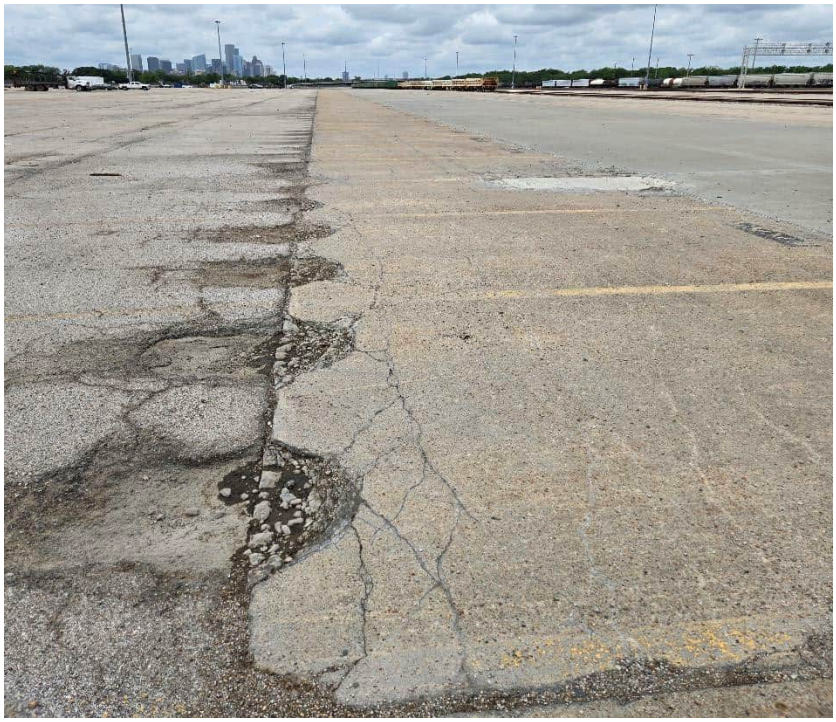
Photo No. 23	**Date:** 04/24/2024

Description:

Concrete Cap Area (Englewood Yard):

Joint crack on the concrete pavement along A19 to A23. Facing West.

Lat: 29.783333
Long: -95.321111



ATTACHMENT A3

THIRD QUARTER 2024 (JULY 24th) INSPECTION RECORD AND PHOTOGRAPHIC LOG

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Inspection Date:
1	7/24/2024

HWPW Yard Area and Soil Cap:

Soil cap well vegetated in most areas. No major erosion or ruts observed during inspection. Facing southwest.

Lat: 29.786539

Long: -95.320409

Photo No.	Inspection Date:
2	7/24/2024

HWPW Yard Area and Soil Cap:

Soil cap well vegetated in most areas, with minor bare areas. No major erosion or ruts observed during inspection. Facing southwest.

Lat: 29.786517

Long: -95.320388

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Inspection Date:
3	7/24/2024

HWPW Yard Area and Soil Cap:

Soil cap well vegetated in most areas, with minor stressed areas from tire tracks. No major erosion or ruts observed during inspection. Facing southwest.

Lat: 29.786474

Long: -95.320462

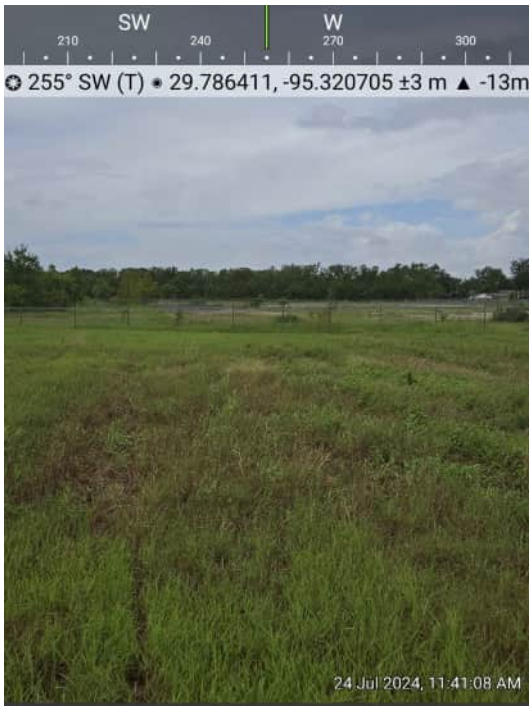
Photo No.	Inspection Date:
4	7/24/2024

HWPW Yard Area and Soil Cap:

Soil cap well vegetated in most areas. No major erosion or ruts observed during inspection. Facing southwest.

Lat: 29.786411

Long: -95.320705



	PHOTOGRAPH LOG

Client Name:	**Site Location:**	**Project No.**
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	**Inspection Date:**
5	7/24/2024

HWPW Yard Area and Soil Cap:

Soil cap well vegetated in most areas, with minor pooling. No major erosion or ruts observed during inspection. Facing southwest.

Lat: 29.786265

Long: -95.320672

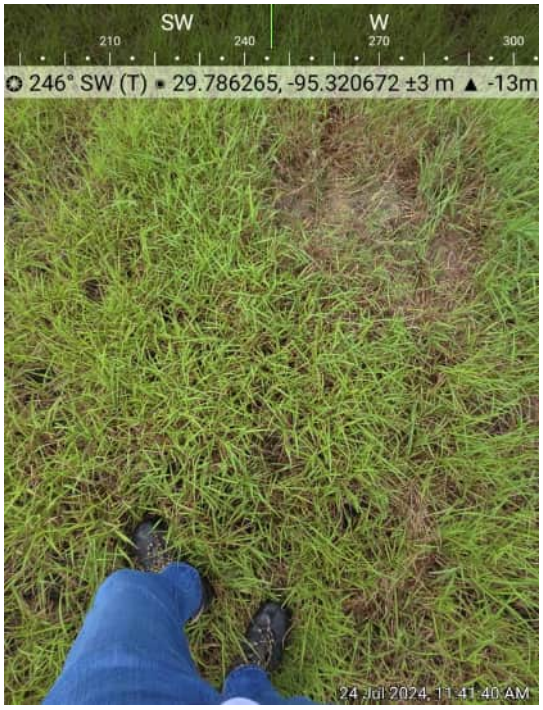


Photo No.	**Inspection Date:**
6	7/24/2024

HWPW Yard Area and Soil Cap:

Soil cap well vegetated in most areas, with minor bare areas. No major erosion or ruts observed during inspection. Facing southwest.

Lat: 29.786052

Long: -95.320582

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Inspection Date:
7	7/24/2024

HWPW Yard Area and Soil Cap:

Soil cap, asphalt cap, and ballast cap in good condition. Soil cap well vegetated along the concrete jerseys without major erosion or ruts. Facing east.

Lat: 29.785928

Long: -95.320586

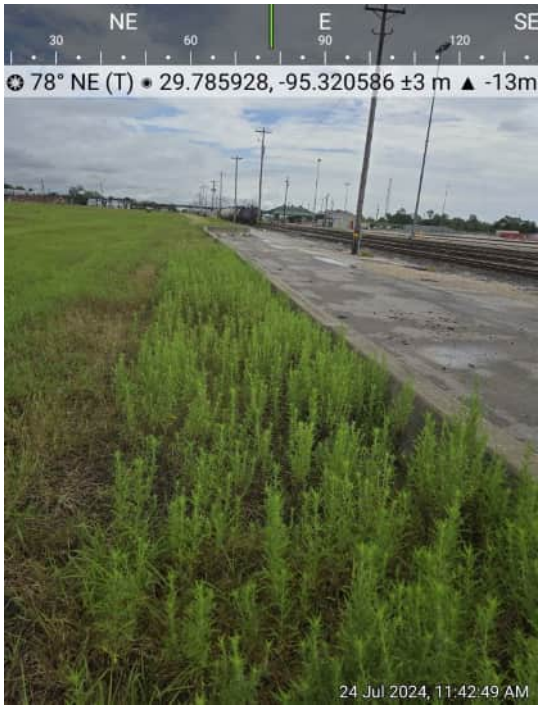


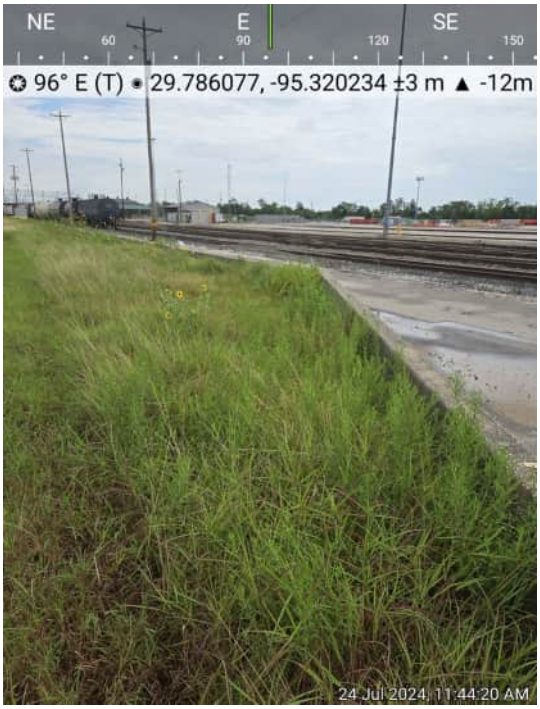
Photo No.	Inspection Date:
8	7/24/2024

HWPW Yard Area and Soil Cap:

Soil cap, asphalt cap, and ballast cap in good condition. Soil cap well vegetated along the concrete jerseys without major erosion or ruts. Facing east.

Lat: 29.786077

Long: -95.320234



wsp		**PHOTOGRAPH LOG**
Client Name: **Union Pacific Railroad**	**Site Location:** Englewood Intermodal Yard, Houston, Texas	**Project No.** US0039040.4227

Photo No.	**Inspection Date:**
9	7/24/2024

HWPW Yard Area and Soil Cap:

Soil cap well vegetated in most areas, with minor stressed areas from tire tracks. Minor pooling within tracks following recent rain event. Facing south.

Lat: 29.786262

Long: -95.319931

Photo No.	**Inspection Date:**
10	7/24/2024

HWPW Yard Area and Soil Cap:

Northern soil cap is well vegetated, growing up and over the fence. Facing northeast.

Lat: 29.787623

Long: -95.317741

wsp	**PHOTOGRAPH LOG**

Client Name:	**Site Location:**	**Project No.**
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	**Inspection Date:**
11	7/24/2024

HWPW Yard Area and Soil Cap:

Northern soil cap is well vegetated, growing up and over the fence. Facing west.

Lat: 29.787637

Long: -95.317746

Photo No.	**Inspection Date:**
12	7/24/2024

SWMU Area and Soil Cap:

Soil cap is well-vegetated in most areas. No major erosion or ruts observed during inspection. Facing north.

Lat: 29.784923

Long: -95.323980

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Inspection Date:
13	7/24/2024

SWMU Area and Soil Cap:
Soil cap is well-vegetated in most areas. No major erosion or ruts observed during inspection. Facing northwest.

Lat: 29.784947
Long: -95.324010

Photo No.	Inspection Date:
14	7/24/2024

SWMU Area and Soil Cap:
Soil cap is well-vegetated in most areas. No major erosion or ruts observed during inspection. Facing northwest.

Lat: 29.784994
Long: -95.324229

	PHOTOGRAPH LOG

Client Name:	**Site Location:**	**Project No.**
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	**Inspection Date:**
15	7/24/2024

SWMU Area and Soil Cap:

Soil cap is well-vegetated in most areas with some bare areas. No major erosion or ruts observed during inspection. Facing northwest.

Lat: 29.785171

Long: -95.324208

Photo No.	**Inspection Date:**
16	7/24/2024

SWMU Area and Soil Cap:

Soil cap is well-vegetated in most areas with minor pooling. No major erosion or ruts observed during inspection. Facing northwest.

Lat: 29.785348

Long: -95.324199

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Inspection Date:
17	7/24/2024

SWMU Area and Soil Cap:
The mesh/fencing slightly damaged/sagging on south side.

Lat: 29.785323
Long: -95.323974

Photo No.	Inspection Date:
18	7/24/2024

SWMU Area and Soil Cap:
The gate to the SWMU was in good condition with TCEQ signboard.

Lat: 29.784947
Long: -95.323922

		PHOTOGRAPH LOG
Client Name: **Union Pacific Railroad**	**Site Location:** Englewood Intermodal Yard, Houston, Texas	**Project No.** US0039040.4227

Photo No.	**Inspection Date:**
19	7/24/2024

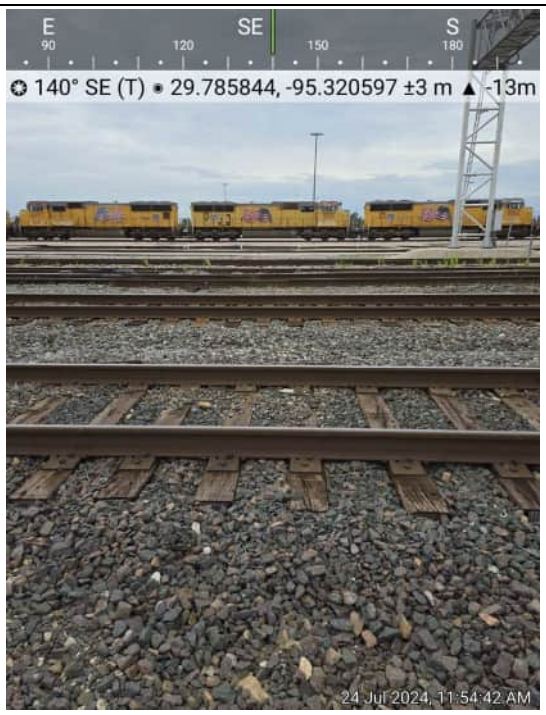
SWMU Area and Soil Cap:
Danger sign on south fence line is visible.

Lat: 29.785108
Long: -95.323956

Photo No.	**Inspection Date:**
20	7/24/2024

Asphalt Roadway and Ballast Cap:
Ballast in good condition, no soil exposed. Some vegetation observed on ballast cap.

Lat: 29.785844
Long: -95.320597



		PHOTOGRAPH LOG
Client Name: **Union Pacific Railroad**	**Site Location:** Englewood Intermodal Yard, Houston, Texas	**Project No.** US0039040.4227

Photo No.	**Inspection Date:**
21	7/24/2024

Asphalt Roadway and Ballast Cap:
Ballast in good condition, no soil exposed. Some vegetation observed on ballast cap.

Lat: 29.785801
Long: -95.320577

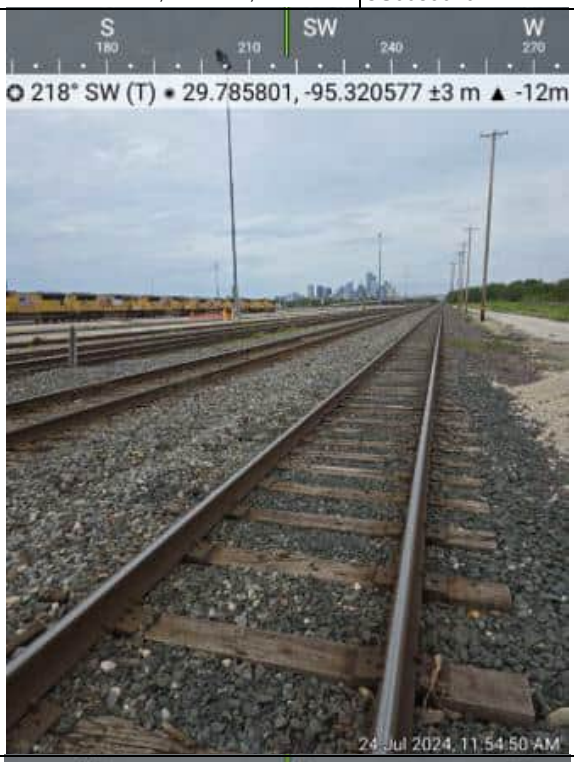


Photo No.	**Inspection Date:**
22	7/24/2024

Asphalt Roadway and Ballast Cap:
Ballast in good condition, no soil exposed. Some vegetation observed on ballast cap.

Lat: 29.785790
Long: -95.320572

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Inspection Date:
23	7/24/2024

Asphalt Roadway and Ballast Cap:
Asphalt roadway in good condition, free of major cracking/damage.

Lat: 29.785826
Long: -95.320630

Photo No.	Inspection Date:
24	7/24/2024

Asphalt Roadway and Ballast Cap:
Asphalt roadway in good condition, free of major cracking/damage. Vegetation was observed between asphalt roadway and ballast Cap. Pooling was observed within minor rutting on the asphalt pavement.
Lat: 29.785424
Long: -95.321582

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Inspection Date:
25	7/24/2024

Asphalt Roadway and Ballast Cap:

Asphalt roadway in good condition, free of major cracking/damage. Vegetation was observed between asphalt roadway and ballast Cap. Engineered low-water crossing functioning well.

Lat: 29.784563

Long: -95.323623

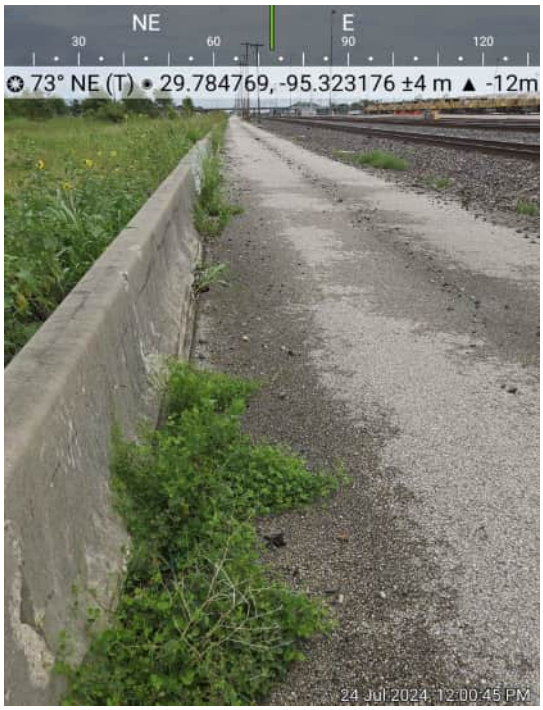
Photo No.	Inspection Date:
26	7/24/2024

Asphalt Roadway and Ballast Cap:

Asphalt roadway in good condition, free of major cracking/damage. Vegetation was observed between asphalt roadway and concrete jerseys.

Lat: 29.784769

Long: -95.323176



wsp		**PHOTOGRAPH LOG**
Client Name: **Union Pacific Railroad**	**Site Location:** Englewood Intermodal Yard, Houston, Texas	**Project No.** US0039040.4227

Photo No.	**Inspection Date:**
27	7/24/2024

Asphalt Roadway and Ballast Cap:
Asphalt roadway in good condition. Minor cracking and vegetation was observed between asphalt roadway and concrete jerseys.

Lat: 29.784992
Long: -95.322660

Photo No.	**Inspection Date:**
28	7/24/2024

Security Fence/Sidewalk Area:
Vegetation needs to be removed from fence line. Some minor trash observed.

Lat: 29.787478
Long: -95.320899

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Inspection Date:
29	7/24/2024

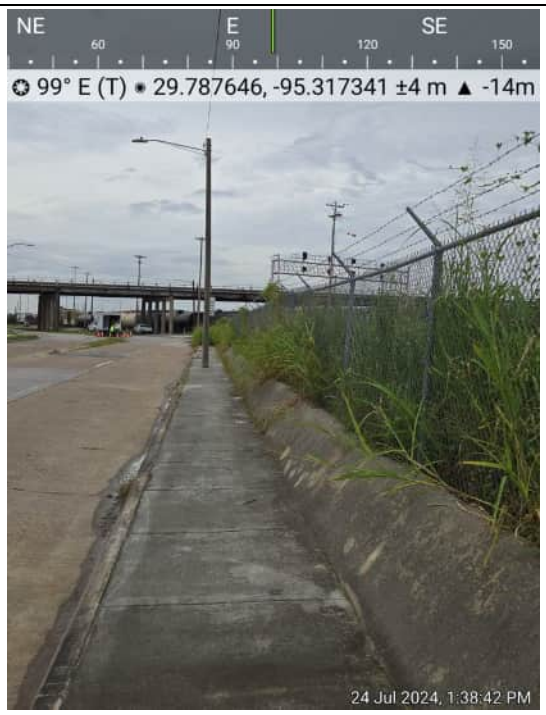
Security Fence/Sidewalk Area:
Vegetation needs to be removed from fence. Some minor trash observed.

Lat: 29.787503
Long: -95.320789

Photo No.	Inspection Date:
30	7/24/2024

Security Fence/Sidewalk Area:
Sidewalk area in good condition. Vegetation observed in cracks/joints. Vegetation needs to be removed from fence.

Lat: 29.787646
Long: -95.317341



wsp		**PHOTOGRAPH LOG**
Client Name: **Union Pacific Railroad**	**Site Location:** Englewood Intermodal Yard, Houston, Texas	**Project No.** US0039040.4227

Photo No.	**Inspection Date:**
31	7/24/2024

Security Fence/Sidewalk Area:
Sidewalk area in good condition. Vegetation observed in cracks/joints. Vegetation needs to be removed from fence.

Lat: 29.787647
Long: -95.317569

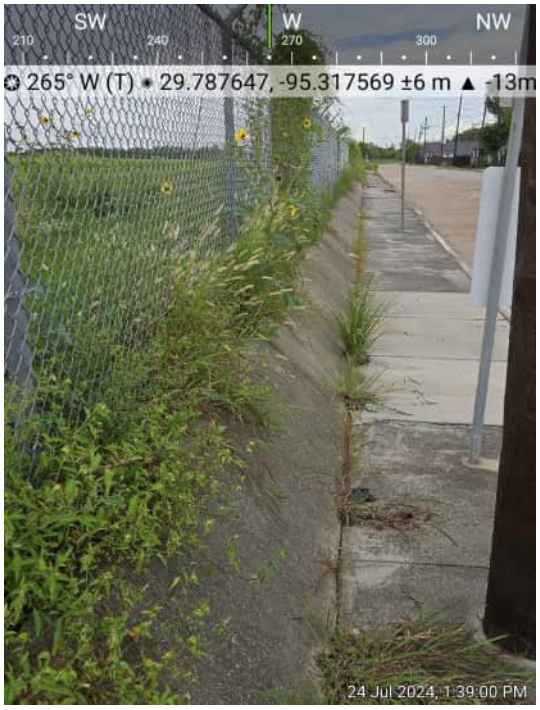


Photo No.	**Inspection Date:**
32	7/24/2024

Security Fence/Sidewalk Area:
Sidewalk area in good condition. Vegetation observed in cracks/joints. Vegetation needs to be removed from fence.

Lat: 29.787614
Long: -95.317926

wsp		**PHOTOGRAPH LOG**
Client Name: **Union Pacific Railroad**	**Site Location:** Englewood Intermodal Yard, Houston, Texas	**Project No.** US0039040.4227

Photo No.	**Inspection Date:**
33	7/24/2024

Concrete Cap Area (EIY):

Concrete cap area is in good condition around tracks in the northwestern section of the EIY. Pooling observed from recent rain event. Facing northwest.

Lat: 29.785802

Long: -95.318470

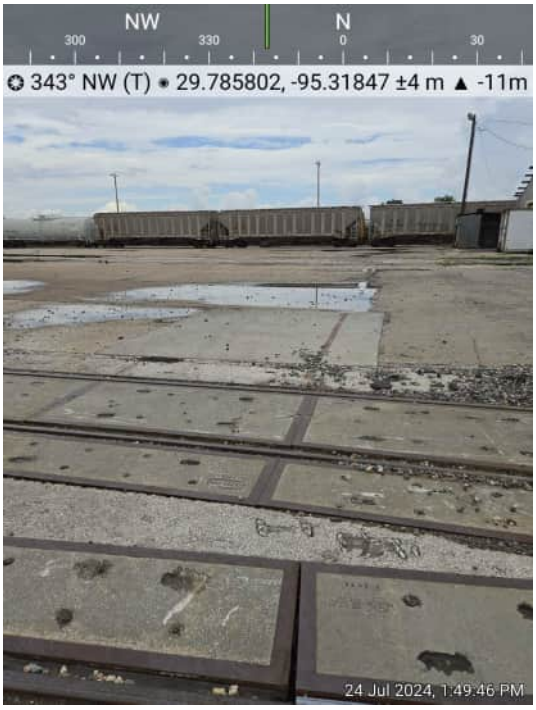


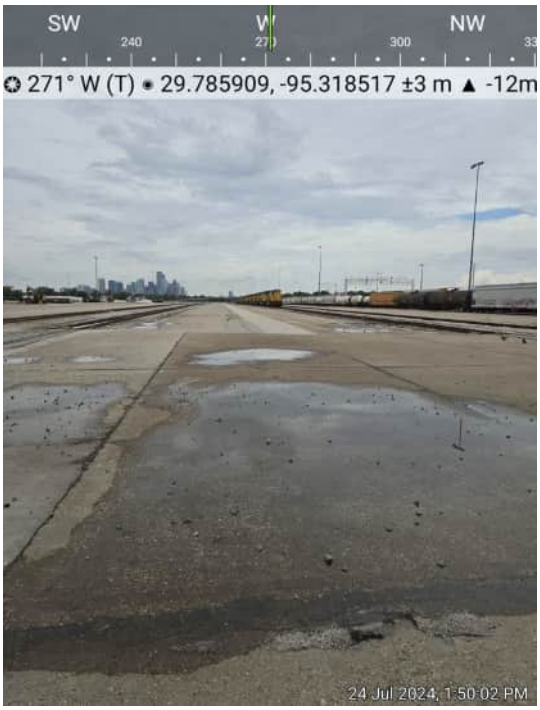
Photo No.	**Inspection Date:**
34	7/24/2024

Concrete Cap Area (EIY):

Concrete cap area is in good condition between tracks. Pooling observed from recent rain event. Facing west.

Lat: 29.785909

Long: -95.318517



PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Inspection Date:
35	7/24/2024

Concrete Cap Area (EIY):
Minor vegetation was seen in cracks in the concrete, but soil was not observed.

Lat: 29.785729
Long: -95.318898

Photo No.	Inspection Date:
36	7/24/2024

Concrete Cap Area (EIY):
Cracks and small depressions were observed between the concrete and asphalt joint east of focused excavation FE-5. Facing southwest.

Lat: 29.785421
Long: -95.318509

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Inspection Date:
37	7/24/2024

Concrete Cap Area (EIY):
Cracks and potholes were observed between the concrete and asphalt joint running through the A row of stalls. Facing southwest.

Lat: 29.785291
Long: -95.318825

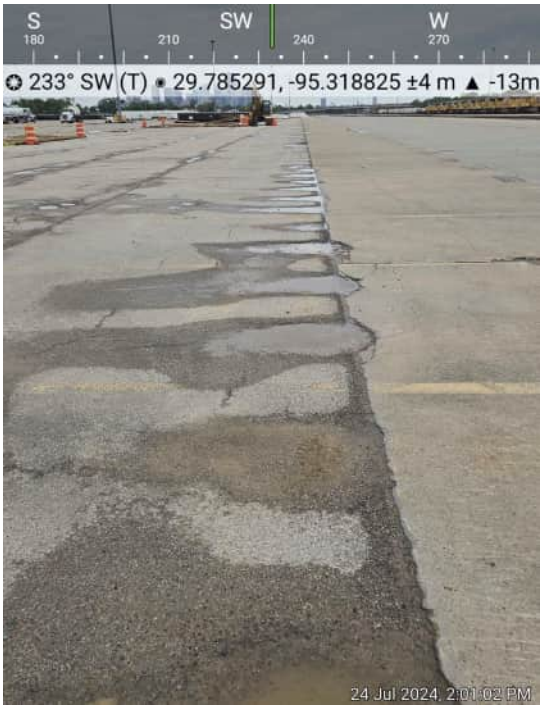


Photo No.	Inspection Date:
38	7/24/2024

Concrete Cap Area (EIY):
Cracking in the concrete near A101. Facing southwest.

Lat: 29.784465
Long: -95.320893

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Inspection Date:
39	7/24/2024

Concrete Cap Area (EIY):
Minor vegetation was seen in joints in the concrete, but soil was not observed.

Lat: 29.783642
Long: -95.322452

Photo No.	Inspection Date:
40	7/24/2024

Concrete Cap Area (EIY):
Minor vegetation was seen in joints and cracks in the concrete, but soil was not observed.

Lat: 29.783608
Long: -95.322020

		PHOTOGRAPH LOG
Client Name: **Union Pacific Railroad**	**Site Location:** Englewood Intermodal Yard, Houston, Texas	**Project No.** US0039040.4227

Photo No.	**Inspection Date:**
41	7/24/2024

Concrete Cap Area (EIY):
Storm water observed from recent rain event. Facing northeast.

Lat: 29.783249
Long: -95.316856

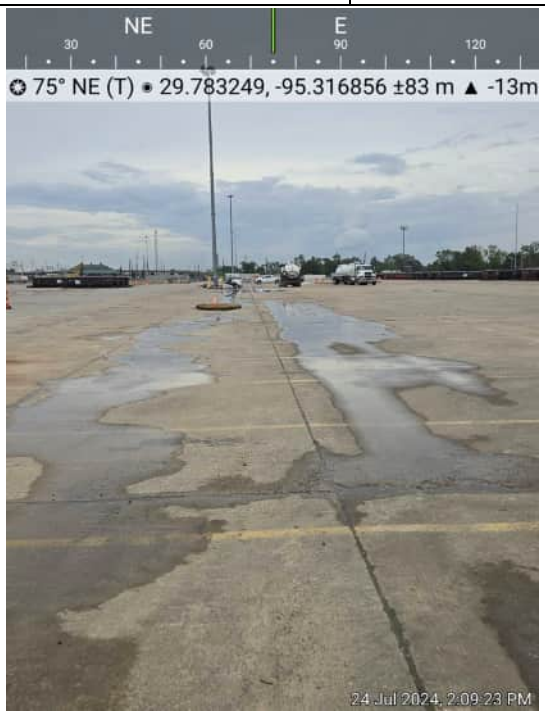


Photo No.	**Inspection Date:**
42	7/24/2024

Concrete Cap Area (EIY):
Minor cracking in the D row. Soil was not observed facing northwest.

Lat: 29.784184
Long: -95.319797

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

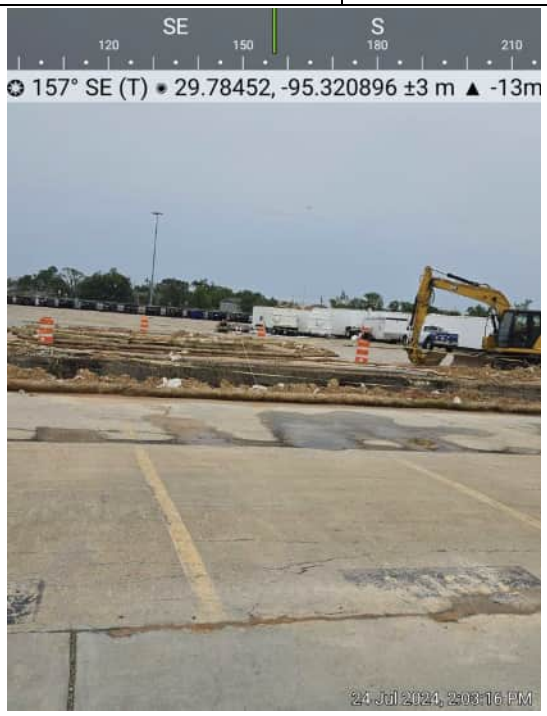
Photo No.	Inspection Date:
43	7/24/2024

Concrete Cap Area (EIY):

Current FE construction along the cap to address NAPL seeps.

Lat: 29.784520

Long: -95.320896



ATTACHMENT A4

FOURTH QUARTER 2024 (OCTOBER 18TH) INSPECTION RECORD AND PHOTOGRAPHIC LOG

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
1	10/18/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap is well-vegetated in most areas. No major erosion or ruts were observed during the inspection.

Lat: 29.786667
Long: -95.320278

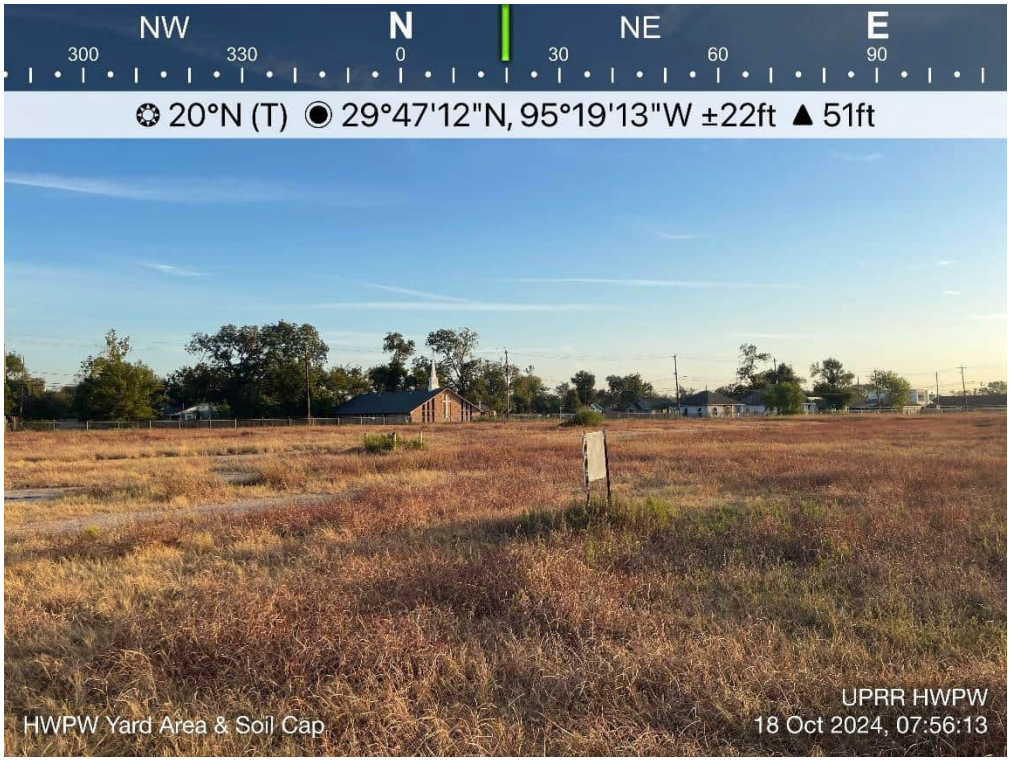


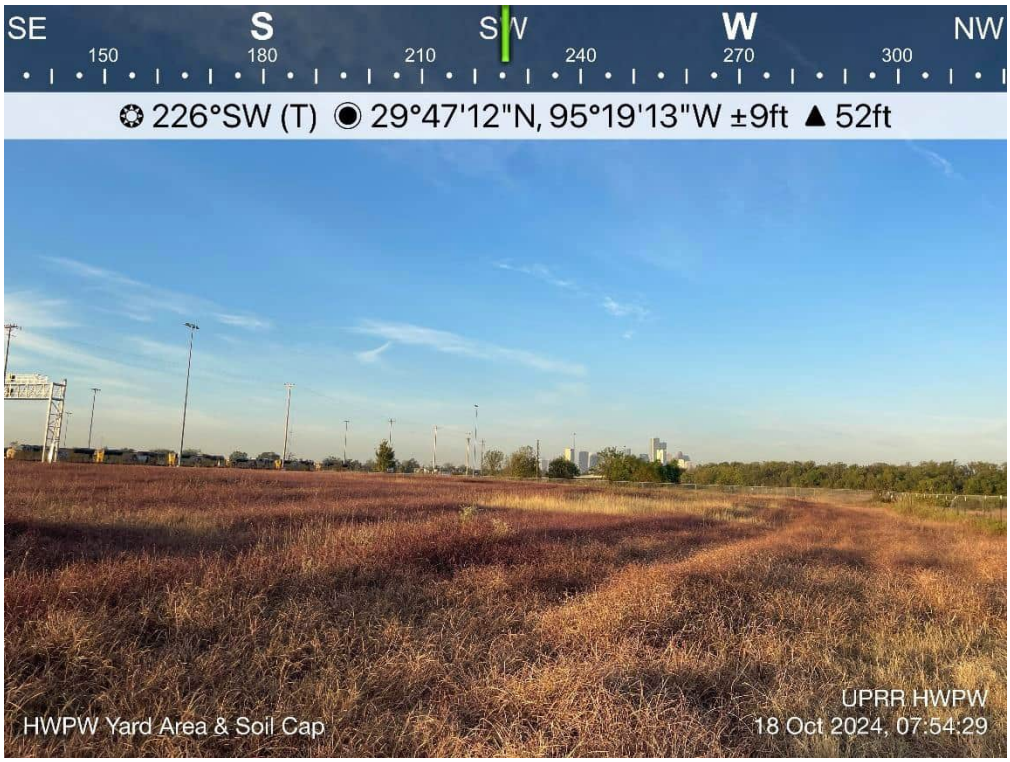
Photo No.	Date:
2	10/18/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap is well-vegetated in most areas. No major erosion or ruts were observed during the inspection. Grass needs to be trimmed.

Lat: 29.786667
Long: -95.320278



PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
3	10/18/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap is well-vegetated in most areas.

Lat: 29.786389
Long: -95.320278

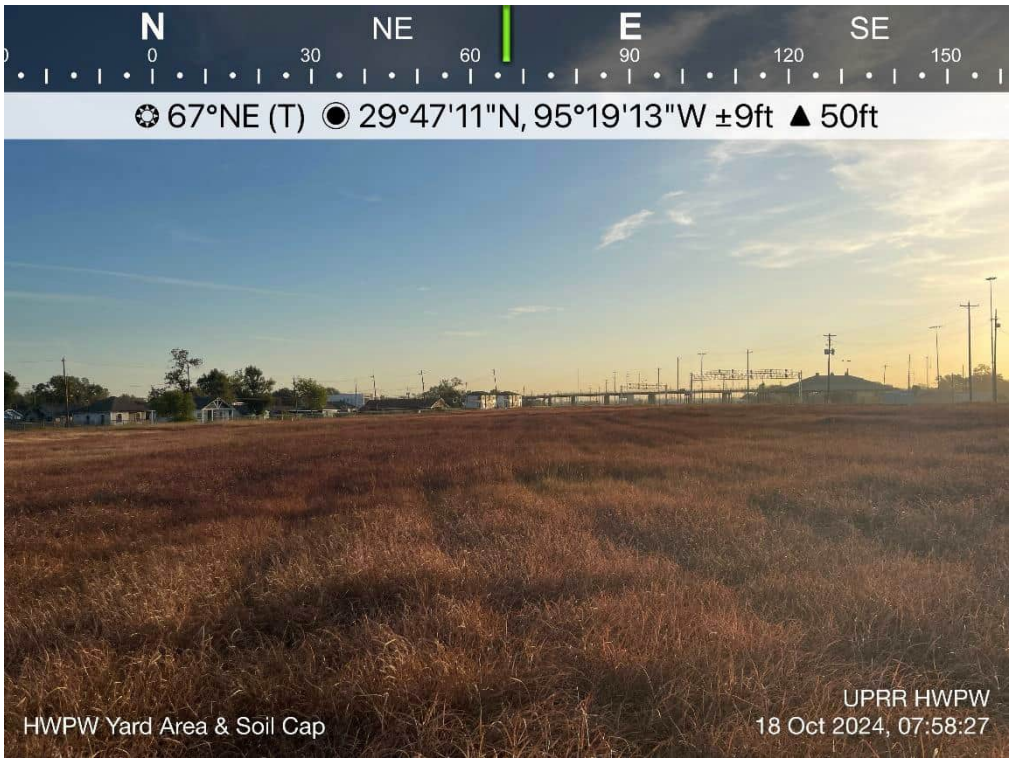


Photo No.	Date:
4	10/18/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap is well-vegetated in most areas. Some dry patches approx. 12-18 inches wide along north end of cap.

Lat: 29.786389
Long: -95.320278

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
5	10/18/2024

Description:

HWPW Yard Area and Soil Cap:

One animal burrow observed near northwest end of cap. Continue to monitor.

Lat: 29.786389
Long: -95.320556

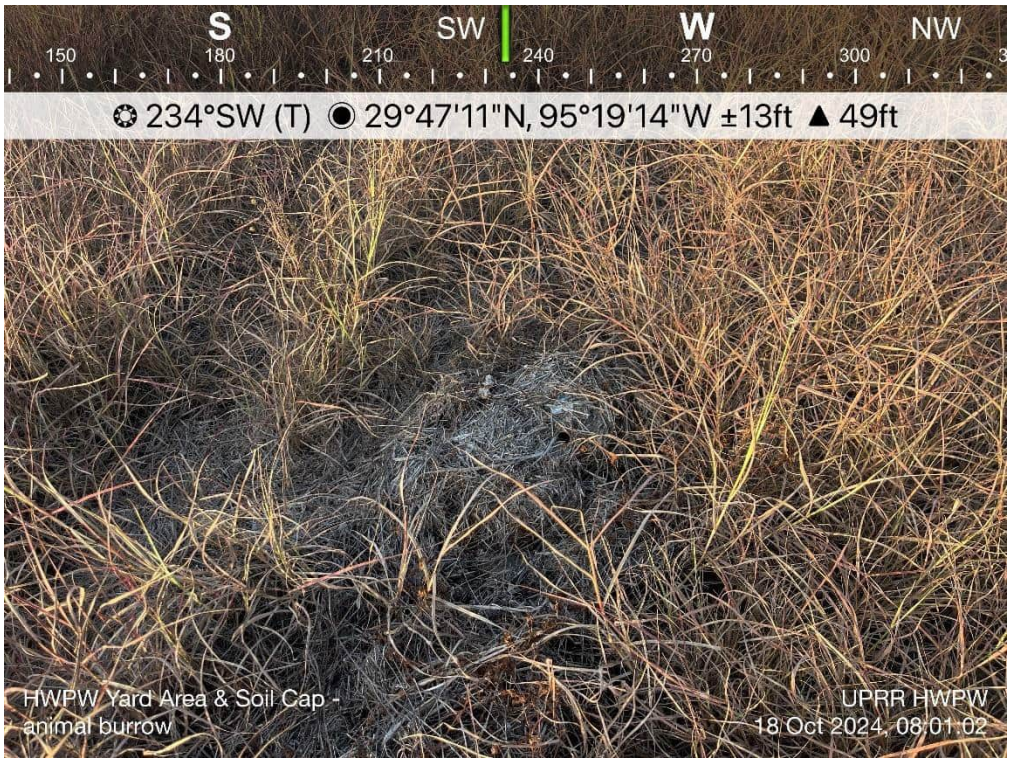


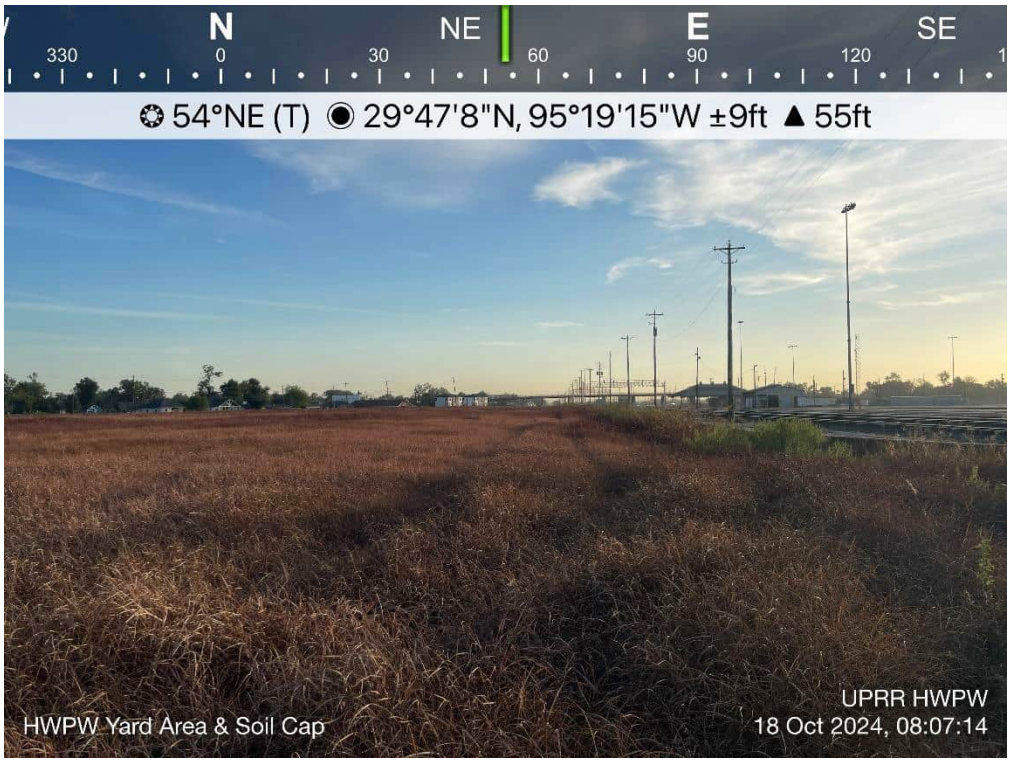
Photo No.	Date:
6	10/18/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap well vegetated. Grass along south end of cap needs to be trimmed/mowed.

Lat: 29.785556
Long: -95.320833



PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
7	10/18/2024

Description:

HWPW Yard Area and Soil Cap:

Soil cap well vegetated. The signal bridge/cabinet bump outs (right side of photo) are in good condition.

Lat: 29.785556
Long: -95.320556

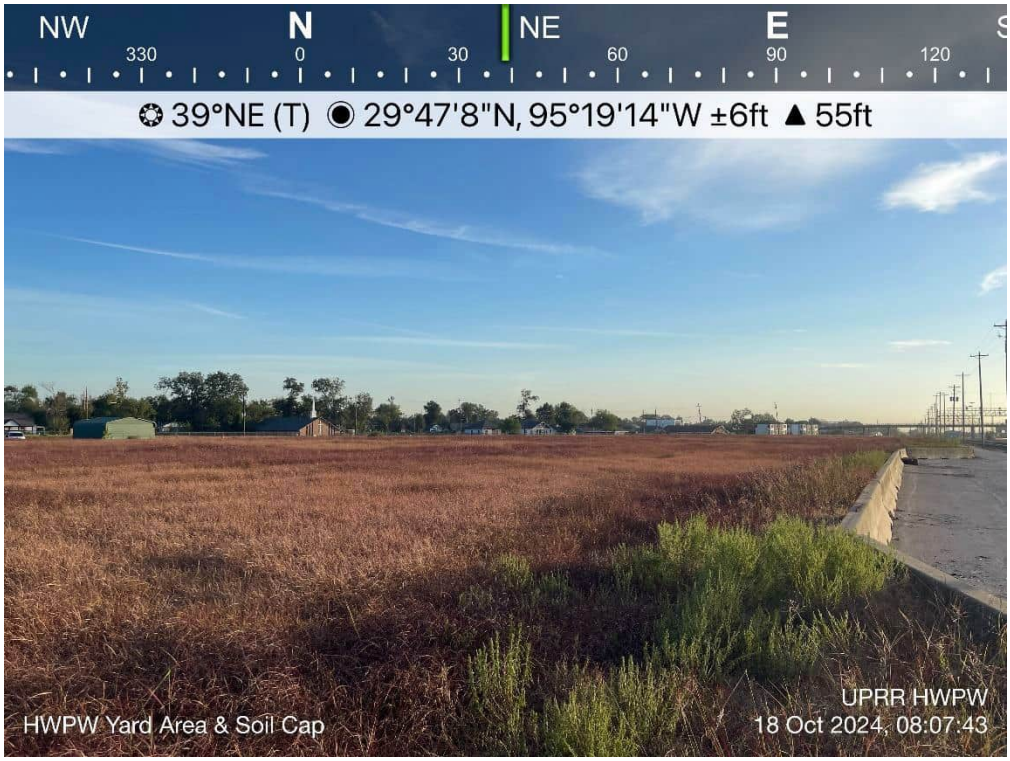


Photo No.	Date:
8	10/18/2024

Description:

Asphalt Roadway:

Asphalt roadway at signal cabinet/signal bridge areas are in good condition, free of major cracking/damage. No vegetation observed between asphalt roadway and ballast cap.

Lat: 29.785556
Long: -95.320556

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
9	10/18/2024

Description:

Asphalt Roadway:

Asphalt roadway in good condition, free of major cracking/damage. No vegetation observed between asphalt roadway and ballast cap.

Lat: 29.785556
Long: -95.320556

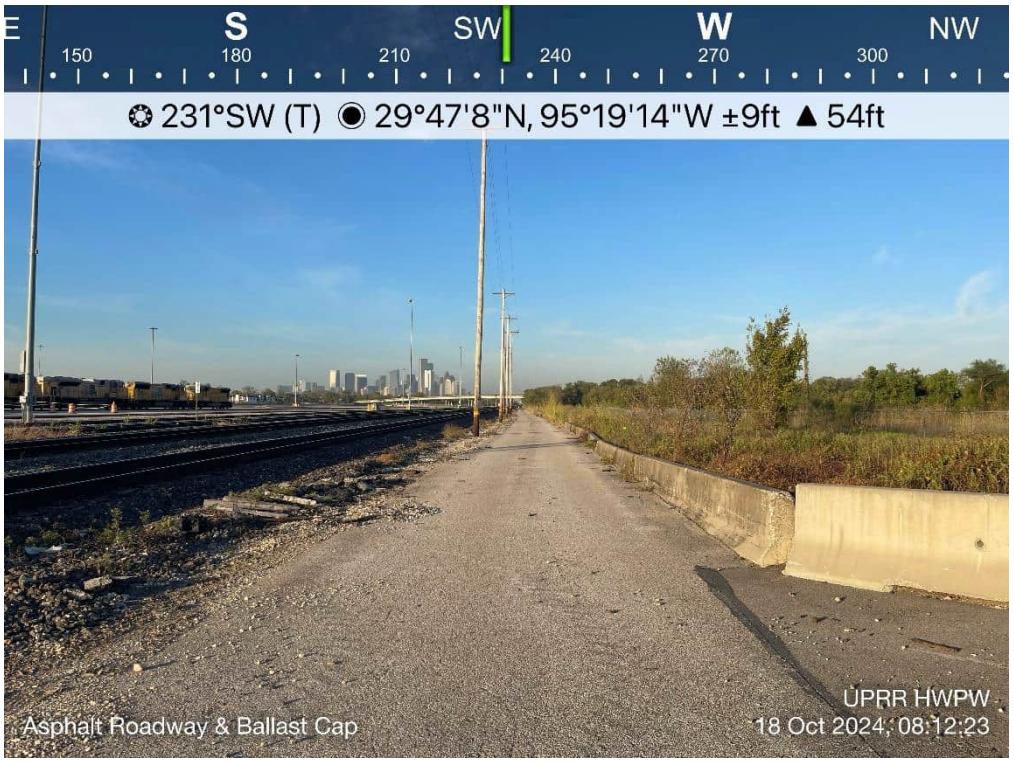


Photo No.	Date:
10	10/18/2024

Description:

Asphalt Roadway and Ballast Cap:

Some vegetation observed on ballast cap.

Lat: 29.785556
Long: -95.320556

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
11	10/18/2024

Description:

Asphalt Roadway and Ballast Cap:

Some vegetation observed on ballast cap.

Lat: 29.786667
Long: -95.318056

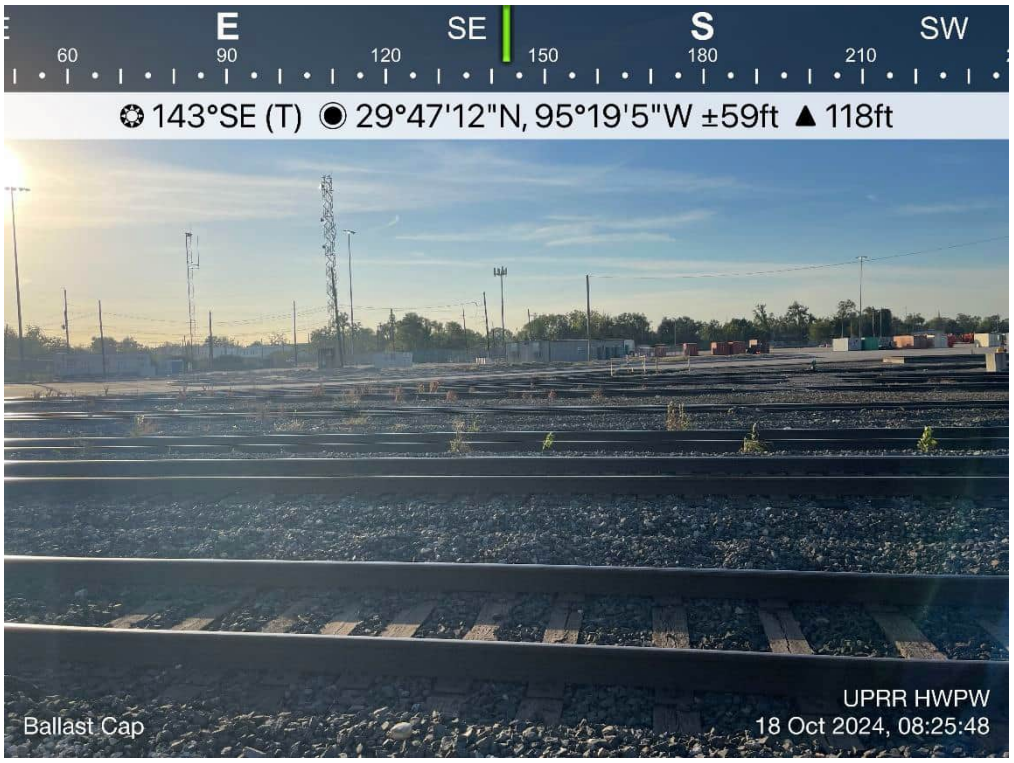


Photo No.	Date:
12	10/18/2024

Description:

Asphalt Roadway and Ballast Cap:

Ballast cap in good condition. Vegetation observed in some areas.

Lat: 29.786944
Long: -95.317222

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
13	10/18/2024

Description:

Asphalt Roadway and Ballast Cap:

Some vegetation observed on ballast cap.

Lat: 29.784722
Long: -95.320278

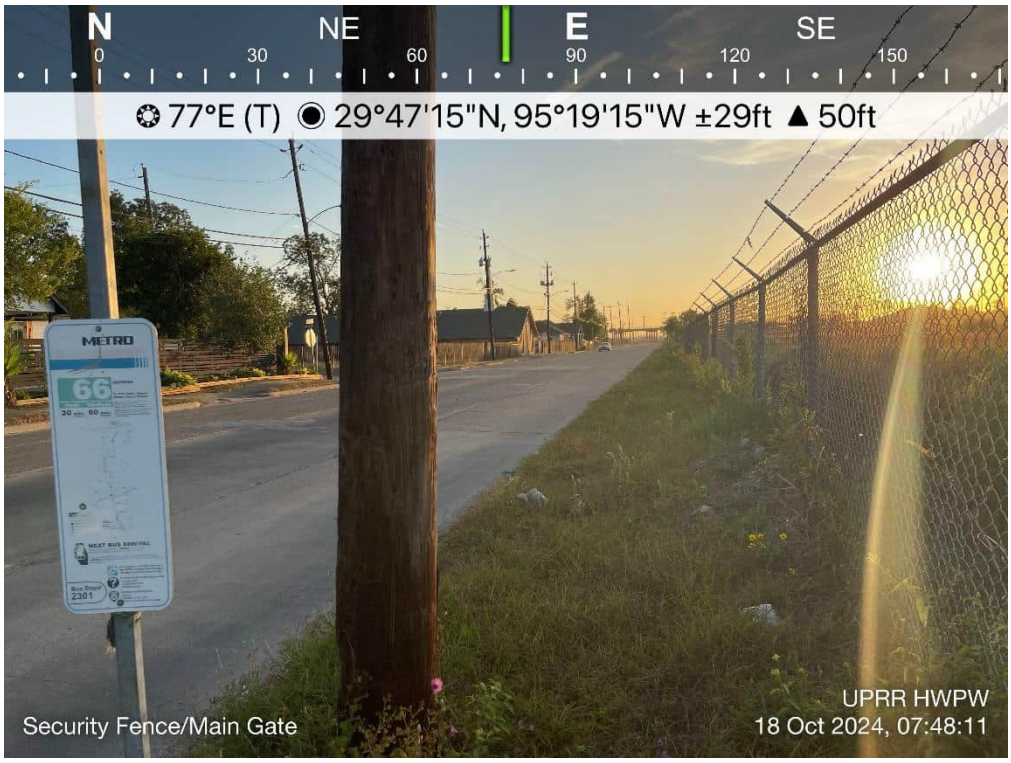
Photo No.	Date:
14	10/18/2024

Description:

Perimeter Fence:

Perimeter fence is in good shape along Liberty Road. Grass needs to be cut near fence line. Some minor trash observed.

Lat: 29.787500
Long: -95.320833



PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
15	10/18/2024

Description:

Perimeter Fence:

Perimeter fence is in good shape along Liberty Road. Grass needs to be cut near fence line. Some minor trash observed.

Lat: 29.787222
Long: -95.320833

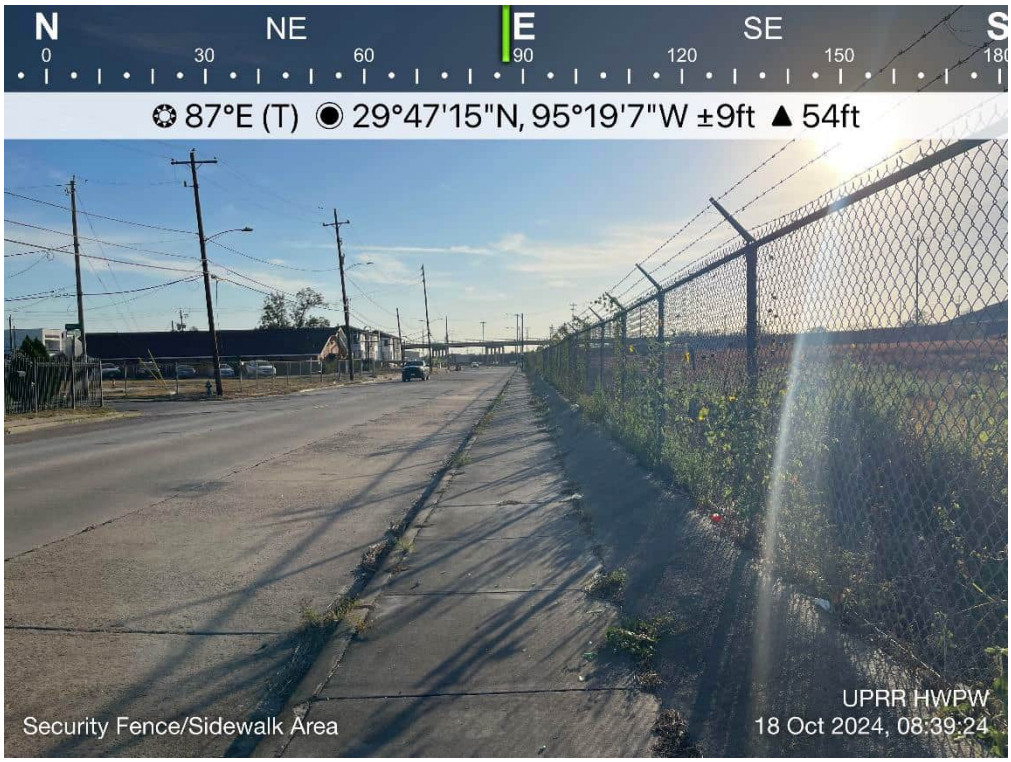
Photo No.	Date:
16	10/18/2024

Description:

Security Fence/Sidewalk Area:

Perimeter fence is in good shape along Liberty Road. Sidewalk area is in good condition. Minor vegetation observed in cracks/joints.

Lat: 29.787500
Long: -95.318611



Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
17	10/18/2024

Description:

Security Fence/Sidewalk Area:

Perimeter fence is in good shape along Liberty Road. Sidewalk area is in good condition. Vegetation observed in cracks/joints.

Lat: 29.787500
Long: -95.318611

Photo No.	Date:
18	10/18/2024

Description:

Security Fence/Sidewalk Area:

Perimeter fence is in good shape along Liberty Road. West end of sidewalk area has high amounts of trash in the tall grass. Grass needs to be mowed/trimmed.

Lat: 29.787500
Long: -95.318889

PHOTOGRAPH LOG

Client Name: **Union Pacific Railroad**	**Site Location:** Englewood Intermodal Yard, Houston, Texas	**Project No.** US0039040.4227

Photo No. **19**	**Date:** 10/18/2024

Description:

Security Fence/Sidewalk Area:

Perimeter fence is in good shape along Liberty Road. Pole bent along security fence. Continue to monitor.

Lat: 29.787500
Long: -95.319444

Photo No. **20**	**Date:** 10/18/2024

Description:

Security Fence/Sidewalk Area:

Perimeter fence is in good shape along Liberty Road. Fence slightly sagging/damaged in small area.

Lat: 29.787500
Long: -95.320278

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
21	10/18/2024

Description:

Security Fence/Sidewalk Area:

Perimeter fence is in good shape along Liberty Road. Minor erosion in one area of sidewalk underneath the site-wide fencing.

Lat: 29.787500
Long: -95.319444

Photo No.	Date:
22	10/18/2024

Description:

Security Fence/Sidewalk Area:

Perimeter fence is in good shape along Liberty Road. Vegetation overgrown is starting to obstruct some of the posted warning signs on the site-wide fencing.

Lat: 29.787500
Long: -95.317500

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
23	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Recently re-constructed concrete cap on Focused Excavations (FE) areas FE1/FE3.

Lat: 29.784167
Long: -95.320833

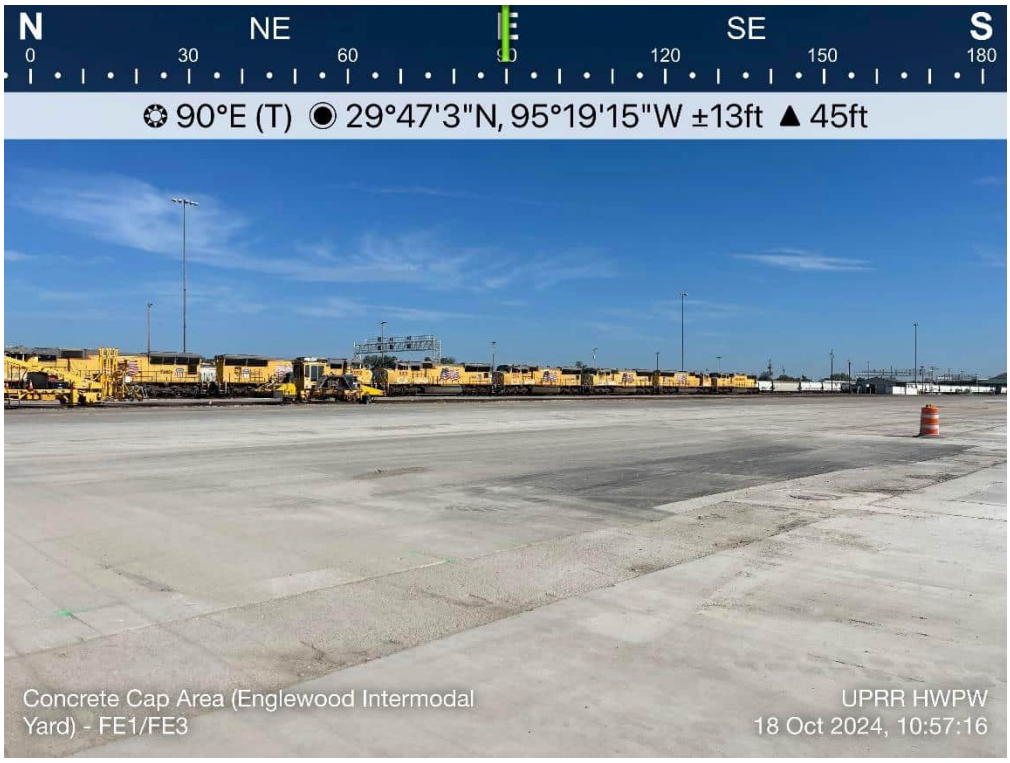


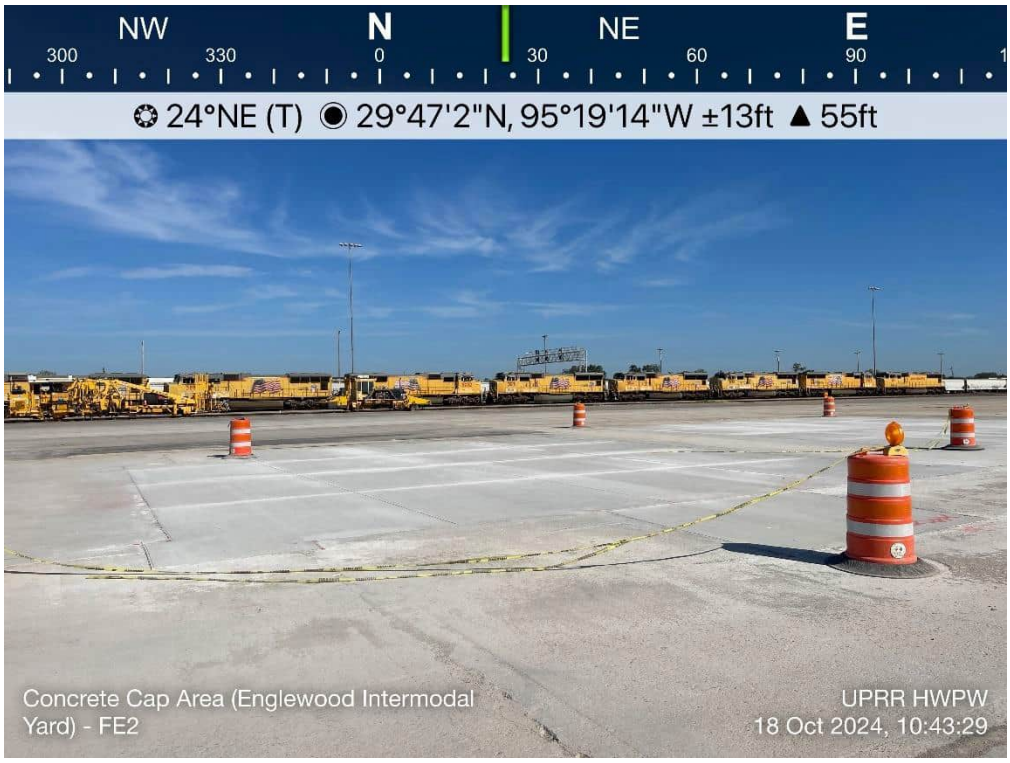
Photo No.	Date:
24	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Recently re-constructed concrete cap for FE2.

Lat: 29.783889
Long: -95.320556



Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
25	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Recently re-constructed concrete cap for FE4.

Lat: 29.784444
Long: -95.319444

Photo No.	Date:
26	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Recently re-constructed concrete cap at FE5.

Lat: 29.785000
Long: -95.318611

Client Name: Union Pacific Railroad	Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. US0039040.4227

Photo No. 27	Date: 10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Recently re-constructed concrete cap at FE6.

Lat: 29.785278
Long: -95.318056

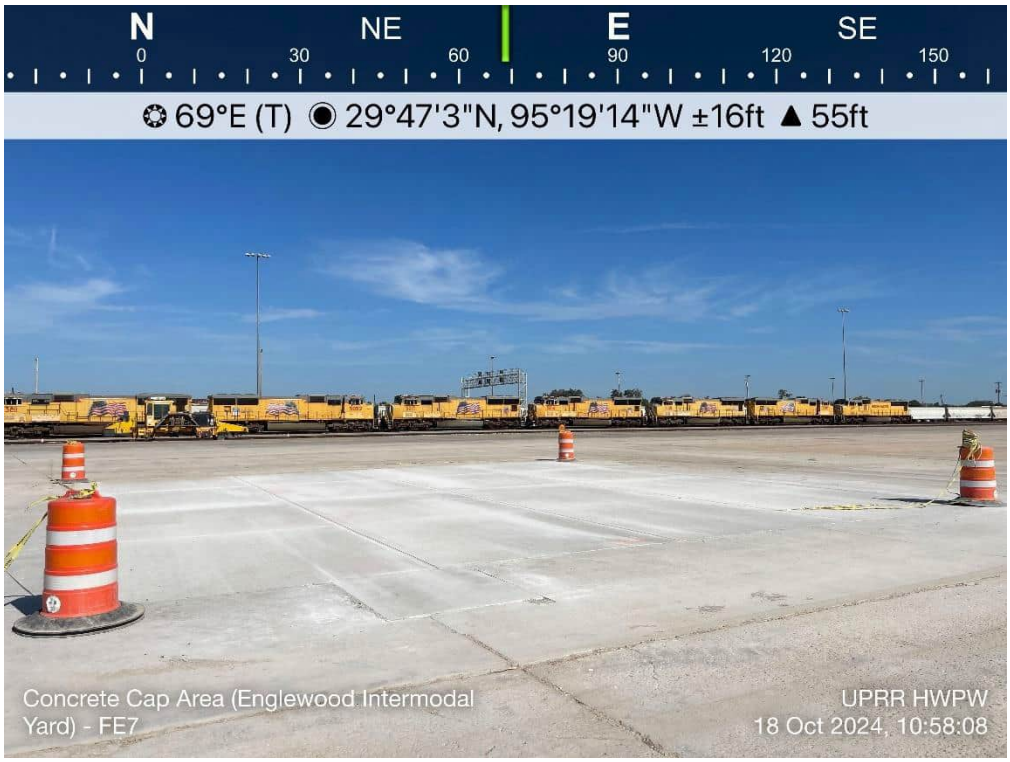
Photo No. 28	Date: 10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Recently re-constructed concrete cap at FE7.

Lat: 29.784167
Long: -95.320556



PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
29	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Recently re-constructed concrete cap at FE8.

Lat: 29.784722
Long: -95.319167

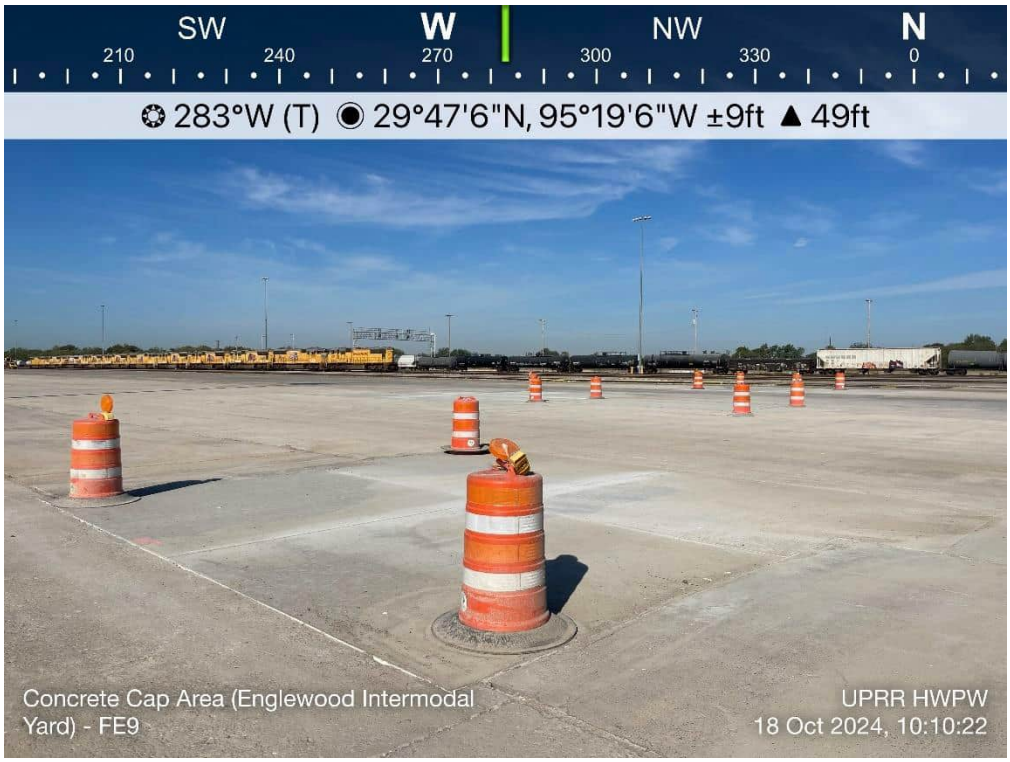
Photo No.	Date:
30	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Recently re-constructed concrete cap FE9.

Lat: 29.785000
Long: -95.318333



Client Name: Union Pacific Railroad	Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. US0039040.4227

Photo No. 31	Date: 10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Recently re-constructed concrete cap FE11.

Lat: 29.784167
Long: -95.319444

Photo No. 32	Date: 10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Recently re-constructed concrete cap FE12.

Lat: 29.785278
Long: -95.318611

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
33	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Minor cracking in joint near concrete cap area entrance but no exposed soils observed.

Lat: 29.786944
Long: -95.316389

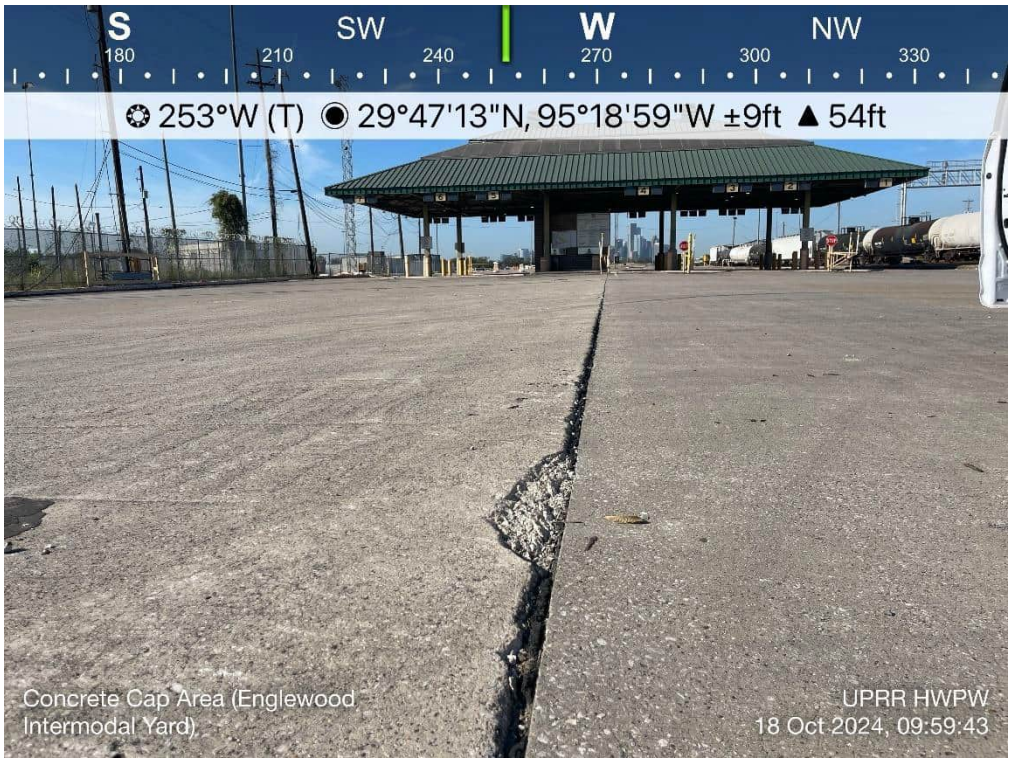


Photo No.	Date:
34	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Small pot holes and cracking near east end of Row A but no sign of exposed soils.

Lat: 29.785556
Long: -95.317778

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
35	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Damage/spalling approx. 6 feet wide near east end of Row A.

Lat: 29.785556
Long: -95.318056

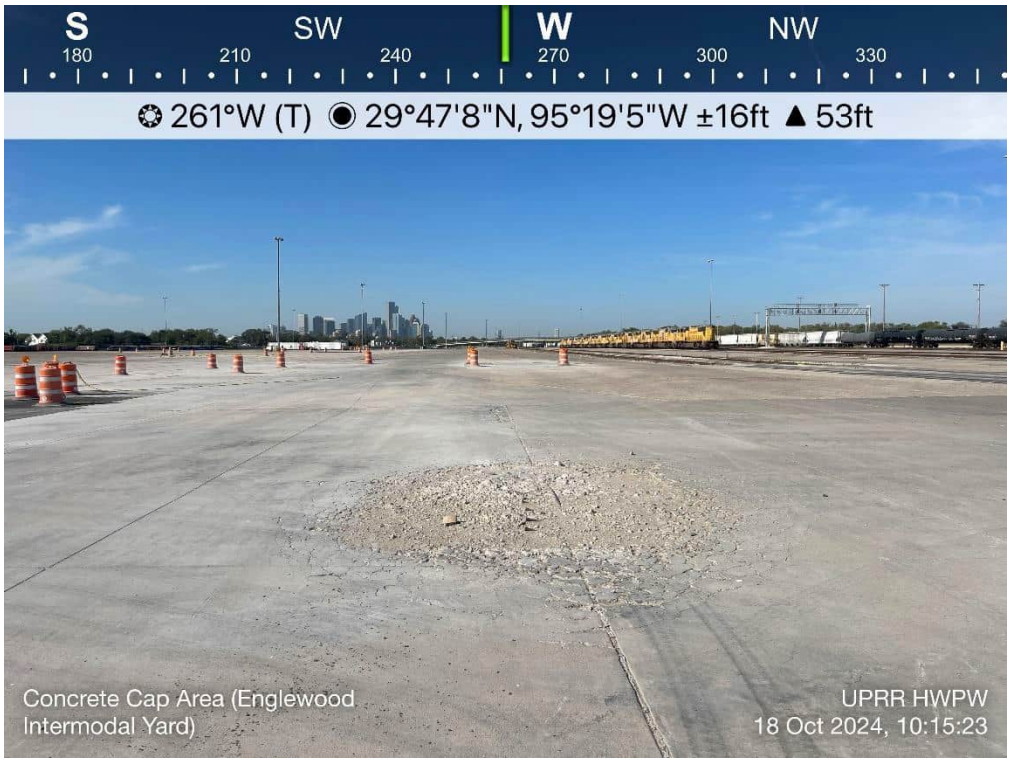


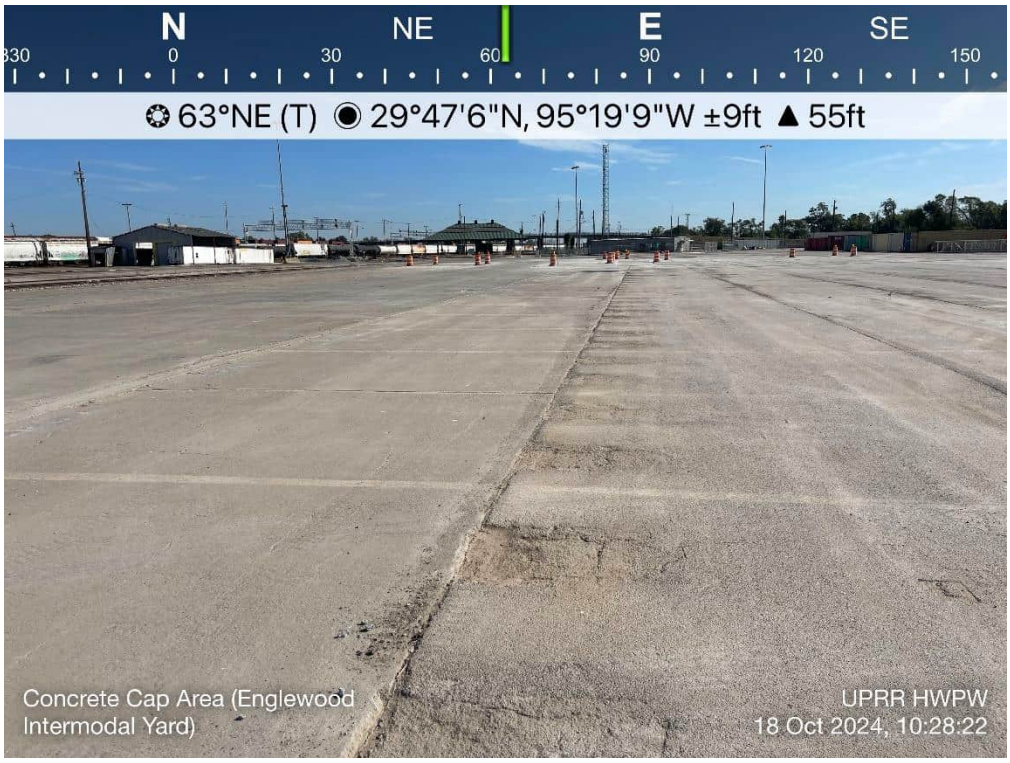
Photo No.	Date:
36	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Potholes/depressions and cracks along joints in Rows A and B. No underlying soils exposed.

Lat: 29.785000
Long: -95.319167



Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
37	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Cracking in concrete in stalls A123 to A127 but no exposed soils observed.

Lat: 29.783889
Long: -95.321389

Photo No.	Date:
38	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Cracking in concrete in stalls A066 and A067.

Lat: 29.784722
Long: -95.319722

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
39	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Cracking and vegetation along joints between stalls E119 and E120.

Lat: 29.783611
Long: -95.320556

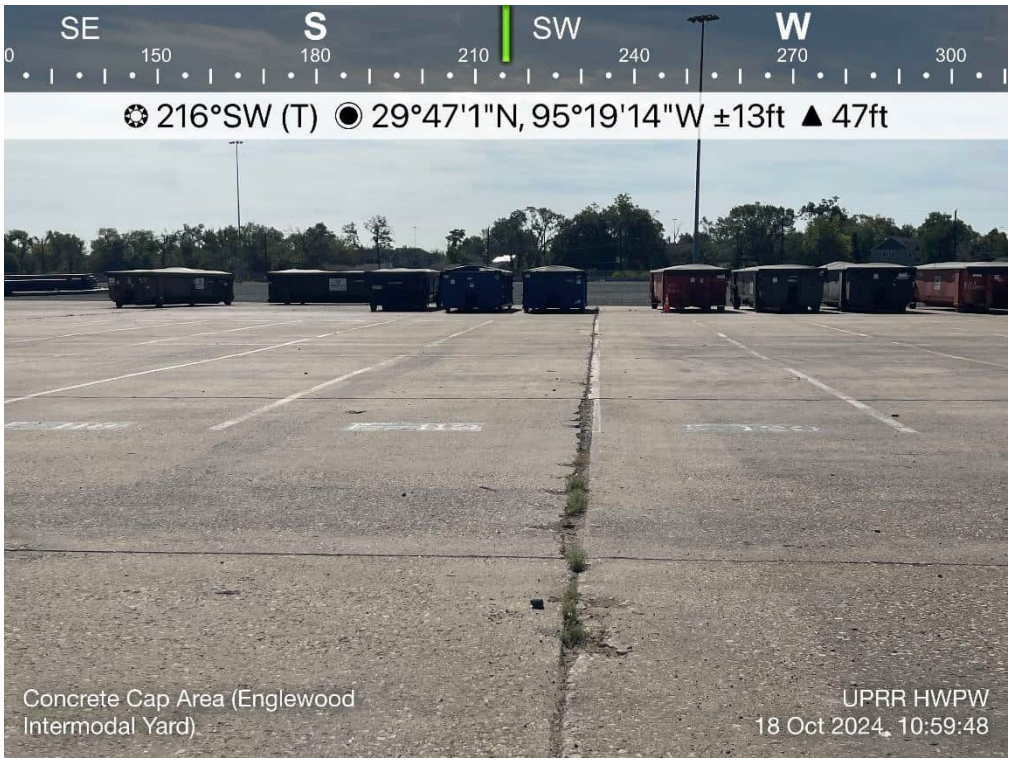


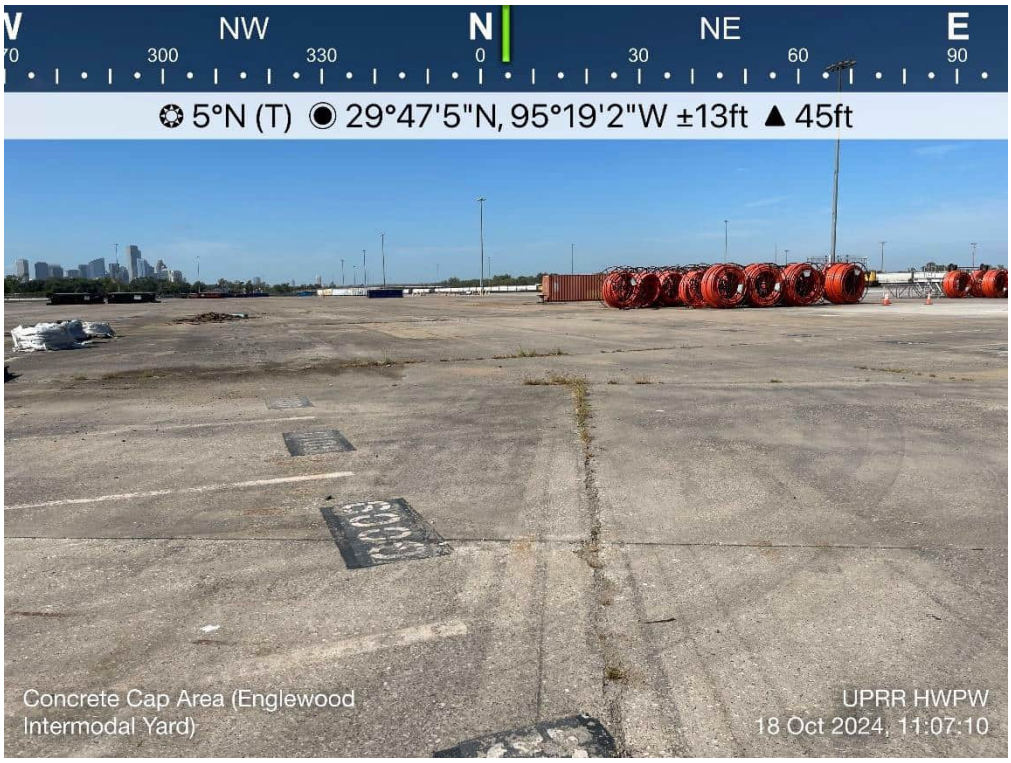
Photo No.	Date:
40	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Vegetation observed along joints north of stalls G009 through G010.

Lat: 29.784722
Long: -95.317222



PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
41	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Concrete cap in good condition on west end of Rows A and B.

Lat: 29.783611
Long: -95.322222

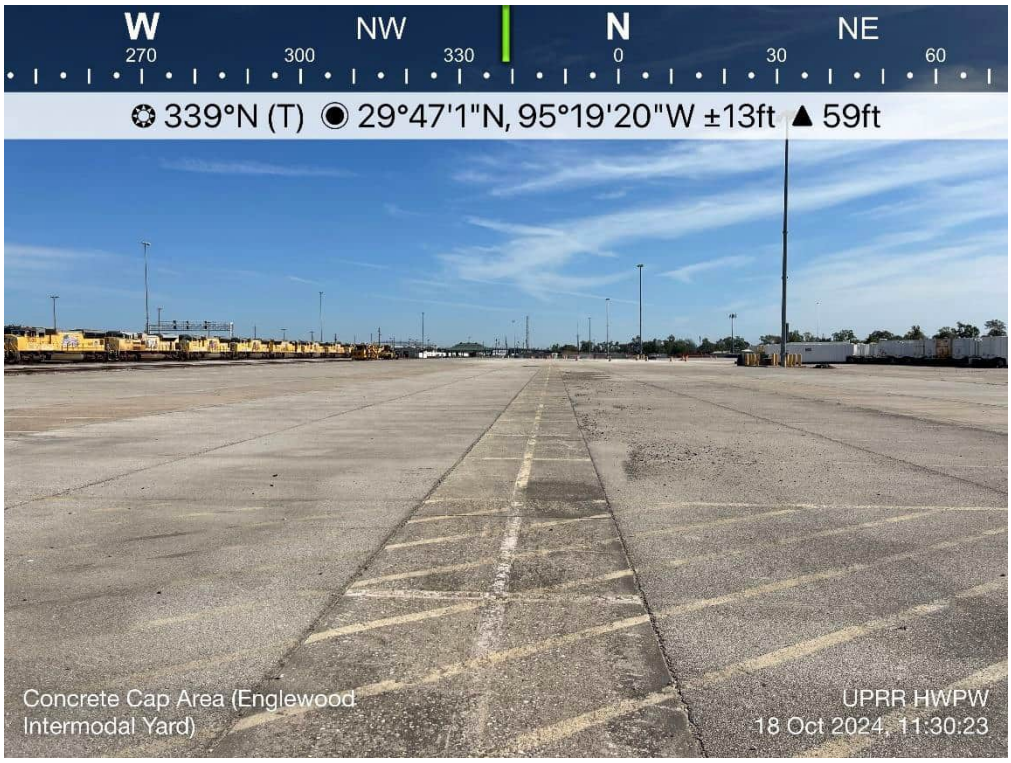


Photo No.	Date:
42	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Concrete cap in good condition between Rows C and D.

Lat: 29.784167
Long: -95.320556

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	US0039040.4227

Photo No.	Date:
43	10/18/2024

Description:

Concrete Cap Area (Englewood Intermodal Yard):

Rail tracks are in good condition. No visible intrusion of grass in between ties but did observe minimal vegetation on sides of tracks.

Lat: 29.784722
Long: -95.320278