

February 14, 2023

Project No. 19119232

Ms. Maureen Hatfield

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

Re: MONTHLY STATUS UPDATE – ENGLEWOOD INTERMODAL YARD – NAPL COLLECTION SYSTEM/CONCRETE CAP REPAIRS UNION PACIFIC RAILROAD HOUSTON WOOD PRESERVING WORKS FACILITY 4910 LIBERTY ROAD FACILITY, HOUSTON, TEXAS POST-CLOSURE CARE PERMIT NO. HW-50343; INDUSTRIAL SWR NO. 31547

Dear Ms. Hatfield:

WSP USA Inc. (WSP), formerly Golder Associates Inc., on behalf of Union Pacific Railroad Company (UPRR), is pleased to provide this monthly status update for January 2023 for inspections conducted at the Englewood Intermodal Yard concrete cap area within the UPRR Houston Wood Preserving Works Facility (the Site). Monthly status updates were requested by the Texas Commission on Environmental Quality (TCEQ) in a letter dated March 20, 2018.

A non-aqueous phase liquid (NAPL) Collection System was installed in the Englewood Intermodal Yard in January 2019 to address the tar-like substance seeps within parking stalls B100 to B109 (for container trailers). The following is a summary of the observations from the weekly inspections of the NAPL Collection System and Englewood Intermodal Yard concrete pavement near the collection system for January 2023 (photographs from the weekly inspections are provided in Attachment A):

Water levels in NAPL Collection System Sump 1 (B099/B100 stalls), Sump 2 (B103/B104 stalls), and Sump 3 (B107/B108 stalls) were measured at 3.5 inches, 7.5 inches and 6 inches, respectively during the inspection on January 4, 2023 (Photo Nos. 6-8). The water level in Sump 1 remained near 3 inches from the top of the sump for the remainder of January 2023. In Sumps 2 and 3, water levels dropped to 13 inches from the top of the sumps on January 18, 2023. By the January 25, 2023 inspection, the water levels in Sump 1, 2, and 3 had risen to 3 inches, 6 inches and 5 inches, respectively, (Photo Nos. 29-31) from the top of the sumps. The water in the sumps was observed as having a light brown tint. No sheen or odors were reported during the January inspections. A sample of the sump water was collected on January 11, 2023 for re-characterization in order to update the waste profile for disposal at Delta Water Processing. A copy of the analytical report is provided in Attachment B. The next pump down event is scheduled for mid-February.

WSP USA 16200 Park Row Suite 200 Houston, TX 77084

Tel.: +1 281 589-5900 wsp.com • The NAPL Collection System sumps (Sumps 1, 2, and 3) have continued to be checked weekly for DNAPL using an interface probe. No measurable NAPL has been detected within the sumps using the interface probe through January 2023. Even though no measurable DNAPL was noted, a hoe has continued to be used to further evaluate the presence of and recover DNAPL, if present, from the bottom of each of the sumps during the weekly inspections. No DNAPL was recovered from the sumps during January 2023. A notation on the presence of NAPL in each sump, tabulation of depth and thickness of NAPL if detected, and a tabulation of total mass of NAPL recovered from each sump is provided on the enclosed Table 1. Any NAPL recovered from the sumps is placed in a drum for disposal. The drum is staged at the Container Storage Area (CSA).

An accumulation of NAPL on the bottom of the inflow protector in Sump 1 was observed during the inspection on September 14, 2022. The material was removed, and the inflow protector was monitoring during subsequent inspections for additional NAPL accumulation. No additional accumulation was observed through January 25, 2023.

- A small tar-like material seep was observed on the southern edge of the NAPL Collection System in cracks in the cement along the joint of Stall B107 during the July 6, 2022 weekly inspection, no new tar-like material was observed at this seep location in January 2023.
- As detailed in the July 2022 Monthly Status Update, a tar-like material seep was observed next to Track 802 that is located approximately 280 feet northwest of the NAPL Collection System. The tar-like material seep is located along on the northern side of the track at the edge of the railroad ballast (Photo No. 25). During the September 28, 2022 weekly inspection, an additional tar-like material seep was observed within the concrete road area (RD-14) about 45 feet north of Track 802 and east of the existing Track 802 seep location (Photo No. 26). However, no tar-like seep material was observed at either of these locations during January 2023.
- For areas outside the NAPL Collection System, a small amount of tar-like material was observed on the concrete or asphalt surface at one location during the January 2023 weekly inspections:

Seep Observations Outside the NAPL Collection System Area			
Stall Number	Observation Date(s)		
A011	January 4 th (Photo No. 1)		

- Tar-like material observed during the weekly inspection events was removed and recovered using a hand tool to scrape up the material. During January, the number of tar-like material seeps observed and total amount of material removed during the weekly inspections decreased compared to the December 2022 weekly inspections. The only tar-like material seep observed during the month of January was the A011 seep on January 4th. Less than 0.01 gallons of tar-like material was recovered for the month from the seep locations. The material that was recovered was placed in a drum staged at the CSA for disposal.
- After the pressure washing event conducted on June 28, 2022, no new brown staining/residue or seep water was observed during the weekly inspections through January 2023. UPRR will continue to have a remediation contractor pressure wash and/or collect the water in the areas where the brown staining and seeps are observed, as needed.

• WSP (Golder), on behalf of UPRR, submitted to the TCEQ the Englewood IM Yard Test Pit Evaluation Report dated June 2, 2021 summarizing the findings from the test pits installed in July 2020, including weekly inspections since the installation. As discussed in the Test Pit Report, the test pit inspections were to continue through the warmer months (through September 2021). UPRR will prepare a Test Pit Evaluation Report Addendum summarizing the test pit inspections from June through November 2021. During inspections in June and July 2021 the concrete patches covering test pits in stalls A010, A021, B013, B057, B096, and B108 were observed to be damaged. UPRR contractor US Ecology removed the damaged test pit concrete patches covering test and concrete on October 25, 2021. The new concrete patches continue to be monitored during the weekly inspections.

During the inspection on September 28, 2022, a small amount of tar like material was observed in stall B096 adjacent to the test pit patch for the first time since the test pit installation. No tar-like material was recovered from the B096 historical seep location during January 2023. Through January 2023, no NAPL seeps have been observed at the six other test pit locations (stalls A010, A021, A098, B013, B057, and B108).

- A follow-up video camera survey of the stormwater sewer lines in the central area of the Englewood IM Yard was conducted on August 26, 2021 to evaluate the stormwater line near the test pit locations. Details of the follow-up video survey will be provided in the Test Pit Evaluation Report Addendum.
- The TCEQ issued a comment letter dated January 26, 2022 titled "Comments on Interim Groundwater Monitoring Report (July 2020), dated April 30, 2021 Englewood Intermodal Yard (EIY) Test Pit Evaluation Report, dated June 2, 2021, Corrective Action Monitoring Report, 2021 First Semi-Annual Event, dated July 9, 2021". In the comment letter, the TCEQ requested UPRR prepare an Interim Measures Work Plan (Work Plan) to address the NAPL seeps in the Englewood Intermodal Yard. The TCEQ requested that the Work Plan include a schedule and plan for implementation of additional interim measures to permanently address the NAPL seeps in the Englewood Intermodal Yard. UPRR is in the process of preparing the requested Work Plan.

Weekly site inspections of the NAPL Collection System and Englewood Intermodal Yard concrete pavement near the collection system will continue to be conducted.

If you have any questions or need additional information, please feel free to call us at (512) 671-3434 or Mr. Kevin Peterburs of UPRR at (414) 267-4164.

Sincerely,

WSP USA Inc.

Sarah Balke, G.I.T Consultant, Geologist

Eric C. Matzner, P.G. Director, Hydrogeologist

- CC: Mr. Kevin Peterburs, UPRR Milwaukee, WI Ms. Alma Jefferson, Waste Section Manager, TCEQ Region 12, Houston
- Attachment Table 1 NAPL Measurements NAPL Collection System Attachment A – Weekly Inspection Photolog Attachment B – Analytical Report

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TABLE

TABLE 1 NAPL Measurements - NAPL Collection System - Englewood Intermodal Yard UPRR Houston, tx - Wood Preserving Works

Measured	Sump 1 (B099/B100)	Sump 2 (B103/B104)	Sump 3 (B107/B108)	Depth to DNAPL	
Date 8/14/2010	Freeboard (in)	Freeboard (in)	Freeboard (in)	(in)	Comments
8/14/2019	2.5	20	29	Not measurable	
8/28/2019	44.5	47.9	45	Not measurable	Water from sumps pumped out
9/4/2019	19	42	41.5	Not measurable	
9/13/2019	0	39.5	38	Not measurable	
9/20/2019	0	3	2.5	Not measurable	
9/25/2019	0	42	42.5	Not measurable	Water from sumps pumped out
					Sheen visible in B107/B108 sump, less than 0.1 gal of
10/2/2019	2.5	42.5	42	Not measurable	DNAPL recovered
					Sheen visible in B107/B108 sump, less than 0.1 gal of
10/9/2019	3	42	41.5	Not measurable	DNAPL recovered
	_				Less than 0.1 gal of DNAPL recovered from B107/B108
10/16/2019	0	39.5	39	Not measurable	Sump
	_				Less than 0.1 gal of DNAPL recovered from B107/B108
10/24/2019	3	35	25	Not measurable	Sump
10/29/2019	0	24	23	Not measurable	Water from sumps pumped out
10/30/2019	0	40	39	Not measurable	Slight sheen visible in B107/B108 sump
11/0/2019	9	59	56.5	NOT MEASURADIE	Less than 0.1 gal of DNAPL recovered from B107/B108
11/13/2010	7	30	20	Not measurable	Sumn
11/19/2019	4	26	25.5	Not measurable	Sump
11/27/2019	0	25	23.5	Not measurable	
		20	20		Less than 0.1 gal of DNAPL recovered from B107/B108
12/3/2019	2	25.5	25	Not measurable	Sump
					Less than 0.1 gal of DNAPL recovered from B107/B108
12/11/2019	1.5	17	16.54	Not measurable	Sump
12/17/2019	5	19.5	17.5	Not measurable	
12/23/2019	10	21	20.5	Not measurable	
1/7/2020	9	13	12.5	Not measurable	
1/8/2020	9	13	12.5	Not measurable	Water from sumps pumped out
1/17/2020	0	32	31.5	Not measurable	
1/21/2020	2.5	26.5	26	Not measurable	
1/28/2020	0	0	0	Not measurable	
2/4/2020	2	11	10.5	Not measurable	
2/12/2020	0	0	0	Not measurable	
2/18/2020	1.5	11.5	10.25	Not measurable	Water from sumps pumped out on 2/20/2020
2/27/2020	2	42	36	Not measurable	
3/6/2020	1	36	36	Not measurable	
3/11/2020	2	30	35.5	Not measurable	
3/27/2020	0	29	28	Not measurable	
4/3/2020	15	29	28.5	Not measurable	
4/8/2020	0	23	20.5	Not measurable	
4/15/2020	0.5	23	22	Not measurable	
4/21/2020	0	21	21	Not measurable	
4/28/2020	0	23	22	Not measurable	
					Measurements were not taken; the inspector was
5/4/2020	-	-	-	Not Measured	unable to open the sumps
5/12/2020	0	20	19	Not measurable	
5/19/2020	0	15.75	14.25	Not measurable	Sump 1 pumped down (May 22nd)
5/27/2020	0	14	13	Not measurable	
6/1/2020	0	7	5	Not measurable	
6/10/2020	0	10	9	Not measurable	
6/17/2020	1	12	11	Not measurable	
6/20/2020	0	0	0	Not measurable	
6/30/2020	19	0	0	Not measured	Sumps 1, 2, 8, 2 numbed down
//1/2020	40	40	47	NOT MEASURADIE	Loss than 0.1 gal of DNARL recovered from P107/P109
7/8/2020	34	24.5	24	Not measurable	Sumn
//8/2020	34	24.5	24	Not measurable	Sump
					Sheen visible in B99/B100 sump & B107/B108 sump.
7/15/2020	32	29.5	29	Not measurable	less than 0.1 gal of DNAPL recovered B107/B108 sump
.,					Less than 0.1 gal of DNAPL recovered from B107/B108
7/23/2020	0	23	22.5	Not measured	Sump
7/31/2020	0	11	10	Not measurable	
8/5/2020	0	7	5	Not measurable	
8/13/2020	1	11	10	Not measurable	
8/19/2020	0	7	6	Not measurable	
8/26/2020	0	10	9	Not measurable	
					Sumps 1, 2, & 3 pumped down (September 1); Sheen
9/2/2020	43	37	38	Not measurable	visible in B99/B100 sump & B107/B108 sump
9/9/2020	28	37	36	Not measurable	Sheen visible in B107/B108 sump
9/15/2020	1	35	33	Not measurable	
9/23/2020	0	0	0	Not measurable	
9/30/2020	1	10	9	Not measurable	
10/8/2020	4	12	11.5	Not measurable	

TABLE 1 NAPL Measurements - NAPL Collection System - Englewood Intermodal Yard UPRR Houston, tx - Wood Preserving Works

	Sump 1	Sump 2	Sump 3		
Measured	(B099/B100)	(B103/B104)	(B107/B108)	Depth to DNAPL	
Date	Freeboard (in)	Freeboard (in)	Freeboard (in)	(in)	Comments
10/15/2020	0	11	10.5	Not measurable	Less than 0.1 gal of DNAPL recovered B107/B108 sump
10/21/2020	1	10.5	9.25	Not measurable	
10/28/2020	0	11	10	Not measurable	
11/4/2020	9	13	12	Not measurable	
11/11/2020	0.5	12	11	Not measurable	
11/18/2020	3.5	13	12	Not measurable	
11/24/2020	7	14	13.5	Not measurable	
11/30/2020	2	7	6	Not measurable	
12/10/2020	5	10.5	10	Not measurable	
12/18/2020	4	10	9	Not measurable	
12/23/2020	1	9	7.5	Not measurable	
12/31/2020	0	4	3.5	Not measurable	
1/6/2021	4	10.5	9	Not measurable	
1/15/2021	43	39	37.5	Not measurable	Sumps 1, 2, & 3 pumped down
1/22/2021	0	34	33	Not measurable	Sheen visible in B107/B108 sump
1/29/2021	2	31	30	Not measurable	Sheen visible in B107/B108 sump
2/4/2021	4	30	29.5	Not measurable	Sheen visible in B099/B100 sump
2/10/2021	0	27	25.5	Not measurable	
2/17/2021	0	0	0	Not measurable	
2/24/2021	2	10	9.5	Not measurable	
3/2/2021	0	0	0	Not measurable	
3/10/2021	0	10	9.75	Not measurable	
3/17/2021	0	2	1	Not measurable	
3/24/2021	0	3.5	2	Not measurable	
3/31/2021	0	6.5	7	Not measurable	
4/8/2021	0	7.5	7	Not measurable	
	_				Less than 0.1 gal of DNAPL recovered B107/B108 sump;
4/14/2021	0	6.5	6	Not measurable	Sheen visible in B103/104 and B107/B108 sumps
4/21/2021	0.5	9	8.5	Not measurable	
4/28/2021	0	8.5	8	Not measurable	
5/5/2021	0	7.5	7	Not measurable	
5/12/2021	0	8	7.5	Not measurable	
5/19/2021	0	0	0	Not measurable	
5/26/2021	0	2	0.5	Not measurable	
5/27/2021	41	32	26	Not measurable	Sumps 1,2, & 3 pumped down
6/2/2021	0	40	38	Not measurable	Sheen visible in B107/108 sump
6/9/2021	0	30	28.5	Not measurable	
6/16/2021	0	24	25	Not measurable	
6/23/2021	0	12	13	Not measurable	
6/30/2021	0	3	1	Not measurable	
7/7/2021	0	0	0	Not measurable	
7/14/2021	0	0	0	Not measurable	Sumps 1,2, & 3 pumped down (July 15)
7/21/2021	0	39	37	Not measurable	
7/29/2021	0	37	35.5	Not measurable	
8/4/2021	0	36	34	Not measurable	Sheen visible in B103/104 and B107/B108 sumps
					Depth to DNAPL measurements were not taken; the
8/11/2021	0	33	32	Not Measured	interface probe was not functioning properly
8/18/2021	0	25	23	Not measurable	
8/25/2021	0	20	22	Not measurable	
9/1/2021	0	20	17	Not measurable	
9/8/2021	3	14	11	Not measurable	
9/15/2021	0	3	4	Not measurable	Sumps 1,2, & 3 pumped down (September 17)
9/22/2021	31.5	46	46	Not measurable	Sheen visible in B107/B108 sump
9/29/2021	0	29	30.75	Not measurable	Sheen visible in B103/104 and B107/B108 sumps
10/7/2021	6	18	17.5	Not measurable	
					Sheen visible in B103/104 and B107/B108 sumps;
					brown discoloration and slight odor noted B099/B100
10/13/2021	3.6	10.56	9.72	Not measurable	sump
10/20/2021	0	13.94	12.6	Not measurable	Sumps 1,2, & 3 pumped down (October 21)
10/27/2021	0	22	21	Not measurable	Sheen visible in B099/B100 sump
11/3/2021	10	20	21	Not measurable	
11/10/2021	12	16	15	Not measurable	
11/17/2021	8	16	15	Not measurable	
11/24/2021	7	14	13	Not measurable	
12/1/2021	7	15	14	Not measurable	
12/8/2021	6	12.5	12	Not measurable	
12/15/2021	7	15	15	Not measurable	
					Partial site inspection conducted 12/22/21; Sump
12/22/2021	-			Not Measured	measurements were not taken
12/29/2021	0	11.5	11	Not measurable	
1/5/2022	8.75	13.5	12.25	Not measurable	
1/12/2022	6	12	12	Not measurable	
1/19/2022	13.5	17	16	Not measurable	Sheen visible in B099/B100 sump
1/27/2022	3	9	9	Not measurable	

TABLE 1 NAPL Measurements - NAPL Collection System - Englewood Intermodal Yard UPRR Houston, tx - Wood Preserving Works

Measured	Sump 1 (B099/B100)	Sump 2 (B103/B104)	Sump 3 (B107/B108)	Depth to DNAPL	
Date	Freeboard (in)	Freeboard (in)	Freeboard (in)	(in)	Comments
2/2/2022	-	-	-	Not Measured	Measurements were not taken; the inspector was unable to open the sumps
2/9/2022	9	15	15	Not measurable	
2/16/2022	8.5	17	16	Not measurable	
2/23/2022	5.5	14	13.5	Not measurable	
3/2/2022	5.5	15	14	Not measurable	
3/9/2022	4.5	7	6	Not measurable	
2/46/2022	10	26	45	N	Sumps 1,2, & 3 pumped down during inspection; less
3/16/2022	48	36	45	Not measurable	than 0.5 gal of DNAPL recovered B107/B108 sump
3/23/2022	55	29	28	Not measurable	
4/6/2022	3.5	19	18	Not measurable	
4/13/2022	4.5	18	15	Not measurable	Sheen visible in B099/B100 sump
4/20/2022	5	18	18	Not measurable	Sheen visible in B099/B100 sump
4/27/2022	4.5	12	8.5	Not measurable	
5/4/2022	48	42	45	Not measurable	Sumps 1,2, & 3 pumped down during inspection; Sheen visible in B099/B100 sump
5/11/2022	16	44.5	44	Not measurable	Sheen visible in B099/B100, B103/104, and B107/B108 sumps
5/18/2022	6.5	45	45	Not measurable	
5/25/2022	0	25	24	Not measurable	
6/1/2022	5.5	24	24	Not measurable	
6/8/2022	5	22	22	Not measurable	Sheen visible in B099/B100 and B103/104 sumps
6/15/2022	5	25	24	Not measurable	
6/22/2022	4.5	24	21	Not measurable	
6/29/2022	6	21	21	Not measurable	
7/6/2022	5.5	13	13	Not measurable	Channy visible in DOOD /D100 surge
//13/2022	5	15	14	Not measurable	Sheen visible in B099/B100 sump
= /22 /2222					Sumps 1,2, & 3 pumped down during inspection; less
//20/2022	51.5	38	43.5	Not measurable	than 0.1 gal of DNAPL recovered B099/B100 sump
//2//2022	4	42	40	Not measurable	
8/3/2022	5	39	39	Not measurable	Shoon visible in P107/P109 sump
8/10/2022	5.5	38	38	Not measurable	
8/1//2022	5.5	23.5	25	Not measurable	Inspector unable to open B099/B100 and B107/B108
8/24/2022	0	0.5	0	Not moscurable	sumps as there was standing water on top of the sumps
6/24/2022	0	0.5	0	Not measurable	Sumps 1,2, & 3 pumped down during inspection; sheen
8/31/2022	52	52	48	Not measurable	visible in B103/B104 sump
9/7/2022	3	37	37	Not measurable	
9/14/2022	1	34	31	Not measurable	Sheen visible in B099/B100 sump
9/21/2022	2.2	31.5	27.5	Not measurable	Sheen visible in B107/B108 sump
9/28/2022	3	30	31	Not measurable	Sheen visible in B099/B100 and B107/B108 sumps
10/5/2022	8	33	33	Not measurable	Sheen visible in B099/B100 and B107/B108 sumps
10/12/2022	7	32	32	Not measurable	Sheen visible in B099/B100 and B107/B108 sumps
10/19/2022	48	48	48	Not measurable	Sumps 1,2, & 3 pumped down during inspection; less than 0.1 gal of DNAPL recovered from B107/108 sump; small amount of DNAPL visible but not recoverable in B099/B100 sump; sheen visible in B099/B100 and B103/B104 sumps on recharge water after pumpdown
10/26/2022	6	46	45	Not measurable	Sheen visible in B107/B108 sump
11/2/2022	4	19	19	Not measurable	
11/9/2022	6	14	13	Not measurable	
11/16/2022	8	14	12	Not measurable	
11/22/2022	0	0	0	Not measurable	
					Very slight sheen visible in Sumps 1, 2, and 3; less than
11/30/2022	3	10	9	Not measurable	U.2 gal of DNAPL recovered from B107/108 sump
12///2022	4	13.5	13	NOT measurable	Loss than 0.4 gal of DNADL receivers of from D000 (0100
12/14/2022	<u> </u>			Net were state	sump; approximately 0.1 gal of DNAPL recovered from 8099/B100
12/14/2022	0	0	0	Not measurable	B107/B108 sump
12/21/2022	4	8	/	Not measurable	
1/4/2022	70	14	14 E	Not measurable	
1/11/2023	3.5	1.5	12	Not measurable	
1/18/2023	3	12	12	Not measurable	
1/25/2023	3	6	5	Not measurable	
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Note:

Freeboard in sumps is measured as depth to water from top rim of sump, measured in inches



ATTACHMENT A

Weekly Inspection Photolog



115)		рнотс	OGRAPHIC LOG
Client Name):	Site Location:		Project No.
Union Paci	fic Railroad	Englewood Intermoda	l Yard, Houston, Texas	19119232
Photo No.	Inspection Date:			
3	01/04/2023			
Description	:	4		
Stalls B099-E collection sys background o northwest. Lat: 29.7842 Long: - 95.32	B100, view of NAPL stem (Sump 1 in of photo), looking 75 20813			
Photo No.	Inspection Date:			
4 Decerimtic	01/04/2023		Y	
Stalls B107-E collection sys background of tar-like mater seep location along the sou excavated an northwest. Lat: 29.78419 Long: -95.32	3108, view of NAPL stem (Sump 3 in of photo), no new rial observed at n on concrete joint uthern edge of the rea, looking 56 20953			



115)		рното	GRAPHIC LOG
Client Name): fic Pailroad	Site Location:	Vard Houston Texas	Project No.
Photo No. 7	Inspection Date: 01/04/2023			
Description Sump 2 (B10 inches of free odor noted. Lat: 29.7842 Long: - 95.32	203/B104), 7.5 eboard. No sheen or 861 208611			U.S. AN
Photo No. 8 Description Sump 3 (B10 inches of free sheen or odo Lat: 29.7841 Long: -95.32	Inspection Date: 01/04/2023			

wsp			РНОТО	GRAPHIC LOG
Client Name:		Site Location:		Project No.
Union Pacif	ic Railroad	Englewood Intermodal Ya	rd, Houston, Texas	19119232
Photo No.	Inspection Date:			
9	01/11/2023	Strange Loge These -		
Description: Stall B107, no material at his location, looki Lat: 29.78415 Long: -95.320	o new tar-like storical seep ng northwest. 97			
Photo No. 10	Inspection Date: 01/11/2023		and the second	
Description:	I			
Stall B057, no material at his or July 2020 to looking northw Lat: 29.78474 Long: - 95.319	o new tar-like storical seep location est pit location, vest. 72 95417		BOST	

115)		РНОТО	GRAPHIC LOG
Client Name:		Site Location:		Project No.
Union Pacifi	c Railroad	Englewood Intermoda	l Yard, Houston, Texas	19119232
Photo No. 11	Inspection Date: 01/11/2023		Jama .	
Description:		The second secon		
Stall B096, no observed near location along adjacent to Ju Lat: 29.78425 Long: - 95.320	tar-like material historical seep concrete joint ly 2020 test pit. 28 96250		Boque	
Photo No. 12	Inspection Date: 01/11/2023			
Description:	I			
Stall B102, no material obser joint, residual surface noted, Lat: 29.784220 Long: - 95.320	new tar-like ved within concrete staining on concrete looking northwest. 03 0827		Eloz	

115)		PHOT	OGRAPHIC LOG
Client Name:	.	Site Location:		Project No.
Union Pacifi	c Railroad	Englewood Intermod	al Yard, Houston, Texas	19119232
Photo No. 13	Inspection Date:			
Description: Stall B105 a hi location. Pictur tar-like materia 2020. Lat: 29.78417 Long: - 95.320	istorical seep re shows that no al is present. a test pit from July			
Photo No. 14	Inspection Date: 01/11/2023			
Description:		- The second second	The states	
Sump 1 (B099 freeboard in su odor noted, no accumulation o	/B100), 3 inches of ump, no sheen or o new NAPL on inflow protector.	23		
Lat: 29.784400 Long: - 95.320	D0 95861		Bogg	

115)		РНОТОС	GRAPHIC LOG
Client Name): Gla Daileanai	Site Location:		Project No.
Union Paci Photo No	TIC Railroad	Englewood Intermoda	I Yard, Houston, Texas	19119232
15	01/11/2023			
Description				
Sump 2 (B10 inches of free odor noted, r recovered. Lat: 29.7842 Long: - 95.32	03/B104), 12 eboard. No sheen or no tar-like material 861 208611		B103	
Photo No. 16	Inspection Date: 01/11/2023			
Description			and the state	
Sump 3 (B10 of freeboard, noted. Lat: 29.7841 Long: -95.32	07/B108), 12 inches no sheen or odor 72 0998		BIOT	

115)		РНОТС	GRAPHIC LOG
Client Name	: fie Beilread	Site Location:	Vard Hauston Taxaa	Project No.
Photo No. 17	Inspection Date: 01/18/2023	Englewood Intermoda		19119232
Description: Stall A011 se material obse wet from ong Lat: 29.7853 Long: -95.31	eep, no new tar-like erved, pavement joing rain event. 92, 8655			
Photo No. 18	Inspection Date: 01/18/2023			
Description: Stall B096, n material obse seep locatior joint adjacen pit, looking n water from of present. Lat: 29.78423 Long: - 95.32	o new tar-like erved near historical a along concrete t to July 2020 test orthwest. Standing ngoing rain event is			

115)		РНОТО	GRAPHIC LOG
Client Name	: fic Railroad	Site Location:	Vard Houston Texas	Project No. 19119232
Photo No. 19 Description Stall B105, n observed, loo Standing wat rain event is	Inspection Date: 01/18/2023 o tar-like material oking northwest. ter from ongoing present.			
Lat: 29.7842 Long: -95.32	36, 0939		BIOS	
Photo No. 20 Description Sump 1 (B09 of freeboard or odor noted accumulation protector. Pa ongoing rain Lat: 29.7844 Long: - 95.32	Inspection Date: 01/18/2023 99/B100), 3 inches in sump, no sheen d, no new NAPL n on the inflow wement wet from event 000 205861			

115)		РНОТС	OGRAPHIC LOG
Client Name		Site Location:	· · · · · · · ·	Project No.
Union Paci	fic Railroad	Englewood Intermoda	l Yard, Houston, Texas	19119232
21 Photo No.	Inspection Date: 01/18/2023		in the second	
Description	1		All and a second	
Sump 2 (B10 of freeboard or odor noted from ongoing Lat: 29.7842 Long: - 95.32	03/B104), 13 inches in sump, no sheen d. Pavement wet g rain event 861 208611			
Photo No. 22	Inspection Date: 01/18/2023		20	
Description				
Sump 3 (B10 of freeboard or odor noted from ongoing Lat: 29.7841 Long: -95.32	07/B108), 13 inches in sump, no sheen d. Pavement wet g rain event 72 0998			



115)		РНОТС	OGRAPHIC LOG
Client Name		Site Location:		Project No.
Union Pac	ific Railroad	Englewood Intermoda	Yard, Houston, Texas	19119232
25 Photo No.	Inspection Date: 1/25/2023			
Description	:		and the second second	
North side of tar-like mate seep location the ballast. Lat: 29.7849 Long: -95.32	f Track 802 no new rial observed at the n along the edge of 47 1214			
Photo No. 26	Inspection Date: 1/25/2023			
Description	:		10	1 1 2 2 2
Seep locatio the concrete north of Trac existing Trac location), no material obs concrete join Lat: 29.7850 Long: -95.32	n observed within road area (RD-14) k 802 (East of k 802 seep new tar-like erved along a ht. 5 2124			

115)		РНОТОС	GRAPHIC LOG
Client Name):	Site Location:		Project No.
Union Paci	ific Railroad	Englewood Intermoda	l Yard, Houston, Texas	19119232
Photo No. 27	Inspection Date: 1/25/2023			
Description	:	The second s		Huden and have
Stall B056-B material at hi locations in E the test pit (J northwest. Lat: 29.7847 Long: - 95.31	058, no tar-like istorical seep 3056, B057, or at July 2020), looking 472 195417		B65	
Photo No. 28	Inspection Date: 1/25/2023			
Description Stall B102, n seep observe residual stair surface note Lat: 29.7842 Long: - 95.32	: no tar-like material ed within joint, ning on concrete d. 203 20827		TICZ	



115)		PHOTOGRAPHIC L		
Client Name):	Site Location:		Project No.	
Union Paci	fic Railroad	Englewood Intermoda	l Yard, Houston, Texas	19119232	
Photo No.	Inspection Date:				
31 Description: Sump 3 (B10 of freeboard or odor noted Lat: 29.78417 Long: -95.320	1/25/2023 7/B108), 5 inches in sump, no sheen d. 72 0998				
Photo No.	Inspection Date:				
J2 Description	1/20/2023	Stan Street and Street		a de la contra de la	
Stall B109, w Collection sy material obse northwest. Lat: 29.7841 ⁻ Long: -95.32	vestern end of NAPL stem, no tar-like erved, looking 19 1007				



ATTACHMENT B

Analytical Report



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

January 18, 2023

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

Work Order: HS23010755

Laboratory Results for: Houston TX-Wood Preserving Works IDW

Dear Eric Matzner,

ALS Environmental received 1 sample(s) on Jan 13, 2023 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,

y (r

Generated By: JUMOKE.LAWAL Dane J. Wacasey

alsglobal.com

Client: Project: Work Order:	WSP Golder Houston TX-Wood Preserving V HS23010755	SAMPLE SUM	MARY			
Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23010755-01	WW-1620-SUMPS-20230111	Water		11-Jan-2023 11:40	13-Jan-2023 08:30	

ALS Houston, US

CASE NARRATIVE

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWork Order:HS23010755

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: 188499

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

GCMS Volatiles by Method SW8260

Batch ID: R425995

Sample ID: HS2301060-09MS

• MS and MSD are for an unrelated sample

Metals by Method SW7470A

Batch ID: 188532

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

Metals by Method SW6020A

Batch ID: 188485

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

WetChemistry by Method SW9040C

Batch ID: R426017

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

WetChemistry by Method SW1010

Batch ID: R425976

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

Client:	WSP Golder
Project:	Houston TX-Wood Preserving Works IDW
Sample ID:	WW-1620-SUMPS-20230111
Collection Date:	11-Jan-2023 11:40

ANALYTICAL REPORT

WorkOrder:HS23010755 Lab ID:HS23010755-01 Matrix:Water

ANALYSES	RESULT	QUAL MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY S	W8260C	Method:SW8260				Analyst: AKP
1,1,1-Trichloroethane	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
1,1,2,2-Tetrachloroethane	< 0.00050	0.00050	0.0010	mg/L	1	17-Jan-2023 14:58
1,1,2-Trichloroethane	< 0.00030	0.00030	0.0010	mg/L	1	17-Jan-2023 14:58
1,1-Dichloroethane	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
1,1-Dichloroethene	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
1,2-Dichlorobenzene	< 0.00050	0.00050	0.0010	mg/L	1	17-Jan-2023 14:58
1,2-Dichloroethane	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
1,2-Dichloropropane	< 0.00050	0.00050	0.0010	mg/L	1	17-Jan-2023 14:58
1,3-Dichlorobenzene	< 0.00040	0.00040	0.0010	mg/L	1	17-Jan-2023 14:58
1,4-Dichlorobenzene	< 0.00040	0.00040	0.0010	mg/L	1	17-Jan-2023 14:58
2-Butanone	< 0.00050	0.00050	0.0020	mg/L	1	17-Jan-2023 14:58
2-Hexanone	< 0.0010	0.0010	0.0020	mg/L	1	17-Jan-2023 14:58
4-Methyl-2-pentanone	< 0.00070	0.00070	0.0020	mg/L	1	17-Jan-2023 14:58
Acetone	< 0.0020	0.0020	0.0020	mg/L	1	17-Jan-2023 14:58
Benzene	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
Bromochloromethane	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
Bromodichloromethane	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
Bromoform	< 0.00040	0.00040	0.0010	mg/L	1	17-Jan-2023 14:58
Bromomethane	< 0.00040	0.00040	0.0010	mg/L	1	17-Jan-2023 14:58
Carbon disulfide	< 0.00060	0.00060	0.0020	mg/L	1	17-Jan-2023 14:58
Carbon tetrachloride	< 0.00050	0.00050	0.0010	mg/L	1	17-Jan-2023 14:58
Chlorobenzene	< 0.00030	0.00030	0.0010	mg/L	1	17-Jan-2023 14:58
Chloroethane	< 0.00030	0.00030	0.0010	mg/L	1	17-Jan-2023 14:58
Chloroform	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
Chloromethane	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
cis-1,2-Dichloroethene	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
cis-1,3-Dichloropropene	< 0.00010	0.00010	0.0010	mg/L	1	17-Jan-2023 14:58
Dibromochloromethane	< 0.00030	0.00030	0.0010	mg/L	1	17-Jan-2023 14:58
Ethylbenzene	< 0.00030	0.00030	0.0010	mg/L	1	17-Jan-2023 14:58
m,p-Xylene	< 0.00050	0.00050	0.0020	mg/L	1	17-Jan-2023 14:58
Methylene chloride	< 0.0010	0.0010	0.0020	mg/L	1	17-Jan-2023 14:58
o-Xylene	< 0.00030	0.00030	0.0010	mg/L	1	17-Jan-2023 14:58
Styrene	< 0.00030	0.00030	0.0010	mg/L	1	17-Jan-2023 14:58
Tetrachloroethene	< 0.00030	0.00030	0.0010	mg/L	1	17-Jan-2023 14:58
Toluene	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
trans-1,2-Dichloroethene	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
trans-1,3-Dichloropropene	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
Trichloroethene	< 0.00020	0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
Vinyl acetate	< 0.00050	0.00050	0.0010	mg/L	1	17-Jan-2023 14:58

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

Page 4 of 27

Client:	WSP Golder	
Project:	Houston TX-Wood Preserving Works IDW	Work
Sample ID:	WW-1620-SUMPS-20230111	
Collection Date:	11-Jan-2023 11:40	

ANALYTICAL REPORT

orkOrder:HS23010755 Lab ID:HS23010755-01 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SV	V8260C	Metho	d:SW8260				Analyst: AKP
Vinyl chloride	< 0.00020		0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	17-Jan-2023 14:58
1,2-Dichloroethene, Total	< 0.00020		0.00020	0.0010	mg/L	1	17-Jan-2023 14:58
Surr: 1,2-Dichloroethane-d4	89.6			70-126	%REC	1	17-Jan-2023 14:58
Surr: 4-Bromofluorobenzene	83.1			77-113	%REC	1	17-Jan-2023 14:58
Surr: Dibromofluoromethane	99.2			77-123	%REC	1	17-Jan-2023 14:58
Surr: Toluene-d8	103			82-127	%REC	1	17-Jan-2023 14:58
LOW-LEVEL TEXAS TPH BY TX	(1005	Metho	od:TX1005		Prep:TX1005F	PR / 17-Jan-2023	Analyst: DB
nC6 to nC12	< 0.19		0.19	0.48	mg/L	1	18-Jan-2023 12:15
>nC12 to nC28	< 0.19		0.19	0.48	mg/L	1	18-Jan-2023 12:15
>nC28 to nC35	< 0.19		0.19	0.48	mg/L	1	18-Jan-2023 12:15
Total Petroleum Hydrocarbon	< 0.19		0.19	0.48	mg/L	1	18-Jan-2023 12:15
Surr: 2-Fluorobiphenyl	103			70-130	%REC	1	18-Jan-2023 12:15
Surr: Trifluoromethyl benzene	101			70-130	%REC	1	18-Jan-2023 12:15
ICP-MS METALS BY SW6020A		Metho	d:SW6020A		Prep:SW3010	A / 17-Jan-2023	Analyst: JC
Antimony	0.00137	J	0.000400	0.00200	mg/L	1	17-Jan-2023 19:24
Arsenic	0.00186	J	0.000400	0.00200	mg/L	1	17-Jan-2023 19:24
Barium	0.0649		0.00190	0.00400	mg/L	1	17-Jan-2023 19:24
Beryllium	< 0.000200		0.000200	0.00200	mg/L	1	17-Jan-2023 19:24
Cadmium	< 0.000200		0.000200	0.00200	mg/L	1	17-Jan-2023 19:24
Chromium	0.000945	J	0.000400	0.00400	mg/L	1	17-Jan-2023 19:24
Lead	0.00141	J	0.000600	0.00200	mg/L	1	17-Jan-2023 19:24
Nickel	0.00189	J	0.000600	0.00200	mg/L	1	17-Jan-2023 19:24
Selenium	< 0.00110		0.00110	0.00200	mg/L	1	17-Jan-2023 19:24
Silver	< 0.000200		0.000200	0.00200	mg/L	1	17-Jan-2023 19:24
MERCURY BY SW7470A		Metho	d:SW7470A		Prep:SW7470	A / 18-Jan-2023	Analyst: JS
Mercury	< 0.0000300		0.0000300	0.000200	mg/L	1	18-Jan-2023 13:59
FLASH POINT BY PENSKY-MAI SW1010A	RTENS	Metho	d:SW1010				Analyst: TH
Ignitability	> 212		70.0	70.0	°F	1	17-Jan-2023 15:30
PH BY SW9040C		Metho	d:SW9040C				Analyst: CD
рН	7.42	Н	0.100	0.100	pH Units	i 1	18-Jan-2023 11:46
Temp Deg C @pH	21.1	Н	0	0	DEG C	1	18-Jan-2023 11:46

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

Weight / Prep Log

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

Batch ID: 188485		Start Date:	17 Jan 2023	3 09:00	End Date: 17 Jan 2023 17:00
Method: WATER - SW3010	A				Prep Code: 3010A
Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23010755-01		10 (mL)	10 (mL)	1	120 plastic HNO3
Batch ID: 188499		Start Date:	17 Jan 2023	3 14:30	End Date: 17 Jan 2023 16:00
Method: TX 1005 PREP					Prep Code: TX 1005_W PR
Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23010755-01		31.25 (g)	3 (mL)	0.096	40 mL VOA vial, HCl to pH <2
Batch ID: 188532		Start Date:	18 Jan 2023	3 08:00	End Date: 18 Jan 2023 11:00
Method: MERCURY PREP	BY 7470A- W	ATER			Prep Code: HG_WPR
		Sample	Final	Prep	
Sample ID	Container	Wt/Vol	Volume	Factor	

Client: Project: WorkOrder:	WSP Golder Houston TX-Wood I HS23010755	Preserving Works ID	W		DATES RE	PORT
Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 188485	(0) Test Name :	ICP-MS METALS BY SV	V6020A		Matrix: Water	
HS23010755-01	WW-1620-SUMPS-202301	11 11 Jan 2023 11:40		17 Jan 2023 13:00	17 Jan 2023 19:24	1
Batch ID: 188499	(0) Test Name :	LOW-LEVEL TEXAS TP	H BY TX1005		Matrix: Water	
HS23010755-01	WW-1620-SUMPS-202301	11 11 Jan 2023 11:40		17 Jan 2023 14:30	18 Jan 2023 12:15	1
Batch ID: 188532	(0) Test Name :	MERCURY BY SW7470	A		Matrix: Water	
HS23010755-01	WW-1620-SUMPS-202301	11 11 Jan 2023 11:40		18 Jan 2023 08:00	18 Jan 2023 13:59	1
Batch ID: R425976	6 (0) Test Name :	FLASH POINT BY PENS	KY-MARTENS SW10	10A	Matrix: Water	
HS23010755-01	WW-1620-SUMPS-202301	11 11 Jan 2023 11:40			17 Jan 2023 15:30	1
Batch ID: R42599	5 (0) Test Name :	LOW LEVEL VOLATILE	S BY SW8260C		Matrix: Water	
HS23010755-01	WW-1620-SUMPS-202301	11 11 Jan 2023 11:40			17 Jan 2023 14:58	1
Batch ID: R42601	7 (0) Test Name :	PH BY SW9040C			Matrix: Water	
HS23010755-01	WW-1620-SUMPS-202301	11 11 Jan 2023 11:40			18 Jan 2023 11:46	1

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

QC BATCH REPORT

Batch ID: 188499 (0)	In	strument:	FID-12	M	ethod: L	OW-LEVEL	TEXAS TPH	BY TX1005
MBLK Sample I	D: MBLK-188499		Units:	mg/L	Ana	alysis Date:	18-Jan-2023	10:45
Client ID:		Run ID: FID-	12_426034	SeqNo: 7	077828	PrepDate:	17-Jan-2023	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	2.301	0	2.5	0	92.0	70 - 130		
Surr: Trifluoromethyl benzene	2.218	0	2.5	0	88.7	70 - 130		
LCS Sample I	D: LCS-188499		Units:	mg/L	Ana	alysis Date:	18-Jan-2023	11:15
Client ID:		Run ID: FID-	12_426034	SeqNo: 7	077829	PrepDate:	17-Jan-2023	DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
nC6 to nC12	21.39	0.50	25	0	85.6	75 - 125		
>nC12 to nC28	22.6	0.50	25	0	90.4	75 - 125		
Surr: 2-Fluorobiphenyl	3.151	0	2.5	0	126	70 - 130		
Surr: Trifluoromethyl benzene	2.571	0	2.5	0	103	70 - 130		
LCSD Sample I	D: LCSD-188499		Units:	mg/L	Ana	alysis Date:	18-Jan-2023	11:45
Client ID:		Run ID: FID-	12_426034	SeqNo: 7	077830	PrepDate:	17-Jan-2023	DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
nC6 to nC12	21.49	0.50	25	0	86.0	75 - 125	21.39	0.461 20
>nC12 to nC28	24.47	0.50	25	0	97.9	75 - 125	22.6	7.92 20
Surr: 2-Fluorobiphenyl	3.114	0	2.5	0	125	70 - 130	3.151	1.18 20
Surr: Trifluoromethyl benzene	2.513	0	2.5	0	101	70 - 130	2.571	2.3 20
MS Sample I	D: HS23010755-01	MS	Units:	mg/L	Ana	alysis Date:	18-Jan-2023	12:45
Client ID: WW-1620-SUMP	S-20230111	Run ID: FID-	12_426034	SeqNo: 7	077832	PrepDate:	17-Jan-2023	DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
nC6 to nC12	25.27	0.48	23.98	0	105	75 - 125		
>nC12 to nC28	27.64	0.48	23.98	0	115	75 - 125		
Surr: 2-Fluorobiphenyl	2.903	0	2.398	0	121	70 - 130		
Surr: Trifluoromethyl benzene	2.258	0	2.398	0	94.1	70 - 130		

ALS Houston, US

Date: 18-Jan-23

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

QC BATCH REPORT

Batch ID:	188499(0)	Instrume	nt:	FID-12	M	ethod: L	OW-LEVEL	TEXAS TPH	BY TX1005
MSD	Sample ID:	HS23010755-01MSD		Units:	mg/L	Ana	alysis Date:	18-Jan-2023	13:15
Client ID:	WW-1620-SUMPS-20	230111 Run ID	: FID-	12_426034	SeqNo: 7	077833	PrepDate:	17-Jan-2023	DF: 1
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
nC6 to nC1	2	25.5	0.47	23.62	0	108	75 - 125	25.27	0.897 20
>nC12 to n	C28	25.16	0.47	23.62	0	106	75 - 125	27.64	9.41 20
Surr: 2-Flue	orobiphenyl	2.661	0	2.362	0	113	70 - 130	2.903	8.71 20
Surr: Trifluo	oromethyl benzene	2.103	0	2.362	0	89.0	70 - 130	2.258	7.08 20
The followin	e following samples were analyzed in this batch: HS23010755-01								

Page 9 of 27

Date: 18-Jan-23

QC BATCH REPORT

WSP Golder Client: Project: Houston TX-Wood Preserving Works IDW WorkOrder: HS23010755

Batch ID:	188485(0)	In	strument:	ICPMS06	M	ethod: I	CP-MS MET	ALS BY SWE	6020A
MBLK	Sample ID:	MBLK-188485		Units:	mg/L	Ana	alysis Date:	17-Jan-2023	14:32
Client ID:			Run ID: ICP	MS06_425924	SeqNo: 7	076444	PrepDate:	17-Jan-2023	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-188485		Units:	mg/L	Ana	alysis Date:	17-Jan-2023	14:34
Client ID:			Run ID: ICP	MS06_425924	SeqNo: 7	076445	PrepDate:	17-Jan-2023	DF: 1
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Antimony		0.05293	0.00200	0.05	0	106	80 - 120		
Arsenic		0.05247	0.00200	0.05	0	105	80 - 120		
Barium		0.05448	0.00400	0.05	0	109	80 - 120		
Beryllium		0.0511	0.00200	0.05	0	102	80 - 120		
Cadmium		0.05543	0.00200	0.05	0	111	80 - 120		
Chromium		0.05337	0.00400	0.05	0	107	80 - 120		
Lead		0.05508	0.00200	0.05	0	110	80 - 120		
Nickel				0.05	0	100	80 120		
NICKCI		0.05419	0.00200	0.05	0	100	00 - 120		
Selenium		0.05419 0.05321	0.00200	0.05	0	106	80 - 120		

Date: 18-Jan-23

QC BATCH REPORT

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

Batch ID:	188485(0)	Inst	rument: I	CPMS06	M	ethod: I	CP-MS MET	ALS BY SW6	020A		
MS	Sample ID:	HS23010109-01M	8	Units:	mg/L	Ana	alysis Date:	17-Jan-2023	14:40		
Client ID:		R	un ID: ICPM	S06_425924	SeqNo: 7	076448	PrepDate:	17-Jan-2023	DF:	1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	F %RPD l	RPD Limit Qu	ıal
Antimony		0.05241	0.00200	0.05	0.000504	104	80 - 120				
Arsenic		0.0587	0.00200	0.05	0.006304	105	80 - 120				
Barium		0.34	0.00400	0.05	0.2936	92.8	80 - 120				0
Beryllium		0.05015	0.00200	0.05	0.00001	100	80 - 120				
Cadmium		0.05213	0.00200	0.05	0.000015	104	80 - 120				
Chromium		0.05299	0.00400	0.05	-0.000003	106	80 - 120				
Lead		0.05369	0.00200	0.05	0.000054	107	80 - 120				
Nickel		0.05383	0.00200	0.05	0.002802	102	80 - 120				
Selenium		0.05337	0.00200	0.05	0.001589	104	80 - 120				
Silver		0.05211	0.00200	0.05	0.000009	104	80 - 120				
MSD	Sample ID:	HS23010109-01M	SD	Units:	mg/L	Ana	alysis Date:	17-Jan-2023	14:41		
Client ID:		R	un ID: ICPM	S06_425924	SeqNo: 7	076449	PrepDate:	17-Jan-2023	DF:	1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	F %RPD l	RPD Limit Qu	ıal
Antimony		0.0513	0.00200	0.05	0.000504	102	80 - 120	0.05241	2.14	1 20	
Arsenic		0.05741	0.00200	0.05	0.006304	102	80 - 120	0.0587	2.21	20	
Barium		0.3377	0.00400	0.05	0.2936	88.1	80 - 120	0.34	0.691	20	0
Beryllium		0.04982	0.00200	0.05	0.00001	99.6	80 - 120	0.05015	0.668	3 20	
Cadmium		0.05131	0.00200	0.05	0.000015	103	80 - 120	0.05213	1.6	3 20	
Chromium		0.05125	0.00400	0.05	-0.000003	103	80 - 120	0.05299	3.34	20	
Lead		0.05262	0.00200	0.05	0.000054	105	80 - 120	0.05369	2.01	20	
Nickel		0.05136	0.00200	0.05	0.002802	97.1	80 - 120	0.05383	4.7	' 20	
Selenium		0.05157	0.00200	0.05	0.001589	100.0	80 - 120	0.05337	3.42	2 20	
Silver		0.05115	0.00200	0.05	0.000009	102	80 - 120	0.05211	1.87	<u>20</u>	

Date: 18-Jan-23

QC BATCH REPORT

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

Batch ID:	188485 (0)	Insti	rument: I	CPMS06	M	ethod: I	CP-MS MET	ALS BY SW6	020A
PDS	Sample ID:	HS23010109-01PD	S	Units:	mg/L	Ana	alysis Date:	17-Jan-2023	14:43
Client ID:		Ru	un ID: ICPM	S06_425924	SeqNo: 7	076450	PrepDate:	17-Jan-2023	DF: 1
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Antimony		0.0966	0.00200	0.1	0.000504	96.1	75 - 125		
Arsenic		0.1063	0.00200	0.1	0.006304	100	75 - 125		
Beryllium		0.09571	0.00200	0.1	0.00001	95.7	75 - 125		
Cadmium		0.1023	0.00200	0.1	0.000015	102	75 - 125		
Chromium		0.1024	0.00400	0.1	-0.000003	102	75 - 125		
Lead		0.1002	0.00200	0.1	0.000054	100	75 - 125		
Nickel		0.09891	0.00200	0.1	0.002802	96.1	75 - 125		
Selenium		0.1022	0.00200	0.1	0.001589	101	75 - 125		
Silver		0.1001	0.00200	0.1	0.000009	100	75 - 125		
SD	Sample ID:	HS23010109-01SD)	Units:	mg/L	Ana	alysis Date:	17-Jan-2023	14:38
Client ID:		Ru	un ID: ICPM	S06_425924	SeqNo: 7	076447	PrepDate:	17-Jan-2023	DF: 5
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D %D Limit Qual
Analyte Antimony		Result < 0.00200	PQL 0.0100	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value 0.000504	%D %D Limit Qual 0 10
Analyte Antimony Arsenic		Result < 0.00200 0.007158	PQL 0.0100 0.0100	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value 0.000504 0.006304	%D Limit Qual 0 10 0 10
Analyte Antimony Arsenic Barium		Result < 0.00200 0.007158 0.2986	PQL 0.0100 0.0100 0.0200	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value 0.000504 0.006304 0.2936	%D %D Limit Qual 0 10 0 10 1.72 10
Analyte Antimony Arsenic Barium Beryllium		Result < 0.00200 0.007158 0.2986 < 0.00100	PQL 0.0100 0.0100 0.0200 0.0100	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value 0.000504 0.006304 0.2936 0.00001	%D Limit Qual 0 10 0 10 1.72 10 0 10
Analyte Antimony Arsenic Barium Beryllium Cadmium		Result < 0.00200 0.007158 0.2986 < 0.00100 < 0.00100	PQL 0.0100 0.0100 0.0200 0.0100 0.0100	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value 0.000504 0.006304 0.2936 0.00001 0.000015	%D Limit Qual 0 10 0 10 1.72 10 0 10 0 10 0 10
Analyte Antimony Arsenic Barium Beryllium Cadmium Chromium		Result < 0.00200	PQL 0.0100 0.0200 0.0100 0.0100 0.0100 0.0200	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value 0.000504 0.006304 0.2936 0.00001 0.000015 -0.000003	%D Limit Qual 0 10 0 10 1.72 10 0 10 0 10 0 10 0 10
Analyte Antimony Arsenic Barium Beryllium Cadmium Chromium Lead		Result < 0.00200	PQL 0.0100 0.0200 0.0100 0.0100 0.0200 0.0200 0.0100	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value 0.000504 0.006304 0.2936 0.00001 0.000015 -0.000003 0.000054	%D MD %D Limit Qual 0 10 0 10 1.72 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10
Analyte Antimony Arsenic Barium Beryllium Cadmium Chromium Lead Nickel		Result < 0.00200	PQL 0.0100 0.0200 0.0100 0.0100 0.0200 0.0100 0.0100	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value 0.000504 0.006304 0.2936 0.00001 0.000015 -0.000003 0.000054 0.002802	%D %D %D Limit Qual 0 10 0 10 1.72 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10
Analyte Antimony Arsenic Barium Beryllium Cadmium Chromium Lead Nickel Selenium		Result < 0.00200	PQL 0.0100 0.0200 0.0100 0.0100 0.0200 0.0100 0.0100 0.0100	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value 0.000504 0.006304 0.2936 0.000015 -0.000003 0.000054 0.002802 0.001589	%D MD %D Limit Qual 0 10 0 10 1.72 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10
Analyte Antimony Arsenic Barium Beryllium Cadmium Chromium Lead Nickel Selenium Silver		Result < 0.00200	PQL 0.0100 0.0200 0.0100 0.0100 0.0200 0.0100 0.0100 0.0100 0.0100	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value 0.000504 0.2936 0.00001 0.000015 -0.000003 0.000054 0.002802 0.001589 0.000009	%D MD %D Limit Qual 0 10 0 10 1.72 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10

WSP Golder **Client: QC BATCH REPORT Project:** Houston TX-Wood Preserving Works IDW WorkOrder: HS23010755 Method: MERCURY BY SW7470A Batch ID: 188532 (0) Instrument: **HG04** MBLK Sample ID: MBLK-188532 Units: mg/L Analysis Date: 18-Jan-2023 13:49 Client ID: SeqNo: 7078130 PrepDate: 18-Jan-2023 Run ID: HG04_426052 DF·1 SPK Ref Control **RPD** Ref RPD Analyte Result PQL SPK Val Value %REC %RPD Limit Qual Limit Value Mercury < 0.0000300 0.000200 LCS Sample ID: LCS-188532 Units: mg/L Analysis Date: 18-Jan-2023 13:51 Client ID: Run ID: HG04_426052 SeqNo: 7078131 PrepDate: 18-Jan-2023 DF: 1 SPK Ref Control **RPD** Ref RPD Value %RPD Limit Qual Analyte Result PQL SPK Val Value %REC Limit Mercury 0.00516 0.000200 0.005 0 103 80 - 120 MS Sample ID: HS23010755-01MS Units: mg/L Analysis Date: 18-Jan-2023 14:01 WW-1620-SUMPS-20230111 Client ID: Run ID: HG04 426052 SeqNo: 7078137 PrepDate: 18-Jan-2023 DF: 1 SPK Ref Control **RPD** Ref RPD %RPD Limit Qual Result PQL SPK Val %REC Analyte Value Limit Value Mercury 0.00555 0.000200 0.005 -0.000008 111 75 - 125 MSD Sample ID: HS23010755-01MSD Units: mg/L Analysis Date: 18-Jan-2023 14:02 Client ID: WW-1620-SUMPS-20230111 Run ID: HG04_426052 SeqNo: 7078138 PrepDate: 18-Jan-2023 DF: 1 SPK Ref Control RPD Ref RPD Analyte Result PQL SPK Val Value %REC Limit Value %RPD Limit Qual Mercury 0.00525 0.000200 0.005 -0.00008 105 75 - 125 0.00555 5.56 20 The following samples were analyzed in this batch: HS23010755-01

Date: 18-Jan-23

ALS Houston, US

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QC BATCH REPORT

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

Batch ID: R425995 (0) VOA10 Method: LOW LEVEL VOLATILES BY SW8260C Instrument: MBLK Sample ID: Analysis Date: 17-Jan-2023 10:32 VBLKW-230117 Units: ug/L Client ID: SeqNo: 7077102 PrepDate: DF: 1 Run ID: VOA10_425995 RPD Ref SPK Ref RPD Control Analyte Result PQL SPK Val Value %REC Limit Value %RPD Limit Qual 1,1,1-Trichloroethane < 0.20 1.0 < 0.50 1,1,2,2-Tetrachloroethane 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 < 0.40 1.0 1,4-Dichlorobenzene 2-Butanone < 0.50 2.0 2-Hexanone 2.0 < 1.0 4-Methyl-2-pentanone < 0.70 2.0 Acetone < 2.0 2.0 < 0.20 Benzene 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 < 0.30 1.0 Dibromochloromethane Ethylbenzene < 0.30 1.0 2.0 m,p-Xylene < 0.50 Methylene chloride < 1.0 2.0 o-Xylene < 0.30 1.0 Styrene < 0.30 1.0 Tetrachloroethene < 0.30 1.0

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Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

QC BATCH REPORT

Batch ID: R42599	95(0)	Instrume	ent: VC	DA10	M	ethod: L	OW LEVEL	VOLATILES	BY SW8260C
MBLK	Sample ID:	VBLKW-230117		Units:	ug/L	Ana	alysis Date:	17-Jan-2023	3 10:32
Client ID:		Run ID	: VOA10	_425995	SeqNo: 7	077102	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-Dichloroet	thene	< 0.20	1.0						
trans-1,3-Dichlorop	ropene	< 0.20	1.0						
Trichloroethene		< 0.20	1.0						
Vinyl acetate		< 0.50	1.0						
Vinyl chloride		< 0.20	1.0						
Xylenes, Total		< 0.30	1.0						
1,2-Dichloroethene,	, Total	< 0.20	1.0						
Surr: 1,2-Dichloroet	thane-d4	44.68	1.0	50	0	89.4	70 - 123		
Surr: 4-Bromofluoro	obenzene	46.35	1.0	50	0	92.7	77 - 113		
Surr: Dibromofluoro	omethane	48.97	1.0	50	0	97.9	73 - 126		
Surr: Toluene-d8		51.85	1.0	50	0	104	81 - 120		

QC BATCH REPORT

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

VOA10 Method: LOW LEVEL VOLATILES BY SW8260C Batch ID: R425995 (0) Instrument: LCS Sample ID: VLCSW-230117 Units: ug/L Analysis Date: 17-Jan-2023 09:51 Client ID: SeqNo: 7077101 DF: 1 Run ID: VOA10_425995 PrepDate: SPK Ref RPD Ref Control RPD Result PQL SPK Val Value %REC Limit Value %RPD Limit Qual Analyte 1,1,1-Trichloroethane 17.9 1.0 20 0 89.5 70 - 130 1,1,2,2-Tetrachloroethane 22.28 1.0 20 0 111 70 - 120 1,1,2-Trichloroethane 19.78 1.0 20 0 98.9 77 - 113 1,1-Dichloroethane 1.0 20 96.2 71 - 122 19.23 0 1.1-Dichloroethene 18.3 1.0 20 0 91.5 70 - 130 22.36 1.0 20 112 77 - 113 1,2-Dichlorobenzene 0 1,2-Dichloroethane 20.63 1.0 20 0 103 70 - 124 18.41 1.0 72 - 119 1,2-Dichloropropane 20 0 92.1 1,3-Dichlorobenzene 21.79 1.0 20 0 109 78 - 118 22.11 1.0 20 0 111 79 - 113 1,4-Dichlorobenzene 2-Butanone 34.42 2.0 40 0 86.1 70 - 130 46.1 2.0 40 0 70 - 130 2-Hexanone 115 4-Methyl-2-pentanone 42.48 2.0 40 0 106 70 - 130 Acetone 38.87 2.0 40 0 97.2 70 - 130 20 Benzene 17.85 1.0 0 89.2 74 - 120 Bromochloromethane 18.36 1.0 20 0 91.8 76 - 124 Bromodichloromethane 74 - 122 19.2 1.0 20 0 96.0 Bromoform 17.16 1.0 20 0 85.8 73 - 128 20 Bromomethane 22.89 1.0 0 114 70 - 130 Carbon disulfide 34.45 2.0 40 0 86.1 70 - 130 Carbon tetrachloride 19.02 1.0 20 0 95.1 71 - 125 Chlorobenzene 20.59 1.0 20 0 103 76 - 113 Chloroethane 70 - 130 18.93 1.0 20 0 94.7 Chloroform 17.27 1.0 20 0 86.4 71 - 121 15.63 1.0 20 0 78.2 70 - 129 Chloromethane 20 cis-1,2-Dichloroethene 17.7 1.0 0 88.5 75 - 122 cis-1,3-Dichloropropene 18.93 1.0 20 0 94 7 73 - 127 77 - 122 Dibromochloromethane 19.18 1.0 20 0 95.9 Ethylbenzene 21.45 1.0 20 0 107 77 - 117 43.08 2.0 40 108 77 - 122 m,p-Xylene 0 Methylene chloride 19.69 2.0 20 0 98.5 70 - 127 o-Xylene 20.27 1.0 20 0 101 75 - 119 Styrene 19.24 1.0 20 0 96.2 72 - 126 Tetrachloroethene 21.72 1.0 20 0 109 76 - 119

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

QC BATCH REPORT

Batch ID: R425	995(0)	Instrur	nent: \	/OA10	M	ethod: L	OW LEVEL	VOLATILES	BY SW8260C
LCS	Sample ID:	VLCSW-230117		Units:	ug/L	Ana	lysis Date:	17-Jan-2023	3 09:51
Client ID:		Run	ID: VOA1	0_425995	SeqNo: 7	077101	PrepDate:		DF: 1
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
Toluene		21.64	1.0	20	0	108	77 - 118		
trans-1,2-Dichloro	bethene	17.92	1.0	20	0	89.6	72 - 127		
trans-1,3-Dichloro	propene	17.96	1.0	20	0	89.8	77 - 119		
Trichloroethene		18.46	1.0	20	0	92.3	77 - 121		
Vinyl acetate		33.87	1.0	40	0	84.7	70 - 130		
Vinyl chloride		16.61	1.0	20	0	83.1	70 - 130		
Xylenes, Total		63.36	1.0	60	0	106	75 - 122		
1,2-Dichloroethen	ne, Total	35.62	1.0	40	0	89.0	72 - 127		
Surr: 1,2-Dichloro	ethane-d4	52.48	1.0	50	0	105	70 - 123		
Surr: 4-Bromofluc	probenzene	44.78	1.0	50	0	89.6	77 - 113		
Surr: Dibromofluo	oromethane	49.29	1.0	50	0	98.6	73 - 126		
Surr: Toluene-d8		54.88	1.0	50	0	110	81 - 120		

QC BATCH REPORT

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

VOA10 Method: LOW LEVEL VOLATILES BY SW8260C Batch ID: R425995 (0) Instrument: MS Sample ID: HS23010600-09MS Units: ug/L Analysis Date: 17-Jan-2023 17:42 Client ID: SeqNo: 7077123 DF: 1 Run ID: VOA10_425995 PrepDate: SPK Ref RPD Ref Control RPD Result PQL SPK Val Value %REC Limit %RPD Limit Qual Analyte Value 1,1,1-Trichloroethane 16.69 1.0 20 0 83.5 70 - 130 1,1,2,2-Tetrachloroethane 17.54 1.0 20 0 87.7 70 - 123 1,1,2-Trichloroethane 15.75 1.0 20 0 78.8 70 - 117 1,1-Dichloroethane 1.0 20 87.7 70 - 127 17.53 0 1.1-Dichloroethene 15.93 1.0 20 0 79.7 70 - 130 1.0 20 70 - 115 1,2-Dichlorobenzene 19.12 0 95.6 1,2-Dichloroethane 18.62 1.0 20 0 93.1 70 - 127 16.43 1.0 70 - 122 1,2-Dichloropropane 20 0 82.2 1,3-Dichlorobenzene 19.56 1.0 20 0 97.8 70 - 119 19.52 1.0 20 0 70 - 114 1,4-Dichlorobenzene 97.6 2-Butanone 26.2 2.0 40 0 65.5 70 - 130 S 35.62 2.0 40 0 70 - 130 2-Hexanone 89.0 4-Methyl-2-pentanone 32.91 2.0 40 0 82.3 70 - 130 Acetone 33.24 2.0 40 0 83.1 70 - 130 20 Benzene 15.73 1.0 0 78.6 70 - 127 Bromochloromethane 18.88 1.0 20 0 94.4 70 - 127 Bromodichloromethane 70 - 124 17.98 1.0 20 0 89.9 Bromoform 12.3 1.0 20 0 70 - 129 S 61.5 20 Bromomethane 19.06 1.0 0 95.3 70 - 130 Carbon disulfide 31.47 2.0 40 0 78.7 70 - 130 70 - 130 Carbon tetrachloride 16.72 1.0 20 0 83.6 Chlorobenzene 19.12 1.0 20 0 95.6 70 - 114 Chloroethane 20 20.72 1.0 0 104 70 - 130 Chloroform 16.86 1.0 20 0 84.3 70 - 125 22.51 1.0 20 0 113 70 - 130 Chloromethane 20 cis-1,2-Dichloroethene 16.34 1.0 0 81.7 70 - 128 cis-1,3-Dichloropropene 16.93 1.0 20 0 84 7 70 - 125 Dibromochloromethane 14.2 1.0 20 0 71.0 70 - 124 Ethylbenzene 21.61 1.0 20 0 108 70 - 124 41.73 2.0 40 104 70 - 130 m,p-Xylene 0 Methylene chloride 22.85 2.0 20 0 114 70 - 128 o-Xylene 18.28 1.0 20 0 91.4 70 - 124 Styrene 16.34 1.0 20 0 81.7 70 - 130 Tetrachloroethene 19.82 1.0 20 0 99.1 70 - 130

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Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

QC BATCH REPORT

Batch ID: R42	5995(0)	Instrume	nt: V	VOA10	Method: LOW LEVEL VOLATILES BY SW8			260C		
MS	Sample ID:	HS23010600-09MS		Units:	ug/L	Ana	alysis Date:	17-Jan-2023	3 17:42	
Client ID:		Run ID	VOA1	10_425995	SeqNo: 7	077123	PrepDate:		DF: '	1
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	F %RPD L	የD imit Qual
Toluene		20.4	1.0	20	0	102	70 - 123			
trans-1,2-Dichlor	oethene	15.7	1.0	20	0	78.5	70 - 130			
trans-1,3-Dichlor	opropene	17.47	1.0	20	0	87.3	70 - 121			
Trichloroethene		17.14	1.0	20	0	85.7	70 - 129			
Vinyl acetate		26	1.0	40	0	65.0	70 - 130			S
Vinyl chloride		17	1.0	20	0	85.0	70 - 130			
Xylenes, Total		60.01	1.0	60	0	100	70 - 130			
1,2-Dichloroethe	ne, Total	32.04	1.0	40	0	80.1	70 - 130			
Surr: 1,2-Dichlor	oethane-d4	54.56	1.0	50	0	109	70 - 126			
Surr: 4-Bromoflu	orobenzene	40.06	1.0	50	0	80.1	77 - 113			
Surr: Dibromoflu	oromethane	54.21	1.0	50	0	108	77 - 123			
Surr: Toluene-d8	3	53.34	1.0	50	0	107	82 - 127			

Date: 18-Jan-23

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

VOA10 Method: LOW LEVEL VOLATILES BY SW8260C Batch ID: R425995 (0) Instrument: MSD Sample ID: HS23010600-09MSD Units: ug/L Analysis Date: 17-Jan-2023 18:02 Client ID: Run ID: VOA10_425995 SeqNo: 7077124 DF: 1 PrepDate: SPK Ref Control RPD Ref RPD Result PQL SPK Val Value %REC %RPD Limit Qual Analyte Limit Value 1,1,1-Trichloroethane 15.3 1.0 20 0 76.5 70 - 130 16.69 8.7 20 1,1,2,2-Tetrachloroethane 18.15 1.0 20 0 90.7 70 - 123 17.54 3.4 20 1,1,2-Trichloroethane 15.57 1.0 20 0 77.8 70 - 117 15.75 1.18 20 1,1-Dichloroethane 1.0 20 83.3 70 - 127 17.53 5.11 20 16.66 0 1.1-Dichloroethene 14.84 1.0 20 0 74.2 70 - 130 15.93 7.07 20 19.28 1.0 20 70 - 115 0.828 20 1,2-Dichlorobenzene 0 96.4 19.12 1,2-Dichloroethane 18.1 1.0 20 0 90.5 70 - 127 18.62 2.8 20 15.64 1.0 20 70 - 122 16.43 4.95 20 1,2-Dichloropropane 0 78.2 1,3-Dichlorobenzene 19.44 1.0 20 0 97.2 70 - 119 19.56 0.623 20 19.9 1.0 20 0 70 - 114 19.52 1,4-Dichlorobenzene 99.5 1.91 20 2-Butanone 24.01 2.0 40 0 60.0 70 - 130 26.2 8.72 20 S 35.43 2.0 40 0 70 - 130 35.62 2-Hexanone 88.6 0.535 20 4-Methyl-2-pentanone 29.14 2.0 40 0 72.8 70 - 130 32.91 12.2 20 Acetone 31.91 2.0 40 0 79.8 70 - 130 33.24 4.07 20 20 4.24 20 Benzene 15.07 1.0 0 75.4 70 - 127 15.73 Bromochloromethane 18.2 1.0 20 0 91.0 70 - 127 18.88 3.67 20 70 - 124 Bromodichloromethane 17.68 1.0 20 0 88.4 17.98 1.68 20 Bromoform 10.9 1.0 20 0 54.5 70 - 129 12.3 12.1 20 S 20 Bromomethane 17.27 1.0 0 86.4 70 - 130 19.06 9.85 20 Carbon disulfide 29.34 2.0 40 0 73.3 70 - 130 31.47 7.02 20 Carbon tetrachloride 15.73 1.0 20 0 78.7 70 - 130 16.72 6.08 20 Chlorobenzene 17.73 1.0 20 0 88.7 70 - 114 19.12 7.53 20 Chloroethane 2.18 20 20.28 1.0 20 0 101 70 - 130 20.72 Chloroform 16.12 1.0 20 0 80.6 70 - 125 16.86 4.51 20 23.06 1.0 20 0 70 - 130 22.51 2.43 20 Chloromethane 115 20 cis-1,2-Dichloroethene 15.94 1.0 0 79.7 70 - 128 16.34 2.48 20 cis-1,3-Dichloropropene 16.77 1.0 20 0 83.9 70 - 125 16.93 0.956 20 S Dibromochloromethane 13.9 1.0 20 0 69.5 70 - 124 14.2 2.13 20 Ethylbenzene 20.23 1.0 20 0 101 70 - 124 21.61 6.61 20 40.04 2.0 40 100 70 - 130 41.73 4.14 20 m,p-Xylene 0 Methylene chloride 22.8 2.0 20 0 114 70 - 128 22.85 0.191 20 o-Xylene 17.05 1.0 20 0 85.3 70 - 124 18.28 6.93 20 Styrene 14.98 1.0 20 0 74.9 70 - 130 16.34 8.68 20 Tetrachloroethene 18.18 1.0 20 0 90.9 19.82 8.6 20 70 - 130

QC BATCH REPORT

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Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

QC BATCH REPORT

Batch ID: R425995 (0)	Instrumer	nt: N	/OA10	Me	ethod: L	OW LEVEL	VOLATILES	BY SW82	260C	
MSD Sample ID:	HS23010600-09MSD		Units:	ug/L	Ana	alysis Date:	17-Jan-2023	18:02		
Client ID:	Run ID:	VOA1	0_425995	SeqNo: 7	077124	PrepDate:		DF: '	1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	F %RPD L	≀PD .imit Qι	ual
Toluene	18.49	1.0	20	0	92.5	70 - 123	20.4	9.81	20	
trans-1,2-Dichloroethene	14.76	1.0	20	0	73.8	70 - 130	15.7	6.16	20	
trans-1,3-Dichloropropene	17.34	1.0	20	0	86.7	70 - 121	17.47	0.711	20	
Trichloroethene	16.02	1.0	20	0	80.1	70 - 129	17.14	6.76	20	
Vinyl acetate	24.99	1.0	40	0	62.5	70 - 130	26	3.95	20	s
Vinyl chloride	16.38	1.0	20	0	81.9	70 - 130	17	3.73	20	
Xylenes, Total	57.09	1.0	60	0	95.2	70 - 130	60.01	4.98	20	
1,2-Dichloroethene, Total	30.7	1.0	40	0	76.7	70 - 130	32.04	4.27	20	
Surr: 1,2-Dichloroethane-d4	55.17	1.0	50	0	110	70 - 126	54.56	1.11	20	
Surr: 4-Bromofluorobenzene	37.77	1.0	50	0	75.5	77 - 113	40.06	5.89	20	S
Surr: Dibromofluoromethane	54.77	1.0	50	0	110	77 - 123	54.21	1.03	20	
Surr: Toluene-d8	51.94	1.0	50	0	104	82 - 127	53.34	2.67	20	
The following samples were analyz	ed in this batch: HS2301075	5-01								

ALS Houston, US

Date: 18-Jan-23

QC BATCH REPORT

Client:WSP GolderProject:Houston TX-Wood Preserving Works IDWWorkOrder:HS23010755

FLASH POINT BY PENSKY-MARTENS Batch ID: R425976 (0) WetChem_HS Method: Instrument: SW1010A LCS Sample ID: LCS-R425976 Units: °F Analysis Date: 17-Jan-2023 15:30 Client ID: Run ID: WetChem_HS_425976 SeqNo: 7076551 PrepDate: DF: 1 SPK Ref RPD Ref Control RPD Analyte Result PQL SPK Val Value %REC Limit Value %RPD Limit Qual Ignitability 81.07 70.0 81 0 100 95 - 105 DUP Sample ID: HS23010401-01DUP Units: °F Analysis Date: 17-Jan-2023 15:30 Client ID: Run ID: WetChem_HS_425976 SeqNo: 7076552 PrepDate: DF: 1 RPD Ref SPK Ref RPD Control %RPD Limit Qual SPK Val Analyte Result PQL Value %REC Limit Value Ignitability > 212 70.0 0 0 20 The following samples were analyzed in this batch: HS23010755-01

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ALS Houston,	S Houston, US								Date: 18-Jan-23
Client: Project: WorkOrder:	SP Golder ouston TX-Wood F 623010755	Preserving	Works IDW				QC BA	TCH REPORT	
Batch ID: R426	017(0)	Ins	trument:	WetChem_HS	Me	ethod: F	PH BY SM45	00H+ B-2011	
DUP	Sample ID:	HS23010749-02D	UP	Units:	pH Units	Ana	alysis Date:	18-Jan-2023	11:46
Client ID:		R	un ID: Wet	Chem_HS_4260	17 SeqNo: 7	077523	PrepDate:		DF: 1
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
рН		7.59	0.100					7.55	0.528 10
Temp Deg C @pl	ł	20.4	0					20.4	0 10
The following samp	les were analy	zed in this batch: HS23	3010755-01						

ALS Houston, US

Client: Project: WorkOrder:	WSP Golder Houston TX-Wood Preserving Works IDW HS23010755	QUALIFIERS, ACRONYMS, UNITS
Qualifier	Description	
*	Value exceeds Regulatory Limit	
а	Not accredited	
В	Analyte detected in the associated Method Blank above the Reporting Limit	
E	Value above quantitation range	
Н	Analyzed outside of Holding Time	
J	Analyte detected below quantitation limit	
Μ	Manually integrated, see raw data for justification	
n	Not offered for accreditation	
ND	Not Detected at the Reporting Limit	
0	Sample amount is > 4 times amount spiked	
Ρ	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	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

Work Order ID: HS2 Client Name: PBV	23010755 V		Date/ Recei	Time Received: ived by:	<u>13-Jan-2023 08:30</u> Corey Grandits
Completed By: /S/	Corey Grandits	17-Jan-2023 13:00	Reviewed by: /S/	Dane J. Wacasey	18-Jan-2023 17:00
	eSignature	Date/Time		eSignature	Date/Time
Matrices:	<u>w</u>		Carrier name:	<u>Client</u>	
Shipping container/c Custody seals intact Custody seals intact VOA/TX1005/TX100 Chain of custody sig Samplers name pres Chain of custody agu Samples in proper c Sample containers in Sufficient sample vo	cooler in good condition? on shipping container/cooler? on sample bottles? 06 Solids in hermetically sealed esent? aned when relinquished and red sent on COC? rees with sample labels? ontainer/bottle? ntact? lume for indicated test?	l vials? ceived?	Yes Ves Ves Ves Ves Ves Ves Ves Ves Ves V	No	Not Present Not Present Not Present Not Present 1 Page(s) COC IDs:287774
Container/Temp Bla Temperature(s)/The	nk temperature in compliance? rmometer(s):		Yes 🔽 1.4UC/0.9C	No 🗌	IR31
Cooler(s)/Kit(s): Date/Time sample(s) sent to storage:		49072 1/17/23		
Water - VOA vials ha Water - pH acceptat pH adjusted? pH adjusted by: Login Notes:	ave zero headspace? ole upon receipt?		Yes 🔽 Yes 🔽 Yes	No No No Vo	o VOA vials submitted
Client Contacted:		Date Contacted:		Person Conta	icted:
Contacted By:		Regarding:			
Comments: Corrective Action:					

Sample Receipt Checklist

Date: 18-Jan-23

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Cincinnati, OH +1 513 733 5336

Everett, WA Holland, Mi +1 425 356 2600 +1 616 399 6070

Fort Collins, CO +1 970 490 1511

Chain of Custody Form

Page of

COC ID: 287774

Middletown, PA +1 717 944 5541

Houston, TX +1 281 530 5656

Spring City, PA +1 610 948 4903 South Charleston, WV +1 304 356 3168 Salt Lake City, UT +1 801 266 7700 York, PA

+1 717 505 5280

				ALS Project Manager:					: ALS Work Order #:														
Customer Information				Project Information				Parameter/Method Request for Analysis															
Purchase Order	4300042071/Kevin Peterburs 1620-32	Proje	Project Name		Houston TX-Wood Preserving Works				A 8260_LL_W (Volatile Organics IDVWV) [3xVOA HCI]														
Work Order			Project Number		1620-32-Rev0 SiteRem NID 92688				B TX1005_W_Low (TPH TX1005 IDVW) [3xVOA HCI]														
Company Name WSP Golder			Bill To Company		Union Pacific Railroad- A/P				C ICP_TW (RCRA 8+3 Metals IDWW) [120ml P HNO3]														
Send Report To Eric Matzner			nice Attn	Accounts Payable				D	D IGN_W (Ignitability - RCI IDVW) [250mlPNeat-shared]														
	1601 S. MoPac Expressway			1400 Douglas Street				Ε	E pH_W_9040C (pH - RCI IDWW) [250miPNeat-shared]														
Address	Suite 325D		Address	Stop 0750				F															
City/State/Zip Austin, TX 78746		City/S	tate/Zip	Omaha NE 681790750				G						·									
Phone (512) 671-3434		Phone						н	4														
Fax	(512) 671-3446		Fax					1															
e-Mail Address	Eric_Matzner@golder.com	e-Mail /	Address					J															
No.	Sample Description	Date	1	lime	Matrix	Pres.	# Bottles	A	В	C	D	E	F	G	Н	I	J	Hold					
1 1 1620-	DWWWWRW 2201				Water	1,2,8	10	★	+*		- X -			-									
2 WW-14	20-SUMPS-20230111	1-11-	3)	140	W		8	X	X	X	X		1										
3				• •																			
4											HS23010755												
5												V	NSP	Gold	er								
6									Houston TX-Wood Preserving Works IDW														
7																							
8																							
9									· 11						 		/ .						
10															1								
Sampler(s) Please Print & Sign Shipment Method Required Turnaround Time: (Check Box) X 3 Wrk Days Results Due Date:																							
JOHNAP	EDITON VOLUME	HA	ND DE	IVER		STD 10 Wk Day	s П 5	Wk Da	<u>ys</u>	2 W	k Days	[24	Hour		Non-International Association		analah sa mangalan na managan					
Deter 2-23 (10830) Receive					ed by:					UPRRHWPW 1620-32													
Helinquisted by: Date: Lime			Recei	607676 1-13-23 036				Cooler ID Cooler Temp.					QC Package: (Check One Box Below)										
Logged by (Laboratory): Date: Time			: Checked by (Laboratory):					Level II Std QC TRRP									P Checklist P Level IV	No.					
Preservative Key	NaHSO ₄ 7-Other 8-4°C 9-5035					Level IV SW84/							£										
Note: 1. Any chan, 2. Unless off 3. The Chair	ote: 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. Page 27 of 27													tal.									

RIGHT SOLUTIONS | RIGHT PARTNER