



November 22, 2024

Project No. 31406585.016

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

**RE: DNAPL RECOVERY ACTIVITIES QUARTERLY REPORT – 3<sup>RD</sup> QUARTER 2024  
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 Mr. Wick:

WSP USA Inc. (WSP), on behalf of Union Pacific Railroad Company (UPRR), submits this 3<sup>rd</sup> Quarter 2024 summary report for the dense non-aqueous phase liquid (DNAPL) recovery activities conducted at the UPRR Houston Wood Preserving Works Facility (the Site).

**DNAPL Recovery Summary 3<sup>rd</sup> Quarter 2024**

Below is a summary of the DNAPL recovery activities for the 3<sup>rd</sup> Quarter 2024:

- DNAPL was recovered from six wells during the 3<sup>rd</sup> Quarter 2024. Four recovery wells (MW-32B, MW-70B, MW-74B, and MW-75B) exhibited measurable DNAPL (greater than a trace) during at least one of the six semi-monthly events during the 3<sup>rd</sup> Quarter 2024. Wells MW-12B and MW-41B exhibited recoverable DNAPL during each event even though the groundwater/DNAPL interface was not measurable as it remained below the dedicated pumps in both wells. No more than a trace of DNAPL was measured in six wells (MW-23C, MW-45C, MW-49A, MW-57B, MW-68B, and MW-78A) with no DNAPL recovery from these wells during the 3<sup>rd</sup> Quarter. Well MW-44C was not measured or sampled during the 3<sup>rd</sup> Quarter 2024 due to damage which obstructed access to the well. Well MW-49B was not measured or sampled during the 3<sup>rd</sup> Quarter 2024 due to a trailer obstructing access to the well. A total of approximately 3.3 gallons of DNAPL were recovered during the 3<sup>rd</sup> Quarter 2024.

**DNAPL Recovery Procedures**

As detailed in the Response Action Plan (RAP) dated November 24, 2014, a 24-month DNAPL recovery pilot test, consisting of manual DNAPL recovery from selected wells on a monthly basis, was conducted at the Site. Following the 24-month pilot testing period, the DNAPL recovery activities continued monthly following the same procedures detailed in the RAP. In response to the Texas Commission on Environmental Quality (TCEQ) Technical Notice of Deficiency dated April 11, 2019, the DNAPL recovery frequency was increased to bi-monthly (twice a month) in June 2019.

The following monitoring wells are part of the current DNAPL recovery activities:

Well Name	Zone
MW-57A	A-TZ
MW-78A	A-TZ
MW-49A	A-TZ
MW-12B	B-TZ
MW-32B	B-CZ
MW-33BR	B-CZ
MW-41B	B-TZ
MW-49B	B-CZ
MW-57B	B-CZ
MW-68B	B-TZ
MW-70B	B-CZ
MW-74B	B-TZ
MW-75B	B-CZ
MW-23C	C-TZ
MW-34CR	C-TZ
MW-44C	C-TZ
MW-45C	C-TZ
MW-46C	C-TZ

The locations of the DNAPL recovery wells are shown on Figure 1.

DNAPL recovery activities consist of measuring the depth to groundwater surface, the depth to groundwater/DNAPL interface, and the total depth of the well relative to the top of casing prior to DNAPL recovery. DNAPL recovery from each well is then performed using a peristaltic pump or submersible pump. Beginning in October 2019, the DNAPL encountered in MW-12B and MW-41B was too thick for the submersible pump to efficiently recover. Two stainless steel pneumatic pulse pumps (gas displacement pumps) from QED Environmental Systems (Model LP1301) were installed in MW-12B and MW-41B on March 30, 2020. These pumps are designed for recovering the more viscous liquids observed in these wells. DNAPL is pumped from the bottom of each well until groundwater returns in the pump discharge. The volume of recovered DNAPL is estimated from each well based on the volume pumped, and the well is gauged to measure the total depth of the well and depth to DNAPL following pumping. Recovered DNAPL from all the wells is consolidated into a 55-gallon drum and temporarily stored at the Containment Storage Area at the Site pending disposal at TCEQ-permitted facilities including the Clean Harbors Deer Park Facility in La Porte, Texas or the US Ecology Robstown Facility in Robstown, Texas. The most recent waste manifest for the disposal of recovered DNAPL and groundwater is provided in Attachment 1.

#### **3rd Quarter 2024 DNAPL Recovery Activities**

A summary of the DNAPL recovery measurements from February 2013 through September 2024 is provided in Table 1. DNAPL thicknesses listed on the table and referenced in this letter are “in-well thicknesses”. A graph of the cumulative DNAPL thicknesses measured prior to each recovery effort over time from February 2013 through September 2024 is presented on Figure 2. Individual graphs for each groundwater bearing unit

(GWBUs) and/or portion of the Site from July 2018 through September 2024 are presented on Figures 3 through 7. Field notes for the August 22, 2024 recovery event were lost and have not been included in the report. Observations from the 3<sup>rd</sup> Quarter 2024 gauging and recovery activities are provided below for each of the GWBUs:

- **A-TZ Wells:** Recovery wells MW-49A, MW-57A, and MW-78A completed in the A-TZ were evaluated for DNAPL recovery during this period (graph of DNAPL thickness from July 2018 through September 2024 shown on Figure 3).
  - **MW-49A:** No measurable DNAPL was detected during any of the 3<sup>rd</sup> Quarter recovery events; however, trace amounts of DNAPL were detected on July 25<sup>th</sup> and September 5<sup>th</sup>. No DNAPL was measured during the other three recovery events. No DNAPL was recovered from MW-49A during 3<sup>rd</sup> Quarter 2024.
  - **MW-57A:** No measurable or trace amount of DNAPL was detected during any of the 3<sup>rd</sup> Quarter recovery events. Measurable DNAPL has not been recorded in MW-57A since August 2015. No DNAPL was recovered from MW-57A during 3<sup>rd</sup> Quarter 2024.
  - **MW-78A:** No measurable DNAPL was detected during any of the 3rd Quarter recovery events; however, trace amounts of DNAPL were detected on September 19<sup>th</sup>. No DNAPL was measured during the other four recovery events. No DNAPL was recovered from MW-49A during 3rd Quarter 2024.
- **B-TZ Wells (West Side):** Recovery wells MW-12B and MW-41B completed in the B-TZ were evaluated for DNAPL recovery during this period (graph of DNAPL thickness from July 2018 through September 2024 shown on Figure 4).
  - **MW-12B:** During the 3<sup>rd</sup> Quarter 2024 recovery events at MW-12B, the groundwater/DNAPL interface was below the top of the pneumatic pulse pump. As a result, the interface probe could not get past the pump assembly and it was not possible to record a DNAPL thickness in the well. The pump length is approximately 1.55 feet. Based on the measured length of the pump assembly, the assumption is that there is less than approximately 1.5-2 feet of DNAPL in the well. Approximately 0.3 gallons of DNAPL were recovered from MW-12B using the pneumatic pump during the 3<sup>rd</sup> Quarter 2024.
  - **MW-41B:** Similar to MW-12B, the top of the groundwater/DNAPL interface in MW-41B was below the top of the pneumatic pulse pump during the 3<sup>rd</sup> Quarter 2024. Based on measured length of the pump assembly, the assumption is there is less than approximately 1.5-2 feet of DNAPL in the well. Approximately 0.9 gallons of DNAPL were recovered from MW-41B using the pneumatic pump during the 3<sup>rd</sup> Quarter 2024.
- **B-TZ/B-CZ Wells (North (on-site and off-site)):** Recovery wells MW-32B, MW-33BR, MW-57B, MW-68B, and MW-70B completed in either the B-TZ or B-CZ on the north side of the Site or off-site to the north were evaluated for DNAPL recovery during this period (graph of DNAPL thickness from July 2018 through September 2024 shown on Figure 5).
  - **MW-32B (off-site):** Following the redevelopment of MW-32B during the 3<sup>rd</sup> Quarter 2022, DNAPL thickness observed in the well increased in October 2022 to 8.7 feet but has since

shown a decline through the 4<sup>th</sup> Quarter 2023. Since then, DNAPL thickness in the well has been relatively stable at or less than 1-foot thick except during the September 5<sup>th</sup> event where the thickness increased to 1.5 feet. Approximately 0.95 gallons of DNAPL were recovered from MW-32B during the 3<sup>rd</sup> Quarter 2024.

- **MW-33BR (off-site):** No measurable or trace amount of DNAPL was detected during any of the 3<sup>rd</sup> Quarter recovery events. No DNAPL was recovered from MW-33BR during 3<sup>rd</sup> Quarter 2024.
- **MW-57B (on-site):** No measurable DNAPL was detected during any of the 3<sup>rd</sup> Quarter recovery events; however, trace amounts of DNAPL were detected on July 11<sup>th</sup>, July 25<sup>th</sup>, August 8<sup>th</sup>, September 5<sup>th</sup>, and September 19<sup>th</sup>. No DNAPL was recovered from MW-57B during 3<sup>rd</sup> Quarter 2024.
- **MW-68B (off-site):** No measurable DNAPL was detected during any of the 3<sup>rd</sup> Quarter recovery events; however, trace amounts of DNAPL were detected on July 11<sup>th</sup>, September 5<sup>th</sup>, and September 19<sup>th</sup>. No DNAPL was recovered from MW-68B during 3<sup>rd</sup> Quarter 2024.
- **MW-70B (off-site):** Measurable DNAPL was detected during the 3<sup>rd</sup> Quarter 2024 on August 8<sup>th</sup>, September 5<sup>th</sup>, and September 19<sup>th</sup>, measuring 0.5 feet in thickness. On July 11<sup>th</sup> and July 25<sup>th</sup>, only a trace amount of DNAPL was detected. During the 3<sup>rd</sup> Quarter 2024, 0.1 gallons of DNAPL were recovered from MW-70B.
- **B-TZ/B-CZ Wells (Englewood Intermodal Yard):** Recovery wells MW-49B, MW-74B, and MW-75B in the Englewood Intermodal Yard completed in the B-CZ and B-TZ were evaluated for DNAPL recovery during this period (graph of DNAPL thickness from July 2018 through September 2024 shown on Figure 6).
  - **MW-49B:** During the 3<sup>rd</sup> Quarter 2024, MW-49B was not accessible due to a field trailer obstructing access to the well. No measurements or sampling have occurred from November 2023 to September 2024 due to the obstruction. Even though the well was redeveloped in August 2022, recent total depth measurements at MW-49B have been approximately 7 feet shallower than the well construction depth and suggest that the well has an obstruction or casing failure. The well will be plugged, abandoned, and replaced at a later date.
  - **MW-74B:** Measurable DNAPL was detected during the 3<sup>rd</sup> Quarter 2024 measuring 1 foot in thickness on July 11<sup>th</sup>, and July 25<sup>th</sup>. On August 8<sup>th</sup>, September 5<sup>th</sup> and September 19<sup>th</sup> only a trace amount of DNAPL was detected. Approximately 0.65 gallons of DNAPL were recovered from MW-74B during the 3<sup>rd</sup> Quarter 2024.
  - **MW-75B:** Measurable DNAPL was detected during the 3<sup>rd</sup> Quarter 2024 on September 19<sup>th</sup>, measuring 1 ft. in thickness. On July 11<sup>th</sup> and September 5<sup>th</sup>, only a trace amount of DNAPL was detected. A total of 0.4 gallons of DNAPL were recovered from MW-75B during the 3<sup>rd</sup> Quarter 2024.
- **C-TZ Wells:** Wells MW-23C, MW-34CR, MW-44C, MW-45C, and MW-46C completed in the C-TZ were evaluated for DNAPL recovery (graph of DNAPL thickness from July 2018 through September

2024 shown on Figure 7).

- **MW-23C:** No measurable DNAPL was detected during any of the 3rd Quarter recovery events; however, trace amounts of DNAPL were detected on August 8<sup>th</sup> and September 19<sup>th</sup>. No DNAPL was recovered from MW-23C during 3<sup>rd</sup> Quarter 2024.
- **MW-34CR:** In May 2014, replacement well MW-34CR was installed and gauged as part of the DNAPL recovery program. However, no DNAPL has been detected in this well. No measurable or trace amount of DNAPL was detected during any of the 3rd Quarter recovery events. Given the absence of DNAPL in this well, a graph for MW-34CR is not included in Figure 7.
- **MW-44C:** The total depth measurement at MW-44C was approximately 10 feet higher than the well construction depth, suggesting that the well had appeared to have silted up. MW-44C was re-developed on July 24, 2020. Over 10 feet of silt was removed, and the final measured depth of the well was within a foot of the original total depth. During the next recovery event in early August 2020, the well appeared to have silted up again. Redevelopment was attempted a second time on October 1, 2020, but it was unsuccessful. The well will be plugged, abandoned, and replaced with a proposed recovery well, as detailed in the RAP dated August 31, 2020, once the RAP is approved.
- **MW-45C:** No measurable DNAPL was detected during any of the 3<sup>rd</sup> Quarter recovery events; however, a trace amount of DNAPL was detected on July 11<sup>th</sup>. No DNAPL was recovered from MW-45C during 3<sup>rd</sup> Quarter 2024.
- **MW-46C:** No measurable or trace amount of DNAPL was detected during any of the 3rd Quarter recovery events . No DNAPL was recovered from MW-46C during 3<sup>rd</sup> Quarter 2024.

**DNAPL Recovery:** From February 2013 to September 2024, an estimated 1,090 gallons of creosote DNAPL have been recovered from the wells at the Site. Monthly DNAPL recovery volumes increased after the January 2015 event due to a change in pumping techniques. Recovery volumes began to decline in 2020 and decreased significantly beginning in September 2021. Eleven of the wells were redeveloped in August 2022 and two additional wells were redeveloped in October 2022. Following the redevelopment, DNAPL recovery volumes increased. Well development of two wells occurred in January/February 2024 prior to the sitewide semi-annual groundwater sampling event. No changes in DNAPL recovery occurred after redevelopment. During 3<sup>rd</sup> Quarter 2024, an average of 0.8 gallons of DNAPL were recovered per recovery and approximately 5 gallons total were recovered during the 3<sup>rd</sup> Quarter 2024 (Table 1). UPRR will continue to monitor the DNAPL thicknesses twice per month as described in the response to the TCEQ 4<sup>th</sup> Technical Notice of Deficiency (TNOD) letter (April 11, 2019).

If you have any questions or need additional information, please feel free to call us at (512) 220-7459 or Mr. Kevin Peterburs of UPRR at (414) 267-4164.

Sincerely,

November 22, 2024

**WSP USA INC**



Matthew K. Wickham, P.G.

Vice-President/Team Lead



11/21/24

Texas Geoscience Firm No. 50561

CC: Waste Program Manager, TCEQ Region 12, Houston  
Mr. Kevin Peterburs, UPRR – Milwaukee, WI

Attachments: Table 1 - Summary of DNAPL Recovery Measurements  
Figure 1 – In-Well DNAPL Thickness – September 19, 2024  
Figure 2 - DNAPL Recovery Activities February 2013 – September 2024  
Figure 3 – A-TZ Wells – DNAPL Recovery Activities July 2018 – September 2024  
Figure 4 – B-TZ Wells (West Side) – DNAPL Recovery Activities July 2018 – September 2024  
Figure 5 – B-CZ/B-TZ Wells (North (On-Site and Off-Site) – DNAPL Recovery Activities July 2018 – September 2024  
Figure 6 – B-CZ/B-TZ Wells (Englewood Intermodal Yard) – DNAPL Recovery Activities July 2018 – September 2024  
Figure 7 – C-TZ Wells – DNAPL Recovery Activities July 2018 – September 2024  
Attachment 1 – Recovered DNAPL Waste Manifest

## **TABLES**

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-12B				MW-23C				MW-32B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)
2/14/2013	9.06	39.87	5.93	2.5	NM	NM	NM	0	6.01	30.06	6.23	2
4/3/2013	9.41	39.95	5.85	1.0	NM	NM	NM	0	4.86	33.61	2.68	1
4/22/2013	8.61	31.64	14.16	0.5*	NM	NM	NM	0	5.62	36.08	0.21	0.3
5/30/2013	8.47	37.62	8.18	1.5*	NM	NM	NM	0	5.86	32.21	4.08	2
6/29/2013	9.62	38.22	7.58	1.5	NM	NM	NM	0	6.79	33.59	2.7	1.5
7/22/2013	11.16	39.04	6.76	1.0	NM	NM	NM	0	7.14	33.91	2.38	1.5
8/26/2013	11.31	39.61	6.19	1.0	NM	NM	NM	0	7.48	33.83	2.46	1
9/27/2013	11.17	40.63	5.17	1.0	NM	NM	NM	0	7.23	34.39	1.9	1
10/31/2013	11.09	43.71	2.09	1.0	NM	NM	NM	0	7.16	34.96	1.33	0.5
11/27/2013	11.17	44.06	1.74	1.0	NM	NM	NM	0	7.29	35.03	1.26	0.5
12/31/2013	11.02	44.62	1.18	1.0	NM	NM	NM	0	7.16	35.16	1.13	0.5
1/30/2014	11.34	45.12	0.68	1.0	NM	NM	NM	0	6.72	34.82	1.47	0.5
3/3/2014	11.17	44.32	1.48	1.0	NM	NM	NM	0	6.53	34.52	1.77	0.5
3/31/2014	11.03	44.53	1.27	1.0	NM	NM	NM	0	6.29	34.21	2.08	0.5
4/30/2014	10.92	44.26	1.54	1.0	NM	NM	NM	0	6.42	34.67	1.62	0.5
5/27/2014	10.81	44.34	1.46	1.0	NM	NM	NM	0	6.36	34.72	1.57	0.5
6/26/2014	10.72	44.61	1.19	1.0	NM	NM	NM	0	6.21	34.61	1.68	0.5
7/31/2014	10.13	44.96	0.84	1.0	NM	NM	NM	0	6.06	34.33	1.96	0.3
8/27/2014	10.26	45.12	0.68	1.0	NM	NM	NM	0	6.18	34.98	1.31	0.3
10/3/2014	10.17	44.91	0.89	1.0	NM	NM	NM	0	6.06	34.72	1.57	0.3
11/3/2014	10.29	44.97	0.83	1.0	22.51	70.71	2.09	0.3	6.18	34.91	1.38	0.3
11/24/2014	10.27	44.99	0.81	1.0	22.56	70.92	1.88	0.5	6.21	35.16	1.13	0.5
12/22/2014	10.23	44.71	1.09	1.0	22.47	70.81	1.99	0.5	6.14	35.02	1.27	0.8
1/29/2015	10.16	44.96	0.84	1.0	22.26	71.04	1.76	0.5	5.71	35.29	1	0.8
2/26/2015	10.12	44.96	0.84	1.5	22.06	71.09	1.71	0.5	6.02	35.29	1	1
3/26/2015	9.96	45.21	0.59	1.5	22.17	71.12	1.68	0.3	5.46	35.36	0.93	1
4/27/2015	9.89	45.37	0.43	1.5	22.23	71.06	1.74	0.5	5.21	35.29	1	1
5/26/2015	9.72	45.61	0.19	2.0	22.17	71.14	1.66	0.5	5.07	35.46	0.83	1
7/6/2015	7.12	45.96	0.24	2.0	19.01	71.39	1.41	0.5	4.06	35.66	0.63	1
8/3/2015	7.26	46.09	0.11	2.0	19.16	71.46	1.34	0.8	4.29	35.71	0.58	1
8/27/2015	8.09	46.01	0.19	1.0	20.34	71.51	1.29	0.8	5.05	35.77	0.52	1
10/5/2015	7.12	45.86	0.34	1.0	19.02	71.57	1.23	0.5	4.31	35.96	0.33	1
11/5/2015	6.86	45.81	0.39	1.0	18.59	71.59	1.21	0.5	4.02	35.91	0.38	1
12/3/2015	6.46	45.79	0.41	1.0	18.33	71.67	1.13	0.5	3.92	35.96	0.33	1
12/28/2015	6.23	45.62	0.58	1.3	23.21	71.61	1.19	0.8	3.73	35.91	0.38	1
2/3/2016	6.04	45.55	0.65	1.5	17.96	71.64	1.16	0.5	3.61	35.87	0.42	1
3/3/2016	5.96	45.61	0.59	1.5	17.92	71.71	1.09	0.5	3.51	35.91	0.38	1
3/31/2016	6.06	45.72	0.48	1.5	17.86	71.79	1.01	0.5	3.56	35.92	0.37	1
5/3/2016	6.13	45.66	0.54	1.0	NM	NM	NM	0.0	3.67	35.87	0.53	0.5
6/2/2016	6.21	45.61	0.59	1.0	22.9	71.51	1.29	0.5	3.74	35.92	0.48	0.5
7/8/2016	6.29	45.72	0.48	1.0	23.09	71.52	1.28	0.3	3.91	35.96	0.44	0.5
8/3/2016	6.34	45.77	0.43	1.0	23.16	71.66	1.14	0.3	4.03	35.49	0.91	0.5
8/30/2016	6.47	45.69	0.51	1.0	23.31	71.61	1.19	0.5	4.22	36.09	0.31	0.5
9/30/2016	6.59	45.81	0.39	1.0	23.39	71.81	0.99	0.5	4.33	35.91	0.49	0.5
11/3/2016	6.64	45.92	0.28	1.0	23.41	71.98	0.82	0.5	4.47	35.99	0.41	0.5
11/30/2016	6.86	45.86	0.34	0.5	23.59	71.91	0.89	0.8	4.62	35.91	0.49	0.5
1/4/2017	7.02	45.81	0.39	0.5	23.74	71.82	0.98	0.8	4.83	36.02	0.38	0.3
2/7/2017	6.97	45.69	0.51	0.5	23.67	71.74	1.06	0.8	4.81	35.91	0.49	0.3
3/2/2017	6.91	45.64	0.56	0.5	23.54	76.82	0.98	0.8	4.66	35.97	0.43	0.3
4/3/2017	6.82	45.71	0.49	0.5	23.46	76.96	0.84	0.8	4.57	36.01	0.39	0.3
4/27/2017	6.74	45.64	0.56	0.5	23.21	77.04	0.76	0.5	4.51	36.06	0.34	0.3
5/29/2017	6.89	45.77	0.43	0.5	23.49	77.21	0.59	0.3	4.74	36.03	0.37	0.3
7/5/2017	7.01	45.71	0.49	0.5	23.61	77.27	0.53	0.3	4.86	36.13	0.27	0.3
8/1/2017	7.14	45.63	0.57	0.8	23.79	77.17	0.63	0.3	4.99	36.24	0.16	0.3
9/5/2017	7.03	45.6	0.6	1.0	23.67	77.29	0.51	0.3	4.78	36.24	0.16	0.3
10/4/2017	7.07	45.69	0.51	1.0	23.61	77.36	0.44	0.3	4.89	36.29	0.11	0.3
11/2/2017	7.11	45.76	0.44	1.0	23.74	77.42	0.38	0.3	4.96	36.26	0.14	0.3
11/29/2017	7.16	45.71	0.49	1.0	23.81	77.4	0.40	0.3	5.06	36.31	0.09	0.3
1/2/2018	6.96	45.82	0.38	1.0	23.67	77.43	0.37	0.3	4.93	36.27	0.13	0.3
2/7/2018	7.13	45.87	0.33	1.0	23.86	77.46	0.34	0.3	5.16	36.21	0.19	0.3
3/1/2018	7.36	45.96	0.24	1.0	23.96	77.41	0.39	0.3	5.38	36.13	0.27	0.3
4/2/2018	7.29	45.94	0.26	1.0	23.9	77.32	0.48	0.5	5.31	36.18	0.22	0.3
5/1/2018	8.17	45.91	0.29	1.0	24.47	77.39	0.41	0.5	6.12	36.23	0.17	0.5

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-12B				MW-23C				MW-32B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)
6/1/2018	8.49	45.86	0.34	1.0	24.81	77.31	0.49	0.5	6.41	36.19	0.21	0.5
6/29/2018	8.62	45.81	0.39	1.0	24.99	77.37	0.43	0.5	6.59	36.11	0.29	0.8
8/3/2018	8.79	45.96	0.24	1.0	25.12	77.39	0.41	0.5	6.74	36.19	0.21	0.8
8/31/2018	8.32	46.01	0.19	0.8	24.81	77.43	0.37	0.5	6.47	36.23	0.17	0.8
9/28/2018	8.27	45.93	0.27	0.5	24.69	77.39	0.41	0.5	6.41	36.19	0.21	0.8
11/2/2018	8.16	45.91	0.29	0.5	24.57	77.36	0.44	0.5	6.33	36.21	0.19	0.5
11/29/2018	8.01	45.9	0.30	0.5	24.36	77.3	0.50	0.5	6.21	36.27	0.13	0.3
1/2/2019	7.96	45.87	0.33	0.5	24.29	77.31	0.49	0.5	6.09	36.29	0.11	0.3
2/2/2019	7.82	45.89	0.31	0.5	24.21	77.44	0.36	0.5	5.97	36.24	0.16	0.5
2/28/2019	7.69	45.81	0.39	0.5	24.16	77.36	0.44	0.5	5.86	36.21	0.19	0.3
4/2/2019	7.61	45.8	0.4	0.5	24.08	77.32	0.48	0.5	5.79	36.24	0.16	0.3
4/25/2019	7.49	45.76	0.44	1.0	24.01	77.16	0.64	0.5	5.86	36.29	0.11	0.3
5/29/2019	7.51	45.71	0.49	1.0	24.11	77.11	0.69	0.5	5.91	36.21	0.19	0.3
6/12/2019	6.81	45.52	0.68	1.5	24.39	76.71	1.09	1.0	5.46	35.91	0.49	0.5
6/30/2019	6.67	45.06	1.14	2.0	24.32	76.67	1.13	0.8	5.39	35.42	0.98	1
7/16/2019	6.62	45.11	1.09	2.0	24.26	76.61	1.19	1.0	5.32	35.36	1.04	1
8/2/2019	6.69	45.01	1.19	1.5	24.31	76.49	1.31	1.5	5.41	35.26	1.14	1.5
8/15/2019	6.79	44.76	1.44	2.0	24.22	76.36	1.44	1.5	5.61	35.19	1.21	1.5
8/28/2019	6.88	44.71	1.49	2.0	24.29	76.41	1.39	1.5	5.72	35.22	1.18	1.5
9/17/2019	6.93	43.96	2.24	3.0	24.36	76.29	1.51	1.5	5.81	35.17	1.23	1.5
10/2/2019	6.86	43.17	3.03	0.0	24.32	76.09	1.71	1.5	5.77	35.02	1.38	1.5
10/16/2019	6.71	30.29	15.91	0.0	25.75	75.89	1.91	1.5	4.36	33.42	2.98	1.5
10/31/2019	6.53	21.63	24.57	0.0	26.33	75.29	2.51	1.5	3.43	31.86	4.54	1.5
11/15/2019	7.21	19.12	27.08	0.5	25.69	ND	0	0.0	3.47	35.7	0.7	1
12/3/2019	7.55	27.37	18.83	0.0	26.11	75.12	2.68	1.5	4.33	35.51	0.89	0
12/18/2019	12.68	35.9	10.3	0.0	26.13	77.4	0.4	0.3	4.71	35.61	0.79	1.5
12/30/2019	8.08	28.12	18.08	0.0	26.48	76.1	1.7	0.1	5.04	34.28	2.12	1.5
1/7/2020	--	--	--	--	--	--	--	--	--	--	--	--
1/15/2020	7.47	27.12	19.08	0.0	26.49	77.1	0.7	0.0	4.1	35.4	1	1
1/27/2020	6.28	21.06	25.14	0.0	25.99	76.58	1.22	0.0	3.01	31.15	5.25	1
2/13/2020	6.91	20.42	25.78	0.0	25.51	76.42	1.38	0.0	3.88	31.39	5.01	1
2/25/2020	6.4	23.6	22.6	0.0	25.6	75.5	2.3	0.1	3.9	31.05	5.35	0.8
3/13/2020	7.61	22.01	24.19	0.0	25.66	77.08	0.72	0.0	4.32	32.46	3.94	1.3
3/31/2020	7.88	22.01**	24.19	2.5	25.9	77.12	0.68	0.0	4.63	33.3	3.1	0.3
4/9/2020	7.37	18.21	27.99	3.0	25.91	77.22	0.58	0.0	4.65	30.14	6.26	1.0
4/27/2020	8.64	19.12	27.08	3.5	26.31	76.45	1.35	0.0	5.39	34.52	1.88	0.5
5/14/2020	9.39	33.16	13.04	2.5	26.7	75.89	1.91	0.1	6.02	34.73	1.67	0.5
5/28/2020	8.79	40.29	5.91	1.5	26.75	75.71	2.09	0.1	5.84	34.35	2.05	1.0
6/11/2020	9.29	40.69	5.51	2.5	26.93	ND	0	0.0	5.89	35.01	1.39	0.3
6/25/2020	9.01	BP	NM	2.0	25.89	77.94	0	0.0	5.6	35.12	1.28	0.3
7/9/2020	8.04	BP	NM	1.0	26.64	76	1.8	0.3	4.83	35.18	1.22	0.3
7/23/2020	8.17	BP	NM	2.5	26.81	75.61	2.19	0.3	5.63	34.7	1.7	1.0
8/6/2020	5.43	BP	NM	1.0	26.41	75.52	2.28	0.3	3.88	33.94	2.46	1.3
8/20/2020	8.03	BP	NM	1.0	26.38	75.4	2.4	0.3	4.87	33.87	2.53	0.5
9/2/2020	8.89	BP	NM	1.0	26.71	76.24	1.56	0.5	5.54	35.21	1.19	0.3
9/17/2020	9.84	BP	NM	0.0	26.99	75.9	1.9	0.5	6.01	34.4	2	0.5
10/1/2020	6.9	BP	NM	0.5	26.59	75.08	2.72	0.3	4.88	35.18	1.22	0.3
10/14/2020	8.42	BP	NM	2.5	26.71	75.08	2.72	0.3	4.95	34.26	2.14	0.5
10/28/2020	8.31	BP	NM	2.0	26.84	75.81	1.99	0.3	5.31	33.94	2.46	0.8
11/12/2020	9.19	BP	NM	1.0	27.12	76.12	1.68	TR	5.79	33.71	2.69	2.5
11/23/2020	9.55	BP	NM	0.8	27.41	76.28	1.52	0.3	6.24	34.19	2.21	1.0
12/10/2020	6.67	BP	NM	1.5	26.72	76.2	1.6	0.3	3.68	32.9	3.5	1.0
12/21/2020	5.46	BP	NM	0.8	26.21	NM	NM	0.0	3.89	32.82	3.58	1.0
1/7/2021	5.01	BP	NM	1.0	25.85	ND	0	0.0	3.02	35.4	1	1.0
1/21/2021	5.72	BP	NM	2.0	25.49	75.29	2.51	0.3	3.48	35.01	1.39	1.0
2/4/2021	6.87	BP	NM	1.5	25.48	75.36	2.44	1.3	4.09	34.48	1.92	1.0
2/23/2021	5.47	BP	NM	1.0	25.25	75.61	2.19	1.0	3.19	33.59	2.81	1.0
3/11/2021	5.95	BP	NM	0.8	25.31	75.84	1.96	1.0	3.47	34.05	2.35	1.0
3/25/2021	9.28	BP	NM	1.0	25.2	75.62	2.18	1.0	3.85	34.83	1.57	1.0
4/8/2021	7.52	BP	NM	1.0	25.38	75.4	2.4	1.0	4.92	33.7	2.7	1.0
4/22/2021	8.42	BP	NM	1.0	25.94	76.35	1.45	0.1	5.03	34.2	2.2	1.0
5/4/2021	6.82	BP	NM	1.0	25.95	75.25	2.55	1.0	4.26	34.6	1.8	1.0
5/20/2021	5.52	BP	NM	1.0	25.84	75.66	2.14	1.0	3.55	34.2	2.2	1.0

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-12B				MW-23C				MW-32B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
6/3/2021	5.46	BP	NM	1.0	25.19	75.74	2.06	0.5	2.54	34.6	1.8	1.0
6/17/2021	6.67	BP	NM	1.0	25.06	75.62	2.18	0.5	3.08	33.98	2.42	1.0
7/1/2021	5.46	BP	NM	1.0	24.72	75.12	2.68	0.5	2.61	34.38	2.02	1.0
7/19/2021	5.08	BP	NM	1.0	23.99	74.9	2.9	0.5	2.68	34.18	2.22	0.5
7/29/2021	7.1	BP	NM	1.0	24.19	75.25	2.55	0.3	3.71	34.10	2.3	0.5
8/12/2021	8.71	BP	NM	1.0	24.96	75.72	2.08	0.3	4.96	34.19	2.21	1.0
8/26/2021	8.93	BP	NM	1.0	25.42	75.81	1.99	0.5	5.2	34.8	1.6	1.0
9/10/2021	8.91	BP	NM	0.7	25.87	75.79	2.01	TR	5.68	34.48	1.92	1.1
9/22/2021	7.42	BP	NM	0	25.93	ND	0	0	4.72	31.15	5.25	1.3
10/8/2021	6.00	45.60	0.10	0	25.68	75.60	2.20	0	3.30	32.70	3.70	1.0
10/20/2021	7.81	44.00	1.70	0	26.14	ND	0	0	4.82	32.82	3.58	1.2
11/4/2021	6.03	BP	NM	0	25.57	ND	0	0	3.93	33.30	3.10	1.5
11/18/2021	6.75	BP	NM	0	25.65	74.80	1.71	0	4.3	33.61	2.79	0.3
12/3/2021	6.30	BP	NM	0	25.79	ND	0	0	4.64	32.70	3.70	1.3
12/16/2021	6.37	BP	NM	0	25.92	76.00	0.51	0	4.84	33.30	2.70	1.3
12/30/2021	6.21	BP	NM	0	25.84	ND	Trace	0	4.22	33.63	2.37	1.5
1/14/2022	6.26	ND	Trace	0	25.92	ND	Trace	0	4.31	33.74	2.26	1.5
1/26/2022	6.32	ND	Trace	0	26.01	ND	Trace	0	4.26	33.61	2.39	1.5
2/10/2022	5.70	43.50	2.20	0.12	25.65	75.3	1.2	0	3.51	34.65	1.35	0.3
2/24/2022	6.53	BP	NM	0.15	26.00	75.51	0.99	0.2	4.87	34.32	1.68	0.3
3/10/2022	6.40	BP	NM	0.2	25.96	ND	0	0	5.03	34.6	1.40	0.5
3/24/2022	6.83	BP	NM	0	26.55	ND	0	0	5.33	35.07	0.93	0.3
4/7/2022	6.98	BP	NM	0.1	26.51	ND	0	0	4.48	35.51	0.53	0.3
4/18/2022	7.49	BP	NM	0.8	26.72	ND	0	0	4.77	35.46	0.54	0.5
5/2/2022	7.95	BP	NM	1.0	26.89	ND	Trace	0	5.12	35.33	0.57	0.5
5/20/2022	6.72	BP	NM	1.0	26.39	ND	0	0	5.21	35.21	0.84	0.5
6/2/2022	6.81	BP	NM	1.0	26.31	ND	0	0	5.39	35.34	0.71	0.5
6/16/2022	9.85	BP	NM	0.5	27.62	ND	Trace	0	5.20	35.50	0.35	0.3
6/30/2022	9.91	BP	NM	0.25	27.98	ND	0	0	6.97	ND	Trace	0.1
7/15/2022	6.89	BP	NM	1.0	27.87	ND	0	0	6.26	35.31	0.69	0.5
7/28/2022	6.96	BP	NM	1.0	27.96	ND	0	0	6.39	35.21	0.79	0.5
8/12/2022	9.10	BP	NM	0.1	28.28	Trace	Trace	0	6.92	34.15	1.85	NM
8/29/2022	8.56	BP	NM	0.5	26.56	ND	0	0	5.52	35.52	0.53	0.5
9/16/2022	8.30	BP	NM	0.5	27.70	ND	0	0	5.20	31.00	5.05	0.5
9/30/2022	9.80	BP	NM	0.25	28.00	ND	0	0	6.40	28.50	7.55	3.0
10/17/2022	11.52	BP	NM	0.25	28.32	ND	0	0	7.10	27.35	8.70	2.0
10/27/2022	11.79	BP	NM	0.25	28.74	ND	0	0	7.49	28.91	7.14	2.0
11/10/2022	11.47	BP	NM	0.25	28.51	ND	0	0	7.22	28.96	7.09	2.0
11/30/2022	7.49	BP	NM	0.25	26.21	ND	0	0	3.76	29.31	6.74	1.5
12/16/2022	7.36	BP	NM	0.25	26.06	ND	0	0	3.52	29.26	6.79	1.5
12/27/2022	7.59	BP	NM	0.25	25.67	ND	0	0	3.71	29.21	6.84	1.5
1/13/2023	8.06	BP	NM	0.25	26.29	ND	0	0	4.06	29.29	6.76	1.5
1/27/2023	5.57	BP	NM	0.25	26.97	ND	0	0	3.67	29.72	6.33	1.0
2/9/2023	5.6	BP	NM	0.10	26.52	ND	0	0	3.74	NM	NM	0.0
2/23/2023	6.42	BP	NM	0.25	26.56	ND	0	0	4.28	29.93	6.12	1.5
3/9/2023	6.52	BP	NM	0.25	26.46	ND	0	0	4.17	29.86	6.19	1.5
3/23/2023	7.25	BP	NM	0.25	27.50	ND	0	0	4.70	31.50	4.55	1.5
4/6/2023	6.63	BP	NM	0.25	26.53	ND	0	0	5.06	31.67	4.38	1.5
4/19/2023	6.55	BP	NM	0.25	27.00	ND	0	0	4.31	31.00	5.05	1.5
5/5/2023	6.81	BP	NM	0.25	26.78	ND	0	0	5.29	31.77	4.28	1.5
5/18/2023	5.22	BP	NM	0.25	26.15	ND	0	0	1.98	32.18	3.87	0.5
6/1/2023	7.85	BP	NM	0.10	26.32	ND	0	0	4.20	32.80	3.25	0.5
6/15/2023	7.88	BP	NM	0.10	26.62	ND	0	0	4.52	33.23	2.82	0.50
6/29/2023	9.05	BP	NM	0.10	27.18	ND	0	0	5.57	33.45	2.50	0.10
7/13/2023	8.90	BP	NM	Trace	19.34	ND	0	0	5.33	33.50	3.41	0.50
7/27/2023	10.02	BP	NM	Trace	27.75	ND	0	0	6.50	34.60	1.37	Trace
8/10/2023	10.90	BP	NM	0.25	28.26	ND	0	0	6.97	33.30	2.70	0.75
8/24/2023	11.28	BP	NM	Trace	29.37	ND	0	0	7.80	34.22	1.98	0.25
9/7/2023	11.36	BP	NM	0.10	29.48	ND	0	0	7.91	35.01	1.09	0.25
9/21/2023	12.00	BP	NM	0.00	29.18	ND	0	0	7.80	35.80	0.30	0.30
10/5/2023	9.00	BP	NM	Trace	29.10	ND	0	0	7.00	7.40	0.40	0.25
10/19/2023	10.15	BP	NM	0.10	28.88	ND	0	0	6.60	34.60	1.50	0.15
11/2/2023	9.75	BP	NM	0.25	28.90	ND	0	0	6.87	35.10	1.00	0.20

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-12B				MW-23C				MW-32B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
11/16/2023	8.80	BP	NM	0.40	28.85	ND	0	0	5.88	34.60	1.50	0.30
11/30/2023	9.85	BP	NM	Trace	28.70	ND	0	0	6.68	34.00	2.00	0.10
12/14/2023	5.92	BP	NM	Trace	27.45	ND	0	0	6.20	34.60	1.50	0.10
12/27/2023	7.30	BP	NM	Trace	28.20	ND	0	0	5.00	35.00	1.00	Trace
1/11/2024	5.76	PoP	Trace	Trace	27.58	ND	0	0	3.42	PoP	Trace	0.10
1/25/2024	7.20	BP	NM	Trace	27.20	ND	0	0	1.36	ND	0	0
2/9/2024	5.80	BP	NM	Trace	26.58	ND	0	0	4.42	35.10	1.00	Trace
2/22/2024	6.45	BP	NM	0.20	26.37	ND	0	0	4.56	35.00	1.00	Trace
3/7/2024	7.45	BP	NM	0.30	26.65	ND	0	0	5.07	35.20	1.00	0.20
3/22/2024	5.51	BP	NM	Trace	23.00	PoP	Trace	0	4.43	35.08	1.00	0.25
4/18/2024	7.21	BP	NM	TR	26.47	ND	0	0	5.95	35.00	1.10	0.10
5/2/2024	7.56	BP	NM	0.10	26.55	ND	0	0	5.09	PoP	Trace	0
5/17/2024	6.41	BP	NM	0.10	25.90	ND	0	0	3.65	35.00	1.00	0.20
5/30/2024	5.71	BP	NM	TR	25.95	ND	0	0	3.40	35.70	0.50	0.10
6/13/2024	6.73	BP	NM	0.10	25.80	ND	0	0	4.00	35.20	1.00	0.20
6/27/2024	7.21	BP	NM	0.10	25.99	ND	0	0	4.55	PoP	Trace	0
7/11/2024	5.82	BP	NM	0.10	25.76	ND	0	0	2.55	35.60	0.50	0.10
7/25/2024	5.45	BP	NM	0.10	18.70	ND	0	0	4.32	35.50	0.50	0.20
8/8/2024	6.90	BP	NM	TR	25.04	PoP	Trace	0	5.39	35.20	1.00	0.25
9/5/2024	9.05	BP	NM	0.10	26.15	ND	0	0	5.13	34.70	1.50	0.30
9/19/2024	9.72	BP	NM	TR	26.60	PoP	Trace	0	5.50	35.40	0.70	0.10
<b>Total DNAPL Pumped (gal)</b>	<b>157.6</b>				<b>55.5</b>				<b>150.0</b>			

Notes:

\* - indicates DNAPL and groundwater mixture

MW-23C- added 5 feet to TOC due to capping after 2/3/2016

\*\* - indicates DTD from previous event was used; DNAPL recovered revised based on review of field notes.

--- No DNAPL pumped

ND - Not detected

DTW - Depth to water (feet Below Top of Casing (BTOC))

NM - Not measured

DTD - Depth to DNAPL (feet BTOC)

PoP - Product on probe, not measurable

TR - Trace amount of DNAPL Extracted

BP - Below pump; depth to DNAPL not measured because DNAPL is below top of in-well pump

TABLE 1

**SUMMARY OF DNAPL RECOVERY MEASUREMENTS  
UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-33BR				MW-34C/MW-34CR (July 2014)				MW-41B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
2/14/2013	3.72	ND	0	0	NM	NM	NM	0	8.91	41.1	3.71	3
4/3/2013	4.02	PoP	0	0	NM	NM	NM	0	9.37	41.6	3.21	1.5
4/22/2013	3.63	ND	0	0	NM	NM	NM	0	8.62	41.6	3.21	0.5*
5/30/2013	3.59	ND	0	0	NM	NM	NM	0	8.73	34.16	10.65	2
6/29/2013	6.07	ND	0	0	NM	NM	NM	0	9.72	37.12	7.69	2
7/22/2013	9.68	ND	0	0	NM	NM	NM	0	10.31	39.29	5.52	1.5
8/26/2013	9.86	ND	0	0	NM	NM	NM	0	10.09	34.55	10.26	2.5
9/27/2013	9.57	ND	0	0	NM	NM	NM	0	9.63	37.29	7.52	2
10/31/2013	9.32	ND	0	0	21.63	NM	NM	0	9.52	38.16	6.65	2
11/27/2013	9.16	ND	0	0	NM	NM	NM	0	9.57	38.39	6.42	2
12/31/2013	8.97	ND	0	0	NM	NM	NM	0	9.42	39.36	5.45	2
1/30/2014	7.41	ND	0	0	NM	NM	NM	0	9.06	39.17	5.64	2
3/3/2014	7.16	ND	0	0	NM	NM	NM	0	8.62	38.06	6.75	2
3/31/2014	7.04	ND	0	0	NM	NM	NM	0	8.52	37.74	7.07	2
4/30/2014	6.88	ND	0	0	NM	NM	NM	0	8.36	37.21	7.6	2
5/27/2014	6.72	ND	0	0	NM	NM	NM	0	8.26	37.29	7.52	2
6/26/2014	6.52	ND	0	0	NM	NM	NM	0	8.02	37.47	7.34	2
7/31/2014	6.29	ND	0	0	19.06	ND	0	0	8.21	37.92	6.89	2
8/27/2014	6.47	ND	0	0	18.96	ND	0	0	8.07	38.29	6.52	1.5
10/3/2014	6.32	ND	0	0	18.81	ND	0	0	8.02	38.13	6.68	2
11/3/2014	NM	NM	NM	0	19.06	ND	0	0	8.22	38.29	6.52	2
11/24/2014	NM	NM	NM	0	19.11	ND	0	0	8.27	38.47	6.34	2
12/22/2014	NM	NM	NM	0	19.06	ND	0	0	8.16	38.39	6.42	2
1/29/2015	NM	NM	NM	0	18.79	ND	0	0	8.02	39.16	5.65	1.5
2/26/2015	NM	NM	NM	0	18.71	ND	0	0	7.92	39.06	5.75	2.5
3/26/2015	NM	NM	NM	0	18.67	ND	0	0	7.83	38.74	6.07	2.5
4/27/2015	NM	NM	NM	0	18.79	ND	0	0	8.02	38.61	6.2	3
5/26/2015	NM	NM	NM	0	18.63	ND	0	0	7.91	38.72	6.09	3
7/6/2015	NM	NM	NM	0	17.29	ND	0	0	6.03	38.96	5.85	2.5
8/3/2015	NM	NM	NM	0	17.21	ND	0	0	6.09	39.01	5.8	2.5
8/27/2015	NM	NM	NM	0	18.46	ND	0	0	7.39	39.14	5.67	2
10/5/2015	NM	NM	NM	0	17.29	ND	0	0	6.32	39.34	5.47	2
11/5/2015	NM	NM	NM	0	16.78	ND	0	0	6.01	39.51	5.3	2
12/3/2015	NM	NM	NM	0	16.44	ND	0	0	5.76	39.56	5.25	2
12/28/2015	NM	NM	NM	0	16.16	ND	0	0	5.62	39.63	5.18	2.3
2/3/2016	NM	NM	NM	0	15.98	ND	0	0	5.32	39.72	5.09	3
3/3/2016	NM	NM	NM	0	15.98	ND	0	0	5.17	39.81	5	3
3/31/2016	NM	NM	NM	0	15.98	ND	0	0	5.26	39.77	5.04	3
5/3/2016	NM	NM	NM	0	15.79	ND	0	0	5.52	39.96	4.85	3
6/2/2016	NM	NM	NM	0	15.97	ND	0	0	5.67	40.07	4.74	3
7/8/2016	NM	NM	NM	0	16.06	ND	0	0	5.72	40.01	4.8	3
8/3/2016	NM	NM	NM	0	16.17	ND	0	0	5.79	40.09	4.72	3
8/30/2016	NM	NM	NM	0	16.31	ND	0	0	5.91	40.26	4.55	3
9/30/2016	NM	NM	NM	0	16.42	ND	0	0	6.06	40.13	4.68	3
11/3/2016	NM	NM	NM	0	16.51	ND	0	0	6.11	40.29	4.52	3
11/30/2016	NM	NM	NM	0	16.72	ND	0	0	6.26	40.42	4.39	3
1/4/2017	NM	NM	NM	0	16.94	ND	0	0	6.39	40.56	4.25	3
2/7/2017	NM	NM	NM	0	16.91	ND	0	0	6.44	40.51	4.3	3
3/2/2017	NM	NM	NM	0	16.78	ND	0	0	6.29	40.76	4.05	3
4/3/2017	NM	NM	NM	0	16.71	ND	0	0	6.21	40.67	4.14	2.5
4/27/2017	NM	NM	NM	0	16.61	ND	0	0	6.19	40.87	3.94	3
5/29/2017	NM	NM	NM	0	16.84	ND	0	0	6.14	40.29	4.52	3
7/5/2017	NM	NM	NM	0	17.01	ND	0	0	6.34	40.57	4.24	2.5
8/1/2017	NM	NM	NM	0	17.17	ND	0	0	6.42	40.79	4.02	3
9/5/2017	NM	NM	NM	0	17.11	ND	0	0	6.36	40.68	4.13	3
10/4/2017	NM	NM	NM	0	17.06	ND	0	0	6.29	40.69	4.12	2.5
11/2/2017	NM	NM	NM	0	17.17	ND	0	0	6.41	40.73	4.08	3
11/29/2017	NM	NM	NM	0	17.29	ND	0	0	6.52	40.82	3.99	2.5
1/2/2018	NM	NM	NM	0	17.52	ND	0	0	6.72	40.72	4.09	2.5
2/7/2018	NM	NM	NM	0	18.11	ND	0	0	6.97	40.79	4.02	2.5
3/1/2018	NM	NM	NM	0	18.38	ND	0	0	7.16	40.63	4.18	2
4/2/2018	NM	NM	NM	0	18.29	ND	0	0	7.13	40.71	4.1	2
5/1/2018	NM	NM	NM	0	18.33	ND	0	0	8.26	40.76	4.05	2

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-33BR				MW-34C/MW-34CR (July 2014)				MW-41B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
6/1/2018	NM	NM	NM	0	18.62	ND	0	0	8.71	40.81	4	2.3
6/29/2018	NM	NM	NM	0	18.91	ND	0	0	9.02	40.71	4.1	2.5
8/3/2018	NM	NM	NM	0	19.06	ND	0	0	9.13	40.76	4.05	2.5
8/31/2018	NM	NM	NM	0	18.77	ND	0	0	8.89	40.86	3.95	2
9/28/2018	NM	NM	NM	0	18.64	ND	0	0	8.77	40.76	4.05	2
11/2/2018	NM	NM	NM	0	18.57	ND	0	0	8.61	40.71	4.1	2
11/29/2018	NM	NM	NM	0	18.39	ND	0	0	8.41	40.81	4	2
1/2/2019	NM	NM	NM	0	18.26	ND	0	0	8.22	40.83	3.98	2
2/2/2019	NM	NM	NM	0	18.19	ND	0	0	8.16	40.89	3.92	2
2/28/2019	NM	NM	NM	0	18.02	ND	0	0	8.03	40.76	4.05	3
4/2/2019	NM	NM	NM	0	17.96	ND	0	0	7.93	40.69	4.12	3
4/25/2019	NM	NM	NM	0	Well Damaged				7.76	40.28	4.53	3
5/29/2019	NM	NM	NM	0	Well Damaged				7.71	40.07	4.74	3
6/12/2019	NM	NM	NM	0	Well Damaged				7.52	39.63	5.18	3
6/30/2019	NM	NM	NM	0	Well Damaged				7.46	39.52	5.29	3
7/16/2019	NM	NM	NM	0	Well Damaged				7.39	39.46	5.35	3
8/2/2019	NM	NM	NM	0	Well Damaged				7.46	39.42	5.39	0
8/15/2019	NM	NM	NM	0	Well Damaged				7.51	39.31	5.5	3
8/28/2019	NM	NM	NM	0	Well Damaged				7.57	39.21	5.6	3
9/17/2019	NM	NM	NM	0	Well Damaged				7.66	39.02	5.79	3
10/2/2019	NM	NM	NM	0	Well Damaged				7.61	38.76	6.05	3
10/16/2019	NM	NM	NM	0	Well Damaged				5.21	38.67	6.14	3
10/31/2019	NM	NM	NM	0	Well Damaged				5.21	38.67	6.14	3
11/15/2019	NM	NM	NM	0	Well Damaged				4.81	38.12	6.69	2
12/3/2019	NM	NM	NM	0	Well Damaged				6.46	39.27	5.54	3
12/18/2019	NM	NM	NM	0	Well Damaged				6.51	41.7	3.11	0
12/30/2019	NM	NM	NM	0	Well Damaged				6.99	43.5	1.31	0
1/7/2020	--	--	--	--	--	--	--	--	--	--	--	--
1/15/2020	NM	NM	NM	0	Well Damaged				5.12	38.99	5.82	0
1/27/2020	NM	NM	NM	0	Well Damaged				3.41	40.7	4.11	0
2/13/2020	NM	NM	NM	0	Well Damaged				5.1	40.12	4.69	0
2/25/2020	NM	NM	NM	0	Well Damaged				4.5	41.12	3.69	0
3/13/2020	NM	NM	NM	0	Well Damaged				6.06	42.12	2.69	0
3/31/2020	NM	NM	NM	0	17.49	ND	0	0	6.82	42.12**	2.69	2
4/9/2020	NM	NM	NM	0	17.63	ND	0	0	6.47	BP	NM	2
4/27/2020	NM	NM	NM	0	17.89	ND	0	0	8.01	BP	NM	2
5/14/2020	NM	NM	NM	0	18.29	ND	0	0	8.71	42.1	2.71	3.5
5/28/2020	NM	NM	NM	0	18.31	ND	0	0	8.08	BP	NM	3.5
6/11/2020	NM	NM	NM	0	18.51	ND	0	0	8.01	41.59	3.22	2
6/25/2020	NM	NM	NM	0	17.66	ND	0	0	7.52	BP	NM	2
7/9/2020	NM	NM	NM	0	18.22	ND	0	0	7.29	BP	NM	2
7/23/2020	NM	NM	NM	0	18.36	ND	0	0	7.49	BP	NM	2.5
8/6/2020	NM	NM	NM	0	17.66	ND	0	0	5.64	BP	NM	1.3
8/20/2020	NM	NM	NM	0	18.02	ND	0	0	7.38	BP	NM	0.5
9/2/2020	NM	NM	NM	0	18.2	ND	0	0	8.11	BP	NM	0.8
9/17/2020	NM	NM	NM	0	18.56	ND	0	0	8.81	BP	NM	1
10/1/2020	NM	NM	NM	0	18.29	ND	0	0	6.39	BP	NM	0.8
10/14/2020	NM	NM	NM	0	18.31	ND	0	0	8.71	BP	NM	2
10/28/2020	NM	NM	NM	0	18.61	ND	0	0	8.51	BP	NM	1.5
11/12/2020	NM	NM	NM	0	18.71	ND	0	0	8.49	BP	NM	0.5
11/23/2020	NM	NM	NM	0	18.97	ND	0	0	8.84	BP	NM	0
12/10/2020	NM	NM	NM	0	18.62	ND	0	0	5.31	BP	NM	1.5
12/21/2020	NM	NM	NM	0	18.01	ND	0	0	4.42	BP	NM	1
1/7/2021	NM	NM	NM	0	17.52	ND	0	0	4.48	BP	NM	1.5
1/21/2021	NM	NM	NM	0	17.39	ND	0	0	4.59	BP	NM	2
2/4/2021	NM	NM	NM	0	17.22	ND	0	0	5.62	BP	NM	1.5
2/23/2021	NM	NM	NM	0	17.04	ND	0	0	4.58	BP	NM	1
3/11/2021	NM	NM	NM	0	16.98	ND	0	0	4.22	BP	NM	1.5
3/25/2021	NM	NM	NM	0	17.01	ND	0	0	5.13	BP	NM	1.0
4/8/2021	NM	NM	NM	0	17.22	ND	0	0	6.63	BP	NM	1.0
4/22/2021	NM	NM	NM	0	17.41	ND	0	0	7.64	BP	NM	1.0
5/4/2021	NM	NM	NM	0	17.57	ND	0	0	5.96	BP	NM	1.0
5/20/2021	NM	NM	NM	0	16.51	ND	0	0	5.62	BP	NM	1.0

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-33BR				MW-34C/MW-34CR (July 2014)				MW-41B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
6/3/2021	NM	NM	NM	0	15.81	ND	0	0	4.41	BP	NM	1.0
6/17/2021	NM	NM	NM	0	16.74	ND	0	0	5.81	BP	NM	1.0
7/1/2021	NM	NM	NM	0	15.71	ND	0	0	4.36	BP	NM	1.0
7/19/2021	NM	NM	NM	0	15.49	ND	0	0	4.11	BP	NM	1.0
7/29/2021	NM	NM	NM	0	15.98	ND	0	0	6.51	BP	NM	1.0
8/12/2021	NM	NM	NM	0	16.58	ND	0	0	8.01	BP	NM	1.0
8/26/2021	NM	NM	NM	0	17.11	ND	0	0	8.04	BP	NM	1.0
9/10/2021	NM	NM	NM	0	17.56	ND	0	0	8.25	BP	NM	0.3
9/22/2021	5.32	ND	0	0	17.32	ND	0	0	5.66	BP	NM	0
10/8/2021	1.53	ND	0	0	NM	NM	0	0	1.34	43.68	1.13	0.0
10/20/2021	1.98	ND	0	0	17.68	ND	0	0	5.98	43.01	1.80	0.0
11/4/2021	3.56	ND	0	0	NM	NM	0	0	5.08	42.00	2.81	0.3
11/18/2021	NM	NM	NM	0	NM	NM	NM	0	5.92	BP	NM	0.0
12/3/2021	3.7	ND	0	0	NM	NM	NM	0	6.57	BP	NM	0.0
12/16/2021	4.6	ND	0	0	17.6	ND	0	0	6.63	BP	NM	0.0
12/30/2021	4.29	ND	0	0	17.52	ND	0	0	5.21	BP	NM	0.0
1/14/2022	4.36	ND	0	0	17.58	ND	0	0	5.34	ND	Trace	0.0
1/26/2022	4.43	ND	0	0	17.66	ND	0	0	5.42	ND	Trace	0.0
2/10/2022	4.3	ND	0	0	17.3	ND	0	0	4.61	41.55	3.26	0.3
2/24/2022	4.25	ND	0	0	17.42	ND	0	0	5.6	41.55	3.26	0.2
3/10/2022	NM	NM	NM	0	17.48	ND	0	0	5.59	41.58	3.23	0.3
3/24/2022	5.08	ND	0	0	17.72	ND	0	0	5.06	BP	NM	TR
4/7/2022	4.80	ND	0	0	17.40	ND	0	0	5.80	BP	NM	0.1
4/18/2022	5.16	ND	0	0	17.86	ND	0	0	6.03	BP	NM	1.0
5/2/2022	5.40	ND	0	0	18.10	ND	0	0	6.24	BP	NM	1.0
5/20/2022	5.46	ND	0	0	18.02	ND	0	0	6.13	BP	NM	1.0
6/2/2022	5.61	ND	0	0	18.12	ND	0	0	6.29	BP	NM	1.0
6/16/2022	5.82	ND	0	0	18.21	ND	0	0	9.23	BP	NM	1.0
6/30/2022	5.87	ND	0	0	18.39	ND	0	0	9.37	BP	NM	1.0
7/15/2022	6.81	ND	0	0	19.27	ND	0	0	6.54	BP	NM	1.0
7/28/2022	6.94	ND	0	0	19.39	ND	0	0	6.67	BP	NM	1.0
8/12/2022	7.68	ND	0	0	20.00	ND	0	0	1.00	BP	NM	0.25
8/29/2022	NM	NM	NM	0	19.81	ND	0	0	6.47	BP	NM	0.5
9/16/2022	5.70	ND	0	0	19.45	ND	0	0	8.00	BP	NM	0.5
9/30/2022	NM	NM	NM	0	19.60	ND	0	0	9.10	42.50	2.31	1.0
10/17/2022	6.90	ND	0	0	19.93	ND	0	0	9.88	BP	NM	0.25
10/27/2022	7.02	ND	0	0	20.06	ND	0	0	10.13	BP	NM	0.25
11/10/2022	6.91	ND	0	0	19.92	ND	0	0	10.02	BP	NM	0.25
11/30/2022	5.24	ND	0	0	17.52	ND	0	0	6.12	BP	NM	0.25
12/16/2022	5.17	ND	0	0	17.39	ND	0	0	6.02	BP	NM	0.25
12/27/2022	5.46	ND	0	0	17.58	ND	0	0	6.34	BP	NM	0.25
1/13/2023	5.86	ND	0	0	18.13	ND	0	0	6.63	BP	NM	0.25
1/27/2023	3.88	ND	0	0	18.30	ND	0	0	4.55	BP	NM	1.00
2/9/2023	4.59	ND	0	0	18.12	ND	0	0	4.51	BP	NM	0.25
2/23/2023	NM	NM	NM	0	18.03	ND	0	0	5.35	BP	NM	0.25
3/9/2023	3.99	ND	0	0	17.91	ND	0	0	5.26	BP	NM	0.25
3/23/2023	4.99	ND	0	0	18.6	ND	0	0	6.41	BP	NM	0.50
4/6/2023	4.12	ND	0	0	17.74	ND	0	0	5.36	BP	NM	0.25
4/19/2023	4.93	4.93	0	0	18.60	ND	0	0	5.41	BP	NM	0.25
5/5/2023	4.27	4.27	0	0	17.89	ND	0	0	5.52	BP	NM	0.25
5/18/2023	2.34	ND	0	0	18.3	ND	0	0	4.23	BP	NM	0.25
6/1/2023	3.66	ND	0	0	17.87	ND	0	0	7.12	BP	NM	0.50
6/15/2023	4.43	ND	0	0	18.03	ND	0	0	7.14	BP	NM	0.10
6/29/2023	5.32	ND	0	0	18.60	ND	0	0	8.34	BP	NM	0.25
7/13/2023	5.88	ND	0	0	18.81	ND	0	0	8.12	BP	NM	0.10
7/27/2023	7.92	ND	0	0	19.31	ND	0	0	9.40	BP	NM	Trace
8/10/2023	7.58	ND	0	0	19.42	ND	0	0	10.30	BP	NM	0.25
8/24/2023	8.11	ND	0	0	20.29	ND	0	0	9.08	BP	NM	0.10
9/7/2023	8.45	ND	0	0	20.62	ND	0	0	9.13	BP	NM	0.10
9/21/2023	8.45	ND	0	0	20.75	ND	0	0	11.45	BP	NM	Trace
10/5/2023	12.45	ND	0	0	20.66	ND	0	0	8.75	BP	NM	0.15
10/19/2023	7.26	PoP	Trace	0	20.51	ND	0	0	9.55	BP	NM	0.25
11/2/2023	7.30	ND	0	0	21.50	ND	0	0	10.35	BP	NM	0

TABLE 1

**SUMMARY OF DNAPL RECOVERY MEASUREMENTS  
UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-33BR				MW-34C/MW-34CR (July 2014)				MW-41B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
11/16/2023	7.15	ND	0	0	20.40	ND	0	0	8.40	BP	NM	1.50
11/30/2023	6.80	ND	0	0	20.30	ND	0	0	9.23	BP	NM	0.20
12/14/2023	5.15	ND	0	0	20.60	ND	0	0	8.25	BP	NM	2.00
12/27/2023	7.36	ND	0	0	19.71	ND	0	0	6.45	BP	NM	0.30
1/11/2024	5.15	ND	0	0	18.20	ND	0	0	4.65	BP	NM	0.30
1/25/2024	4.50	ND	0	0	0.00	NM	0	0	4.22	BP	NM	1.00
2/9/2024	1.80	PoP	Trace	0	18.10	ND	0	0	4.65	BP	NM	0.10
2/22/2024	3.30	ND	0	0	18.04	ND	0	0	5.35	BP	NM	0.50
3/7/2024	4.55	ND	0	0	18.20	ND	0	0	6.54	BP	NM	0.20
3/22/2024	4.08	ND	0	0	18.27	ND	0	0	4.43	BP	NM	0.20
4/18/2024	4.61	ND	0	0	18.06	ND	0	0	6.35	BP	NM	0.30
5/2/2024	5.40	PoP	Trace	0	18.25	ND	0	0	6.75	BP	NM	0.20
5/17/2024	2.60	PoP	Trace	0	NM	NM	NM	NM	5.42	BP	NM	0.30
5/30/2024	3.40	ND	0	0	NM	NM	NM	NM	4.56	BP	NM	1.00
6/13/2024	3.65	ND	0	0	NM	NM	NM	NM	6.15	BP	NM	0.30
6/27/2024	4.51	ND	0	0	NM	NM	NM	NM	6.72	BP	NM	0.20
7/11/2024	4.06	ND	0	0	NM	NM	NM	NM	4.72	BP	NM	0.25
7/25/2024	2.92	ND	0	0	NM	NM	NM	NM	4.50	BP	NM	0.20
8/8/2024	5.21	ND	0	0	16.76	ND	ND	0	6.10	BP	NM	0.15
9/5/2024	5.02	ND	0	0	17.64	ND	0	0	7.00	BP	NM	0.30
9/19/2024	5.40	ND	0	0	18.04	ND	0	0	9.06	BP	NM	TR
<b>Total DNAPL Pumped (gal)</b>				<b>0.0</b>				<b>0.0</b>				<b>293.2</b>

Notes:

\* - indicates DNAPL and groundwater mixture

ND - Not detected

\*\* - indicates DTD from previous event was used

NM - Not measured

--- - No DNAPL pumped

PoP - Product on probe, not measurable

DTW - Depth to water (feet Below Top of Casing (BTOC))

TR- Trace amount of DNAPL Extracted

DTD - Depth to DNAPL (feet BTOC)

BP - Below pump, depth to DNAPL not measured because DNAPL is below top of in-well pump

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-44C				MW-45C				MW-46C			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)
2/14/2013	18.96	62.95	7.85	1	21.26	69.9	0.7	0.3	21.07	71.3	1.6	0.3
4/3/2013	19.34	70.47	0.33	0.3*	21.39	70.39	0.21	0.3*	20.61	72.36	0.54	0.3*
4/22/2013	18.62	70.64	0.16	0.3*	21.03	70.47	0.13	0.3*	20.61	72.61	0.29	0.3*
5/30/2013	18.43	70.01	0.79	0.3*	21.16	70.25	0.35	0.3*	20.59	71.61	1.29	0.3*
6/29/2013	19.34	70.32	0.48	0.3	21.93	70.32	0.28	0.3*	21.09	72.34	0.56	0.3*
7/22/2013	20.36	70.26	0.54	0.3	22.72	70.39	0.21	0.3*	21.96	72.16	0.74	0.3*
8/26/2013	20.62	70.39	0.41	0.3	22.86	70.31	0.29	0.3	22.23	72.32	0.58	0.3
9/27/2013	20.39	70.61	0.19	0.3	22.66	70.17	0.43	0.3	22.09	72.09	0.81	0.3
10/31/2013	20.17	70.75	0.05	0.1	22.59	70.42	0.18	0.1	22.41	72.34	0.56	0.2
11/27/2013	20.09	70.78	0.02	0.0	22.52	70.49	0.11	0	22.31	72.47	0.43	0.1
12/31/2013	20.01	70.8	PoP	0.0	22.39	70.46	0.14	0	22.03	72.53	0.37	0.1
1/30/2014	19.67	70.42	0.38	0.3	22.13	70.35	0.25	0	21.81	72.55	0.35	0.1
3/3/2014	19.29	70.17	0.63	0.3	21.86	70.09	0.51	0	21.57	72.05	0.85	0.3
3/31/2014	19.17	70.02	0.78	0.3	21.71	69.63	0.97	0.3	21.43	72.12	0.78	0.1
4/30/2014	19.02	69.81	0.99	0.3	21.59	69.74	0.86	0.3	21.27	71.81	1.09	0.3
5/27/2014	18.92	69.71	1.09	0.0	21.52	69.67	0.93	0.3	21.34	71.71	1.19	0.3
6/26/2014	18.81	69.52	1.28	0.3	21.59	69.77	0.83	0.3	21.17	71.6	1.3	0.3
7/31/2014	18.66	69.37	1.43	0.3	21.21	69.96	0.64	0.3	20.39	71.43	1.47	0.3
8/27/2014	18.53	69.47	1.33	0.3	21.13	70.12	0.48	0.3	20.22	71.61	1.29	0.3
10/3/2014	18.41	69.23	1.57	0.3	20.13	70.41	0.19	0.3	20.14	71.39	1.51	0.3
11/3/2014	18.52	69.37	1.43	0.3	20.29	70.36	0.24	0.3	20.27	71.47	1.43	0.3
11/24/2014	18.57	69.49	1.31	0.5	20.34	70.48	0.12	0.3	20.38	71.53	1.37	0.5
12/22/2014	18.51	69.31	1.49	0.5	20.31	70.41	0.19	0.3	20.37	71.42	1.48	0.5
1/29/2015	18.39	69.39	1.41	0.5	20.17	70.51	0.09	0.3	20.13	71.48	1.42	0.5
2/26/2015	18.42	69.51	1.29	0.5	20.11	70.59	0.01	0	20.09	71.38	1.52	0.5
3/26/2015	18.39	69.42	1.38	0.3	19.26	70.52	0.08	0	20.17	71.02	1.88	0.3
4/27/2015	18.29	69.52	1.28	0.5	20.17	70.48	0.12	0.3	20.22	71.56	1.34	1.0
5/26/2015	18.17	69.57	1.23	0.8	20.12	70.41	0.19	0.3	20.12	71.61	1.29	1.0
7/6/2015	16.29	69.86	0.94	0.5	18.07	70.49	0.11	0.3	18.17	71.93	0.97	0.8
8/3/2015	16.18	69.82	0.98	0.5	18.16	70.56	0.04	TR*	18.24	71.98	0.92	0.8
8/27/2015	17.46	69.74	1.06	0.3	19.03	70.54	0.06	TR*	19.39	72.03	0.87	0.5
10/5/2015	16.83	69.86	0.94	0.3	18.39	ND	0	0	18.72	72.34	0.56	0.5
11/5/2015	16.62	69.79	1.01	0.3	17.96	ND	0	0	18.51	72.26	0.64	0.5
12/3/2015	16.46	69.73	1.07	0.3	17.72	ND	0	0	18.62	72.36	0.54	0.5
12/28/2015	16.32	69.77	1.03	0.3	17.62	ND	0	0	18.42	72.31	0.59	0.5
2/3/2016	16.17	69.74	1.06	0.3	17.42	ND	0	0	18.29	72.46	0.44	0.3
3/3/2016	16.12	69.79	1.01	0.3	17.39	ND	0	0	18.23	72.49	0.41	0.3
3/31/2016	16.06	69.71	1.09	0.3	17.33	ND	0	0	18.24	72.54	0.36	0.3
5/3/2016	16.27	69.59	1.21	0.3	17.47	ND	0	0	18.39	72.39	0.51	0.3
6/2/2016	16.38	69.63	1.17	0.3	17.52	ND	0	0	18.43	72.43	0.47	0.3
7/8/2016	16.47	69.71	1.09	0.3	17.62	ND	0	0	18.54	72.49	0.41	0.3
8/3/2016	16.59	69.7	1.1	0.3	17.69	ND	0	0	18.51	72.53	0.37	0.3
8/30/2016	16.67	69.58	1.22	0.3	17.76	ND	0	0	18.72	72.57	0.33	0.3
9/30/2016	16.79	69.49	1.31	0.5	17.86	ND	0	0	18.83	72.46	0.44	0.3
11/3/2016	16.86	69.71	1.09	0.5	17.92	ND	0	0	18.89	72.41	0.49	0.3
11/30/2016	17.03	69.94	0.86	0.8	18.09	ND	0	0	19.12	72.32	0.58	0.3
1/4/2017	17.22	70.11	0.69	0.8	18.22	ND	0	0	19.27	72.46	0.44	0.3
2/7/2017	17.29	70.01	0.79	0.5	18.17	ND	0	0	19.19	72.39	0.51	0.3
3/2/2017	17.17	70.16	0.64	0.5	17.96	ND	0	0	19.03	72.31	0.59	0.3
4/3/2017	17.06	70.21	0.59	0	17.89	ND	0	0	18.97	72.39	0.51	0.3
4/27/2017	17.01	70.29	0.51	0	17.67	ND	0	0	18.84	72.31	0.59	0.5
5/29/2017	17.23	70.24	0.56	0.3	17.84	ND	0	0	18.94	72.47	0.43	0.3
7/5/2017	17.33	70.34	0.46	0.3	17.96	ND	0	0	19.12	72.34	0.56	0.5
8/1/2017	17.39	70.39	0.41	0.3	18.09	ND	0	0	19.23	72.27	0.63	0.5
9/5/2017	17.36	70.43	0.37	0.3	18.16	ND	0	0	19.29	72.34	0.56	0.5
10/4/2017	17.31	70.41	0.39	0.3	18.21	ND	0	0	19.36	72.3	0.6	0.5
11/2/2017	17.42	70.4	0.4	0.3	18.32	ND	0	0	19.42	72.36	0.54	0.5
11/29/2017	17.49	70.36	0.44	0.3	18.43	ND	0	0	19.57	72.34	0.56	0.5
1/2/2018	17.67	70.31	0.49	0.5	18.73	ND	0	0	19.81	72.39	0.51	0.5
2/7/2018	17.77	70.34	0.46	0.5	18.62	ND	0	0	19.96	72.46	0.44	0.5
3/1/2018	NM	NM	NM	0	18.79	ND	0	0	20.02	72.32	0.58	0.5
4/2/2018	NM	NM	NM	0	18.72	ND	0	0	19.81	72.39	0.51	0.5
5/1/2018	NM	NM	NM	0	19.31	ND	0	0	20.62	72.46	0.44	1

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-44C				MW-45C				MW-46C			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
6/1/2018	18.31	70.17	0.63	0.8	19.47	ND	0	0	20.87	72.51	0.39	1
6/29/2018	18.79	70.39	0.41	0.8	19.67	ND	0	0	20.97	72.57	0.33	1
8/3/2018	18.97	70.36	0.44	0.8	19.77	ND	0	0	21.11	72.59	0.31	1
8/31/2018	18.87	70.39	0.41	0.5	19.41	ND	0	0	20.96	72.48	0.42	0.5
9/28/2018	18.82	70.41	0.39	0.8	19.32	ND	0	0	20.91	72.43	0.47	0.5
11/2/2018	18.67	70.44	0.36	0.8	19.26	ND	0	0	20.77	72.39	0.51	0.8
11/29/2018	18.47	70.46	0.34	0.3	19.16	ND	0	0	20.52	72.34	0.56	0.5
1/2/2019	18.42	70.41	0.39	0.5	19.02	ND	0	0	20.49	72.46	0.44	0.5
2/2/2019	18.29	70.41	0.39	0.5	18.93	ND	0	0	20.43	72.49	0.41	0.5
2/28/2019	18.16	70.42	0.38	0.5	18.77	ND	0	0	20.34	72.37	0.53	0.5
4/2/2019	18.09	70.39	0.41	0.5	18.71	ND	0	0	20.18	72.32	0.58	0.5
4/25/2019	18.02	70.16	0.64	0.5	18.63	ND	0	0	20.14	72.36	0.54	0.5
5/29/2019	18.61	70.23	0.57	0.5	18.47	ND	0	0	20.06	72.39	0.51	0.5
6/12/2019	18.29	ND	Trace	0	18.81	ND	0	0	18.02	ND	Trace	0
6/30/2019	18.16	ND	0	0	18.71	ND	0	0	18.09	ND	0	0
7/16/2019	18.09	ND	0	0	18.66	ND	0	0	18.12	ND	0	0
8/2/2019	18.17	ND	0	0	18.72	ND	0	0	18.17	ND	0	0
8/15/2019	18.22	ND	0	0	18.79	ND	0	0	18.09	ND	0	0
8/28/2019	18.29	ND	0	0	18.86	ND	0	0	18.17	ND	0	0
9/17/2019	18.39	ND	0	0	18.97	ND	0	0	18.23	ND	0	0
10/2/2019	18.32	ND	0	0	18.89	ND	0	0	18.17	ND	0	0
10/16/2019	15.06	ND**	0	0	16.23	ND	0	0	16.34	ND	0	0
10/31/2019	14.89	ND**	0	0	15.94	ND	0	0	16.06	ND	0	0
11/15/2019	14.21	ND**	0	0	15.69	ND	0	0	15.81	ND	0	0
12/3/2019	16.11	ND**	0	0	15.71	ND	0	0	15.91	ND	0	0
12/18/2019	16.51	ND**	0	0	15.91	ND	0	0	16.11	ND	0	0
12/30/2019	16.65	ND**	0	0	16.11	ND	0	0	16.22	ND	0	0
1/7/2020	--	--	--	--	--	--	--	--	--	--	--	--
1/15/2020	16.61	ND**	0	0	16.11	ND	0	0	16.29	ND	0	0
1/27/2020	16.24	ND**	0	0	15.71	ND	0	0	16.15	ND	0	0
2/13/2020	15.81	ND**	0	0	15.29	ND	0	0	14.4	ND	0	0
2/25/2020	15.81	ND**	0	0	15.28	ND	0	0	15.42	ND	0	0
3/13/2020	15.84	ND**	0	0	15.31	ND	0	0	15.57	ND	0	0
3/31/2020	14.82	ND**	0	0	15.59	ND	0	0	15.72	ND	0	0
4/9/2020	22.76	ND**	0	0	15.67	ND	0	0	15.89	ND	0	0
4/27/2020	14.67	ND**	0	0	15.94	ND	0	0	16.12	ND	0	0
5/14/2020	14.21	ND**	0	0	16.38	69.3	1.30	0.1	16.51	ND	0	0
5/28/2020	12.06	57.61	0.39**	0	16.46	70	0.6	0	16.71	ND	0	0
6/11/2020	11.61	ND**	0	0	16.68	ND	0	0	16.83	ND	0	0
6/25/2020	10.37	ND**	0	0	14.99	ND	0	0	15.12	ND	0	0
7/9/2020	11.51	ND**	0	0	16.28	ND	0	0	16.51	ND	0	0
7/23/2020	16.92	ND**	0	0	16.49	69.7	0.90	TR	16.49	ND	0	0
8/6/2020	16.75	ND**	0	0	16.19	ND	0	0	16.47	ND	0	0
8/20/2020	16.71	ND**	0	0	16.18	ND	0	0	16.35	ND	0	0
9/2/2020	16.84	ND**	0	0	16.21	ND	0	0	16.51	ND	0	0
9/17/2020	17.29	ND**	0	0	16.71	ND	0	0	16.85	ND	0	0
10/1/2020	16.84	ND**	0	0	16.61	ND	0	0	16.64	ND	0	0
10/14/2020	16.92	ND**	0	0	16.39	ND	0	0	16.58	ND	0	0
10/28/2020	17.11	ND**	0	0	16.58	70.6	Trace	TR	16.74	ND	0	0
11/12/2020	17.42	ND**	0	0	16.83	ND	0	0	17.04	ND	0	0
11/23/2020	1769	ND**	0	0	17.12	ND	0	0	17.33	ND	0	0
12/10/2020	17.01	ND**	0	0	16.50	ND	0	0	16.71	ND	0	0
12/21/2020	16.69	ND**	0	0	16.02	69.04	1.56	0.3	16.22	ND	0	0
1/7/2021	15.91	ND**	0	0	15.59	ND	0	0	15.81	ND	0	0
1/21/2021	15.77	ND**	0	0	15.2	70.5	0.1	TR	15.44	ND	0	0
2/4/2021	15.69	ND**	0	0	15.19	70.55	0.05	TR	15.39	ND	0	0
2/23/2021	14.55	ND**	0	0	14.99	70.21	0.39	TR	15.24	ND	0	0
3/11/2021	15.49	ND**	0	0	14.98	ND	0	0	15.21	ND	0	0
3/25/2021	15.5	ND**	0	0	14.99	ND	0	0	15.18	ND	0	0
4/8/2021	15.59	ND**	0	0	15.19	ND	0	0	15.41	ND	0	0
4/22/2021	16.09	ND**	0	0	15.52	ND	0	0	15.77	ND	0	0
5/4/2021	Well Damaged		0	14.58	ND	0	0	0	14.74	ND	0	0
5/20/2021	Well Damaged		0	15.58	ND	0	0	0	15.75	ND	0	0

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-44C				MW-45C				MW-46C			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
6/3/2021	Well Damaged		0	14.96	ND	0	0	15.21	ND	0	0	0
6/17/2021	Well Damaged		0	15.76	ND	0	0	15.08	ND	0	0	0
7/1/2021	Well Damaged		0	14.59	69.79	0.81	0.3	14.81	ND	0	0	0
7/19/2021	Well Damaged		0	14.05	69.42	1.18	0.3	14.26	ND	0	0	0
7/29/2021	Well Damaged		0	14.05	69.71	0.89	0.1	14.29	ND	0	0	0
8/12/2021	Well Damaged		0	14.68	70.36	0.24	TR	14.84	ND	0	0	0
8/26/2021	Well Damaged		0	15.21	ND	0	0	15.43	ND	0	0	0
9/10/2021	Well Damaged		0	15.63	ND	0	0	15.82	ND	0	0	0
9/22/2021	Well Damaged		0	15.71	ND	0	0	15.89	ND	0	0	0
10/8/2021	Well Damaged		0	15.47	ND	0	0	15.83	ND	0	0	0
10/20/2021	Well Damaged		0	15.88	ND	0	0	15.98	ND	0	0	0
11/4/2021	Well Damaged		0	15.31	68.61	1.99	0	15.51	ND	0	0	0
11/18/2021	Well Damaged		0	15.31	ND	0	0	15.51	ND	0	0	0
12/3/2021	Well Damaged		0	15.51	ND	0	0	15.72	ND	0	0	0
12/16/2021	Well Damaged		0	15.68	ND	0	0	16.02	ND	0	0	0
12/30/2021	Well Damaged		0	15.61	ND	Trace	0	15.62	ND	Trace	0	0
1/14/2022	Well Damaged		0	15.72	ND	Trace	0	15.81	ND	Trace	0	0
1/26/2022	Well Damaged		0	15.83	ND	Trace	0	15.96	ND	Trace	0	0
2/10/2022	Well Damaged		0	15.33	ND	0	0	15.56	ND	0	0	0
2/24/2022	Well Damaged		0	15.58	69.83	0.67	0	15.78	ND	0	0	0
3/10/2022	Well Damaged		0	15.58	69.71	0.79	0.3	15.83	ND	0	0	0
3/24/2022	Well Damaged		0	16.08	ND	0	0	16.20	ND	0	0	0
4/7/2022	Well Damaged		0	16.15	ND	0	0	16.34	ND	0	0	0
4/18/2022	Well Damaged		0	16.29	ND	0	0	16.59	ND	0	0	0
5/2/2022	Well Damaged		0	16.43	ND	0	0	16.61	ND	0	0	0
5/20/2022	Well Damaged		0	16.29	ND	0	0	16.52	ND	0	0	0
6/2/2022	Well Damaged		0	16.42	ND	0	0	16.74	ND	0	0	0
6/16/2022	Well Damaged		0	NM	NM	NM	0	17.33	ND	0	0	0
6/30/2022	Well Damaged		0	NM	NM	NM	0	17.72	ND	0	0	0
7/15/2022	Well Damaged		0	17.98	ND	0	0	18.21	ND	0	0	0
7/28/2022	Well Damaged		0	18.06	ND	0	0	18.41	ND	0	0	0
8/12/2022	Well Damaged		0	NM	NM	NM	0	18.00	ND	0	0	0
8/29/2022	Well Damaged		0	18.57	ND	0	0	19.42	ND	0	0	0
9/16/2022	Well Damaged		0	17.35	ND	Trace	0	17.60	ND	0	0	0
9/30/2022	Well Damaged		0	17.65	ND	Trace	0	17.85	ND	0	0	0
10/17/2022	Well Damaged		0	18.95	ND	0	0	18.12	ND	0	0	0
10/27/2022	Well Damaged		0	19.03	ND	0	0	18.22	ND	0	0	0
11/10/2022	Well Damaged		0	18.76	ND	0	0	18.76	ND	0	0	0
11/30/2022	Well Damaged		0	16.46	ND	0	0	15.79	ND	0	0	0
12/16/2022	Well Damaged		0	16.52	ND	0	0	15.71	ND	0	0	0
12/27/2022	Well Damaged		0	16.74	ND	0	0	16.12	ND	0	0	0
1/13/2023	Well Damaged		0	17.13	ND	0	0	16.49	ND	0	0	0
1/27/2023	Well Damaged		0	16.45	ND	0	0	16.62	ND	0	0	0
2/9/2023	Well Damaged		0	16.05	ND	0	0	16.22	ND	0	0	0
2/23/2023	Well Damaged		0	16.11	ND	0	0	16.25	ND	0	0	0
3/9/2023	Well Damaged		0	15.96	ND	0	0	16.18	ND	0	0	0
3/23/2023	Well Damaged		0	16.57	ND	0	0	16.69	ND	0	0	0
4/6/2023	Well Damaged		0	16.07	ND	0	0	16.31	ND	0	0	0
4/19/2023	Well Damaged		0	16.04	ND	0	0	16.14	ND	0	0	0
5/5/2023	Well Damaged		0	16.22	ND	0	0	16.39	ND	0	0	0
5/18/2023	Well Damaged		0	13.02	ND	0	0	16.05	ND	0	0	0
6/1/2023	Well Damaged		0	17.90	ND	0	0	16.05	ND	0	0	0
6/15/2023	Well Damaged		0	16.15	ND	0	0	16.32	ND	0	0	0
6/29/2023	Well Damaged		0	16.55	ND	0	0	16.78	ND	0	0	0
7/13/2023	Well Damaged		0	16.86	ND	Trace	0	17.80	ND	0	0	0
7/27/2023	Well Damaged		0	18.33	ND	0	0	17.50	ND	0	0	0
8/10/2023	Well Damaged		0	18.51	ND	0	0	18.12	ND	0	0	0
8/24/2023	Well Damaged		0	18.31	ND	0	0	18.48	ND	0	0	0
9/7/2023	Well Damaged		0	18.85	ND	0	0	18.63	ND	0	0	0
9/21/2023	Well Damaged		0	19.85	ND	0	0	18.82	ND	Trace	0	0
10/5/2023	Well Damaged		0	18.71	ND	0	0	18.90	ND	0	0	0
10/19/2023	Well Damaged		0	18.71	ND	0	0	18.56	PoP	Trace	0	0
11/2/2023	Well Damaged		0	18.66	ND	0	0	18.51	ND	0	0	0

TABLE 1

**SUMMARY OF DNAPL RECOVERY MEASUREMENTS  
UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-44C				MW-45C				MW-46C			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
11/16/2023	Well Damaged		0	18.40	ND	0	0	18.56	ND	0	0	0
11/30/2023	Well Damaged		0	18.29	NM	0	0	18.39	ND	0	0	0
12/14/2023	Well Damaged		0	18.05	PoP	Trace	0	18.22	ND	0	0	0
12/27/2023	Well Damaged		0	17.98	NM	0	0	17.90	ND	0	0	0
1/11/2024	Well Damaged		0	17.40	ND	0	0	17.22	ND	0	0	0
1/25/2024	Well Damaged		0	16.76	ND	0	0	17.00	ND	0	0	0
2/9/2024	Well Damaged		0	16.20	PoP	Trace	0	16.35	PoP	Trace	0	0
2/22/2024	Well Damaged		0	16.01	ND	0	0	16.20	ND	0	0	0
3/7/2024	Well Damaged		0	16.40	ND	0	0	16.20	ND	0	0	0
3/22/2024	Well Damaged		0	17.26	ND	0	0	17.41	PoP	Trace	0	0
4/18/2024	Well Damaged		0	16.06	PoP	Trace	0	16.20	ND	0	0	0
5/2/2024	Well Damaged		0	11.20	PoP	Trace	0	NM	NM	NM	NM	NM
5/17/2024	Well Damaged		0	15.80	PoP	Trace	0	16.00	ND	0	0	0
5/30/2024	Well Damaged		0	15.60	PoP	Trace	0	15.78	ND	0	0	0
6/13/2024	Well Damaged		0	15.40	PoP	Trace	0	15.60	ND	0	0	0
6/27/2024	Well Damaged		0	15.63	ND	0	0	15.85	PoP	Trace	0	0
7/11/2024	Well Damaged		0	15.53	PoP	Trace	0	15.70	ND	0	0	0
7/25/2024	Well Damaged		0	15.01	ND	0	0	15.15	ND	0	0	0
8/8/2024	Well Damaged		0	13.80	ND	0	0	15.04	ND	0	0	0
9/5/2024	Well Damaged		0	15.70	ND	0	0	15.98	ND	0	0	0
9/19/2024	Well Damaged		0	16.22	ND	0	0	16.40	ND	0	0	0
<b>Total DNAPL Pumped (gal)</b>				<b>26.7</b>				<b>7.1</b>				<b>31.8</b>

Notes:

\* - indicates DNAPL and groundwater mixture

ND - Not detected

--- No DNAPL pumped

NM - Not measured

DTW - Depth to water (feet Below Top of Casing (BTOC))

PoP - Product on probe, not measureable

DTD - Depth to DNAPL (feet BTOC)

TR- Trace amount of DNAPL Extracted

MW-44C not measured 3/1/18 - 5/1/18; couldn't locate well due to construction. MW-45C not measured 6/16/22-6/30/22; couldn't locate well

\*\*Total depth measured in MW-44C was approximately 10 ft higher than during previous events - attempted to remove silt in July and October 2020.

TABLE 1

**SUMMARY OF DNAPL RECOVERY MEASUREMENTS  
UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-49A				MW-49B				MW-57A			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
2/14/2013									10.56	22.12	4.78	0.5
4/3/2013									10.32	24.79	2.11	0.5
4/22/2013									10.71	25.85	1.05	0.5
5/30/2013									10.63	24.16	2.74	0.5
6/29/2013									12.16	23.82	3.08	2
7/22/2013									13.21	23.05	3.85	2
8/26/2013									12.91	25.32	1.58	1
9/27/2013									12.72	25.71	1.19	0.8
10/31/2013									12.72	25.92	0.98	1
11/27/2013									12.61	25.98	0.92	1
12/31/2013									12.46	26.09	0.81	1
1/30/2014									11.79	26.15	0.75	0.3
3/3/2014									11.02	26.25	0.65	0.3
3/31/2014									10.83	26.41	0.49	0.3
4/30/2014									10.71	26.31	0.59	0.3
5/27/2014									10.74	26.16	0.74	0.3
6/26/2014									10.61	26.29	0.61	0.3
7/31/2014									10.35	26.18	0.72	0.3
8/27/2014									10.22	26.26	0.64	0.3
10/3/2014									10.09	26.04	0.86	0.3
11/3/2014									10.17	26.16	0.74	0.3
11/24/2014									10.13	26.29	0.61	0.3
12/22/2014									10.06	26.34	0.56	0.3
1/29/2015									9.73	26.51	0.39	0.3
2/26/2015									9.87	26.42	0.48	0.3
3/26/2015									9.81	26.32	0.58	0.3
4/27/2015									9.82	26.47	0.43	0.5
5/26/2015									9.71	26.56	0.34	0.5
7/6/2015									7.41	26.82	0.08	TR*
8/3/2015									7.29	26.86	0.04	TR*
8/27/2015									8.11	ND	0	TR*
10/5/2015									7.72	ND	0	0
11/5/2015									7.39	ND	0	0
12/3/2015									7.13	ND	0	0
12/28/2015									NM	NM	NM	0
2/3/2016									NM	NM	NM	0
3/3/2016									NM	NM	NM	0
3/31/2016									NM	NM	NM	0
5/3/2016									NM	NM	NM	0
6/2/2016									7.26	ND	0	0
7/8/2016									7.39	ND	0	0
8/3/2016									7.46	ND	0	0
8/30/2016									7.58	ND	0	0
9/30/2016									7.69	ND	0	0
11/3/2016									7.77	ND	0	0
11/30/2016									7.92	ND	0	0
1/4/2017									8.07	ND	0	0
2/7/2017									8.18	ND	0	0
3/2/2017									8.02	ND	0	0
4/3/2017									8.06	ND	0	0
4/27/2017									8.01	ND	0	0
5/29/2017									8.34	ND	0	0
7/5/2017									8.41	ND	0	0
8/1/2017									8.52	ND	0	0
9/5/2017									8.46	ND	0	0
10/4/2017									8.41	ND	0	0
11/2/2017									8.52	ND	0	0
11/29/2017									8.67	ND	0	0
1/2/2018									8.91	ND	0	0
2/7/2018									8.98	ND	0	0
3/1/2018									9.22	ND	0	0
4/2/2018									9.16	ND	0	0
5/1/2018									9.34	ND	0	0

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-49A				MW-49B				MW-57A			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
6/1/2018									9.67	ND	0	0
6/29/2018									9.87	ND	0	0
8/3/2018									10.02	ND	0	0
8/31/2018									9.91	ND	0	0
9/28/2018									9.86	ND	0	0
11/2/2018									9.77	ND	0	0
11/29/2018									9.56	ND	0	0
1/2/2019									9.52	ND	Trace	0
2/2/2019									9.41	ND	Trace	0
2/28/2019									9.32	ND	Trace	0
4/2/2019									9.27	ND	Trace	0
4/25/2019									9.16	ND	Trace	0
5/29/2019									9.06	ND	Trace	0
6/12/2019									9.39	ND	0	0
6/30/2019									9.21	ND	0	0
7/16/2019									9.17	ND	0	0
8/2/2019									9.22	ND	0	0
8/15/2019									9.29	ND	0	0
8/28/2019									9.33	ND	0	0
9/17/2019									9.46	ND	0	0
10/2/2019									9.74	ND	0	0
10/16/2019									10.39	ND	0	0
10/31/2019									11.92	ND	0	0
11/15/2019									11.14	ND	0	0
12/3/2019									13.75	ND	0	0
12/18/2019									14.09	ND	0	0
12/30/2019									14.42	ND	0	0
1/7/2020					11.51	20.09	14.77	--	--	--	--	--
1/15/2020					15.48	20.89	13.97	2.5	12.79	ND	0	0
1/27/2020					14.2	22.4	12.46	2	11.61	ND	0	0
2/13/2020					13.31	28.9	5.96	1.5	13.22	ND	0	0
2/25/2020					11.51	26.8	8.06	1.0	12.31	ND	0	0
3/13/2020					11.73	26.1	8.76	0.5	13.71	ND	0	0
3/31/2020					13.72	29.39	5.47	0.5	13.85	ND	0	0
4/9/2020					14.13	31.04	3.82	0.5	13.36	ND	0	0
4/27/2020					15.31	32.05	2.81	0.1	14.45	ND	0	0
5/14/2020					14.95	31.89	2.97	0.1	14.84	ND	0	0
5/28/2020					13.66	31.07	3.79	0.5	13.91	ND	0	0
6/11/2020					14.56	31.22	3.64	0.3	14.41	ND	0	0
6/25/2020					10.65	31.64	3.22	0.3	14.08	ND	0	0
7/9/2020					10.51	32.41	2.45	0.5	13.51	ND	0	0
7/23/2020					13.51	31.13	3.73	0.5	13.26	ND	0	0
8/6/2020					13.23	32.48	2.38	0.3	11.53	ND	0	0
8/20/2020					12.11	32.08	2.78	0.1	13.11	ND	0	0
9/2/2020					13.58	31.04	3.82	0.8	13.91	ND	0	0
9/17/2020					15.91	30.24	4.62	0.5	14.43	ND	0	0
10/1/2020					13.63	31.11	3.75	0.8	12.41	ND	0	0
10/14/2020					12.18	29.6	5.26	2.0	13.74	ND	0	0
10/28/2020					13.71	31.93	2.93	1.0	13.91	ND	0	0
11/12/2020					12.74	32.03	2.83	0.5	14.64	ND	0	0
11/23/2020					12.08	32.30	2.56	0.3	14.99	ND	0	0
12/10/2020					8.66	31.21	3.65	0.3	12.31	ND	0	0
12/21/2020					6.6	30.72	4.14	0.5	10.92	ND	0	0
1/7/2021					6.41	32.25	2.61	0.5	12.51	ND	0	0
1/21/2021					15.44	31.25	3.61	0.5	12.54	ND	0	0
2/4/2021					15.81	31.54	3.32	0.5	13.15	ND	0	0
2/23/2021					13.44	31.2	3.66	0.5	12.32	ND	0	0
3/11/2021					11.91	31.96	2.9	0.5	13.13	ND	0	0
3/25/2021					10.28	32.41	2.45	0.5	13.01	ND	0	0
4/8/2021					10.79	31.79	3.07	0.5	13.71	ND	0	0
4/22/2021					11.29	32.08	2.78	0.5	14.31	ND	0	0
5/4/2021					7.94	32.4	2.46	0.3	13.03	ND	0	0
5/20/2021					7.04	32.69	2.17	0.5	10.45	ND	0	0

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-49A				MW-49B				MW-57A				
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	
6/3/2021					4.81	32.6	2.26	0.5	11.15	ND	0	0	
6/17/2021					6.39	32.8	2.06	TR	12.21	ND	0	0	
7/1/2021					4.51	ND	0	0	10.38	ND	0	0	
7/19/2021					0.39	ND	0	0	9.79	ND	0	0	
7/29/2021					12.91	ND	0	0	12.51	ND	0	0	
8/12/2021					10.49	32.60	2.26	0.1	13.91	ND	0	0	
8/26/2021					9.87	31.90	2.96	0.5	14.11	ND	0	0	
9/10/2021					10.03	31.79	3.07	0.2	14.28	ND	0	0	
9/22/2021					7.50	ND	0	0	13.21	ND	0	0	
10/8/2021					7.56	ND	0	0	12.05	ND	0	0	
10/20/2021					7.8	30.94	1.82	0.1	13.80	ND	0	0	
11/4/2021					7.63	ND	0	0	12.45	ND	0	0	
11/18/2021					8.00	ND	0	0	13.37	ND	0	0	
12/3/2021					8.25	ND	0	0	13.81	ND	0	0	
12/16/2021					8.52	ND	0	0	13.69	ND	0	0	
12/30/2021					7.81	ND	0	0	13.36	ND	0	0	
1/14/2022					7.92	ND	0	0	13.43	ND	0	0	
1/26/2022					7.91	ND	0	0	13.56	ND	0	0	
2/10/2022					11.38	30	2.76	0.3	12.71	ND	0	0	
2/24/2022					12.6	ND	0	0	13.68	ND	0	0	
3/10/2022					11.96	ND	0	0	14.40	ND	0	0	
3/24/2022					12.20	ND	0	0	12.56	ND	0	0	
4/7/2022					11.60	ND	0	0	13.70	ND	0	0	
4/18/2022					11.32	ND	0	0	13.81	ND	0	0	
5/2/2022					11.08	ND	0	0	13.99	ND	0	0	
5/20/2022					11.17	ND	0	0	13.46	ND	0	0	
6/2/2022					11.12	ND	0	0	13.34	ND	0	0	
6/16/2022					10.97	ND	0	0	15.03	ND	0	0	
6/30/2022					11.16	ND	0	0	15.48	ND	0	0	
7/15/2022					8.73	ND	0	0	13.96	ND	0	0	
7/28/2022					8.84	ND	0	0	14.06	ND	0	0	
8/12/2022					11.11	ND	0	0	13.50	ND	0	0	
8/29/2022					11.39	ND	NM	2	13.56	ND	0	0	
9/16/2022					9.60	24.00	11.50	2.5	13.85	ND	0	0	
9/30/2022					10.80	20.00	15.50	3.5	14.80	ND	0	0	
10/17/2022					11.85	19.35	9.15	2.5	15.41	ND	0	0	
10/27/2022					12.06	19.47	9.03	2.5	15.79	ND	0	0	
11/10/2022					11.77	19.62	8.88	2.5	15.61	ND	0	0	
11/30/2022					7.52	19.86	8.64	2.5	12.29	ND	0	0	
12/16/2022					7.46	19.98	8.52	2.5	12.17	ND	0	0	
12/27/2022					7.74	19.62	8.88	2.5	12.46	ND	0	0	
1/13/2023					8.06	19.56	8.94	2.5	12.77	ND	0	0	
1/27/2023					7.6	ND	Trace	0	11.92	ND	0	0	
2/9/2023					9.4	24.80	3.70	0.5	12.5	ND	0	0	
2/23/2023					10.33	26.37	2.13	1.0	13.98	ND	0	0	
3/9/2023					10.21	26.22	2.28	1.0	13.91	ND	0	0	
3/23/2023					10.06	25.00	3.50	1.0	13.78	ND	0	0	
4/6/2023					10.71	16.94	11.56	2.0	13.77	ND	0	0	
4/19/2023					7.55	19.64	8.86	2.0	13.09	ND	0	0	
5/5/2023					9.48	22.79	5.71	1.5	13.61	ND	0	0	
5/18/2023						4.90	20.82	7.68	2.0	10.28	ND	0	0
6/1/2023	9.25	28.40	1.53	0	8.65	25.70	2.60	1.25	13.05	ND	0	0	
6/15/2023	9.27	27.22	2.70	1.00	7.88	24.15	4.15	0.75	13.11	ND	0	0	
6/29/2023	9.63	28.39	0.50	0.10	9.00	24.45	3.75	1.00	13.81	ND	0	0	
7/13/2023	9.55	PoP	Trace	0	7.85	24.14	4.21	1.00	13.54	ND	0	0	
7/27/2023	10.45	PoP	Trace	0	10.80	21.60	6.55	0.00	14.80	ND	0	0	
8/10/2023	10.78	PoP	Trace	0	10.43	23.35	4.80	0.90	15.42	ND	0	0	
8/24/2023	11.94	PoP	Trace	0	11.27	24.68	3.37	0.90	12.55	ND	0	0	
9/7/2023	12.02	PoP	Trace	0	11.22	24.70	3.33	0.90	12.67	ND	0	0	
9/21/2023	10.83	PoP	Trace	0	10.51	25.75	2.65	0.60	15.53	ND	0	0	
10/5/2023	6.65	PoP	Trace	0	8.05	22.20	6.30	0.75	15.60	PoP	Trace	0	
10/19/2023	10.68	PoP	Trace	0	10.00	25.85	2.50	0.50	15.30	ND	0	0	
11/2/2023	10.66	PoP	Trace	0	10.00	26.35	2.00	0.70	15.50	ND	0	0	

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-49A				MW-49B				MW-57A			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
11/16/2023	9.53	PoP	Trace	0	--	--	--	--	14.00	ND	0	0
11/30/2023	10.78	PoP	Trace	0	--	--	--	--	15.03	ND	0	0
12/14/2023	11.50	PoP	Trace	0	--	--	--	--	15.16	ND	0	0
12/27/2023	10.77	PoP	Trace	0	--	--	--	--	13.92	ND	0	0
1/11/2024	10.56	ND	0	0	--	--	--	--	12.71	ND	0	0
1/25/2024	7.50	ND	0	0	--	--	--	--	10.62	ND	0	0
2/9/2024	11.97	PoP	Trace	0	--	--	--	--	12.73	ND	0	0
2/22/2024	11.61	ND	0	0	--	--	--	--	14.05	ND	0	0
3/7/2024	11.90	PoP	Trace	0	--	--	--	--	14.81	ND	0	0
3/22/2024	9.05	28.95	1.00	0.5	--	--	--	--	15.08	PoP	Trace	0
4/18/2024	12.00	ND	0	0	--	--	--	--	14.61	ND	0	0
5/2/2024	10.82	PoP	Trace	0	--	--	--	--	12.82	ND	0	0
5/17/2024	10.95	PoP	Trace	0	--	--	--	--	15.20	ND	0	0
5/30/2024	11.10	PoP	Trace	0	--	--	--	--	12.15	ND	0	0
6/13/2024	11.41	ND	0	0	--	--	--	--	13.57	ND	0	0
6/27/2024	11.84	ND	0	0	--	--	--	--	14.04	ND	0	0
7/11/2024	10.10	ND	0	0	--	--	--	--	10.28	ND	0	0
7/25/2024	8.06	PoP	Trace	0	--	--	--	--	10.95	ND	0	0
8/8/2024	10.55	ND	0	0	--	--	--	--	12.25	ND	0	0
9/5/2024	10.90	PoP	Trace	0	--	--	--	--	13.69	ND	0	0
9/19/2024	11.12	ND	0	0	--	--	--	--	14.19	ND	0	0
<b>Total DNAPL Pumped (gal)</b>			<b>1.6</b>				<b>69.7</b>				<b>15.5</b>	

Notes:

\* - indicates DNAPL and groundwater mixture

--- - No DNAPL pumped

DTW - Depth to water (feet Below Top of Casing (BTOC))

DTD - Depth to DNAPL (feet BTOC)

ND - Not detected

NM - Not measured

PoP - Product on probe, no

TR- Trace amount of DNA

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-57B				MW-68B				MW-70B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
2/14/2013	28.56	41.41	1.54	0.3					6.57	34.09	1.61	0.3
4/3/2013	28.09	42.36	0.59	0.3*					6.79	35.26	0.44	0.3
4/22/2013	27.06	42.17	0.78	0.3					6.06	35.12	0.58	0.3
5/30/2013	27.13	41.63	1.32	0.3					6.19	34.67	1.03	0.3
6/29/2013	18.26	42.07	0.88	0.3					8.01	34.92	0.78	0.3*
7/22/2013	16.34	41.67	1.28	0.8					8.22	34.07	1.63	0.3*
8/26/2013	18.01	42.31	0.64	0.3					8.17	35.09	0.61	0.3
9/27/2013	17.74	42.51	0.39	0.3					8.32	35.34	0.36	0.3
10/31/2013	17.61	42.61	0.29	0.1					8.26	35.39	0.31	0.1
11/27/2013	17.54	42.67	0.23	0.1					8.12	35.42	0.28	0.1
12/31/2013	17.36	42.74	0.16	0.1					7.89	35.51	0.19	0.1
1/30/2014	17.04	ND	Trace	0					7.84	35.06	0.64	0.1
3/3/2014	16.51	ND	Trace	0					7.09	35.05	0.65	0.1
3/31/2014	16.41	ND	Trace	0					6.87	35.17	0.53	0.1
4/30/2014	16.29	ND	Trace	0					6.72	35.01	0.69	0.1
5/27/2014	16.13	ND	Trace	0					6.64	34.86	0.84	0.1
6/26/2014	16.02	ND	Trace	0					6.52	34.97	0.73	0.3
7/31/2014	15.84	ND	Trace	0					6.26	34.76	0.94	0.3
8/27/2014	15.71	ND	Trace	0					6.84	34.86	0.84	0.3
10/3/2014	15.61	ND	Trace	0					6.71	34.61	1.09	0.3
11/3/2014	NM	NM	NM	0					6.79	34.79	0.91	0.3
11/24/2014	NM	NM	NM	0					6.77	34.93	0.77	0.3
12/22/2014	NM	NM	NM	0					6.69	34.86	0.84	0.3
1/29/2015	NM	NM	NM	0					6.48	34.92	0.78	0.3
2/26/2015	NM	NM	NM	0					6.39	34.81	0.89	0.5
3/26/2015	NM	NM	NM	0					6.27	34.91	0.79	0.3
4/27/2015	NM	NM	NM	0					6.19	34.99	0.71	0.3
5/26/2015	NM	NM	NM	0					6.07	35.11	0.59	0.5
7/6/2015	NM	NM	NM	0					5.03	35.32	0.38	0.3
8/3/2015	12.32	ND	PoP	0					5.12	35.37	0.33	TR*
8/27/2015	13.04	ND	0	0					6.31	35.41	0.29	TR*
10/5/2015	12.62	ND	0	0					5.72	35.47	0.23	0.3
11/5/2015	12.27	ND	0	0					5.41	35.42	0.28	0.3
12/3/2015	12.02	ND	0	0					5.13	35.63	0.07	0.3
12/28/2015	NM	NM	NM	0					5.02	35.26	0.44	0.3
2/3/2016	NM	NM	NM	0					4.86	35.21	0.49	0.3
3/3/2016	NM	NM	NM	0					4.92	35.17	0.53	0.3
3/31/2016	NM	NM	NM	0					4.91	35.24	0.46	0.3
5/3/2016	NM	NM	NM	0					5.13	35.29	0.36	0.3
6/2/2016	12.32	ND	0	0					5.26	35.36	0.29	0.3
7/8/2016	12.44	ND	0	0					5.34	35.31	0.34	0.3
8/3/2016	12.52	ND	0	0					5.42	35.39	0.26	0.3
8/30/2016	12.67	ND	0	0					5.61	35.21	0.44	0.3
9/30/2016	12.81	ND	0	0					5.74	35.03	0.62	0.3
11/3/2016	12.92	ND	0	0					5.79	35.11	0.54	0.3
11/30/2016	13.16	ND	0	0					6.03	35.23	0.42	0.3
1/4/2017	13.24	ND	0	0					6.17	35.09	0.56	0.5
2/7/2017	13.29	ND	0	0					6.26	35.01	0.64	0.5
3/2/2017	13.17	ND	0	0					6.16	35.09	0.56	0.5
4/3/2017	13.04	ND	0	0					6.09	35.13	0.52	0.5
4/27/2017	13.14	ND	0	0					6.12	35.2	0.45	0.5
5/29/2017	13.41	ND	0	0					6.29	35.06	0.59	0.5
7/5/2017	13.57	ND	0	0					6.39	35.14	0.51	0.3
8/1/2017	13.69	ND	0	0					6.47	35.21	0.44	0.3
9/5/2017	13.79	ND	0	0					6.56	35.34	0.31	0.3
10/4/2017	13.71	ND	0	0					6.63	35.39	0.26	0.3
11/2/2017	13.91	ND	0	0					6.74	35.31	0.34	0.3
11/29/2017	14.02	ND	0	0					6.79	35.29	0.36	0.3
1/2/2018	13.06	ND	0	0					6.34	35.34	0.31	0.3
2/7/2018	12.42	ND	0	0					6.42	35.31	0.34	0.3
3/1/2018	12.58	ND	0	0					6.67	35.21	0.44	0.5
4/2/2018	12.46	ND	0	0					6.61	35.16	0.49	0.5
5/1/2018	13.04	ND	0	0					7.22	35.23	0.42	1.3

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-57B				MW-68B				MW-70B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
6/1/2018	13.29	ND	0	0					7.42	35.29	0.36	1
6/29/2018	13.47	ND	0	0					7.58	35.21	0.44	1
8/3/2018	13.61	ND	0	0					7.69	35.29	0.36	0.8
8/31/2018	13.47	ND	0	0					7.42	35.36	0.29	0.5
9/28/2018	13.36	ND	0	0					7.33	35.28	0.37	0.5
11/2/2018	13.21	ND	0	0					7.22	35.24	0.41	0.8
11/29/2018	13.01	ND	0	0					7.06	35.21	0.44	0.5
1/2/2019	13.03	ND	Trace	0					6.96	35.31	0.34	0.5
2/2/2019	12.91	ND	Trace	0					6.87	35.36	0.29	0.5
2/28/2019	12.83	ND	Trace	0					6.74	35.29	0.36	0.5
4/2/2019	12.76	ND	Trace	0					6.67	35.27	0.38	0.5
4/25/2019	12.71	ND	Trace	0					6.74	35.21	0.44	0.5
5/29/2019	12.70	ND	Trace	0					6.71	35.17	0.48	0.5
6/12/2019	12.93	ND	0	0					6.43	34.84	0.81	1
6/30/2019	12.86	ND	0	0					6.48	34.61	1.04	1
7/16/2019	12.79	ND	0	0					6.43	34.49	1.16	1.5
8/2/2019	12.84	ND	0	0					6.48	34.31	1.34	1.5
8/15/2019	12.92	ND	0	0					6.51	34.07	1.58	2
8/28/2019	12.96	ND	0	0					6.57	34.09	1.56	2
9/17/2019	12.86	ND	0	0					6.51	34.01	1.64	2
10/2/2019	12.83	ND	0	0					6.46	33.71	1.94	2.5
10/16/2019	13.67	ND	0	0					6.42	ND	0	0
10/31/2019	14.21	ND	0	0					6.43	ND	Trace	0
11/15/2019	6.21	ND	0	0					4.75	ND	0	0
12/3/2019	13.51	ND	0	0					5.01	ND	0	0
12/18/2019	13.51	ND	0	0					5.53	35	0.65	0.3
12/30/2019	13.51	ND	0	0					5.71	32.4	3.25	0.1
1/7/2020	--	--	--	--	4.82	34.21	3.59	--	--	--	--	--
1/15/2020	21.93	ND	0	0	4.82	34.41	3.39	0.5	7.19	32.51	3.14	0.1
1/27/2020	19.96	ND	0	0	2.15	35.9	1.9	0.5	9.9	31.3	4.35	0.1
2/13/2020	17.91	ND	0	0	3.49	35.02	2.78	0.5	5.99	31.43	4.22	0.1
2/25/2020	16.86	ND	0	0	2.35	36.12	1.68	0.3	4.71	31.81	3.84	0.3
3/13/2020	15.91	ND	0	0	3.99	35.6	2.2	0.1	4.63	30.5	5.15	0.3
3/31/2020	15.37	ND	0	0	4.46	36.9	0.9	0.0	6.04	31.34	4.31	0.5
4/9/2020	15.19	ND	0	0	4.41	35.99	1.81	0.1	6.79	31.53	4.12	0.5
4/27/2020	14.99	ND	0	0	5.53	36.1	1.7	0.1	6.81	30.84	4.81	1.0
5/14/2020	14.95	ND	0	0	6.39	37.01	0.79	0	7.26	30.63	5.02	1.0
5/28/2020	14.92	ND	0	0	5.99	37.09	0.71	TR	7.02	30.74	4.91	1.5
6/11/2020	14.89	ND	0	0	6.49	36.8	1	TR	7.53	31.2	4.45	0.5
6/25/2020	14.28	ND	0	0	6.09	36.94	0.86	TR	7.08	32.12	3.53	0.5
7/9/2020	14.67	ND	0	0	5.06	37.37	0.43	0.3	5.61	32	3.65	0.5
7/23/2020	17.09	ND	0	0	5.31	37.47	0.33	TR	6.33	32.2	3.45	1.0
8/6/2020	16.20	ND	0	0	3.02	37.38	0.42	TR	6.15	33.12	2.53	1.3
8/20/2020	15.47	ND	0	0	5.11	37.26	0.54	TR	5.74	33.2	2.45	1.0
9/2/2020	15.01	ND	0	0	5.96	37.4	0.4	TR	6.74	34.39	1.26	0.1
9/17/2020	14.71	ND	0	0	6.6	37.32	0.48	0.1	6.92	34.99	0.66	0.1
10/1/2020	14.44	ND	0	0	3.81	37.39	0.41	0.1	5.52	34.88	0.77	0.3
10/14/2020	14.08	ND	0	0	5.11	36.81	0.99	0.3	5.63	34.49	1.16	0.3
10/28/2020	13.87	ND	0	0	5.26	36.52	1.28	0.3	4.8	34.71	0.94	0.3
11/12/2020	13.81	ND	0	0	6.13	36.82	0.98	0.3	6.38	34.21	1.44	0.5
11/23/2020	13.21	ND	0	0	6.54	37.2	0.6	0.3	7.51	35.19	0.46	0.3
12/10/2020	13.76	ND	0	0	3.24	37.08	0.72	0.0	5.82	35.10	0.55	0.1
12/21/2020	13.56	ND	0	0	1.22	37.01	0.79	0.1	5.55	34.48	1.17	0.1
1/7/2021	13.25	ND	0	0	2.48	ND	0	0	5.04	35	0.65	TR
1/21/2021	20.69	ND	0	0	2.99	37.37	0.43	TR	4.72	35.02	0.63	TR
2/4/2021	18.46	ND	0	0	3.62	37.32	0.48	TR	7.2	35.08	0.57	TR
2/23/2021	16.49	ND	0	0	2.51	ND	0	0	5.33	34.2	1.45	1.0
3/11/2021	15.55	ND	0	0	3.49	ND	0	0	5.33	34.3	1.35	0.8
3/25/2021	15.06	ND	0	0	3.34	ND	0	0	5.78	34.93	0.72	0.5
4/8/2021	14.84	ND	0	0	4.28	ND	0	0	5.88	34.83	0.82	0.5
4/22/2021	14.65	ND	0	0	4.96	ND	0	0	5.99	34.56	1.09	0.5
5/4/2021	14.59	ND	0	0	3.64	37.38	0.42	0	6.21	34.39	1.26	0.5
5/20/2021	14.61	ND	0	0	0.99	ND	0	0	5.89	35.09	0.56	0.3

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-57B				MW-68B				MW-70B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
6/3/2021	14.12	ND	0	0	2.66	ND	0	0	4.58	34.98	0.67	0.3
6/17/2021	13.84	ND	0	0	3.51	ND	0	0	4.78	35.16	0.49	0.3
7/1/2021	13.61	ND	0	0	1.11	37.01	0.39	0.1	4.48	34.85	0.8	TR
7/19/2021	13.22	ND	0	0	1.06	37.21	0.19	TR	3.78	34.9	0.75	TR
7/29/2021	16.66	ND	0	0	3.74	37.38	0.02	TR	5.74	35.2	0.45	TR
8/12/2021	15.32	ND	0	0	5.21	ND	0	0	5.71	35.12	0.53	TR
8/26/2021	14.92	ND	0	0	5.80	ND	0	TR	5.88	35.16	0.49	TR
9/10/2021	14.61	ND	0	0	5.08	ND	0	0	6.41	35.18	0.47	0.1
9/22/2021	14.40	ND	0	0	4.65	ND	0	0	6.46	ND	0	0
10/8/2021	14.10	ND	0	0	3.14	ND	0	0	5.12	ND	0	0
10/20/2021	14.61	ND	0	0	5.01	ND	0	0	6.84	35.27	0.38	0
11/4/2021	13.59	ND	0	0	3.38	ND	0	0	5.10	ND	0	0
11/18/2021	13.44	ND	0	0	4.38	ND	0	0	5.34	ND	0	0
12/3/2021	13.40	ND	0	0	4.38	ND	0	0	5.58	ND	0	0
12/16/2021	13.36	ND	0	0	4.72	ND	0	0	5.84	ND	0	0
12/30/2021	13.41	ND	Trace	0	3.88	ND	0	0	5.46	ND	Trace	0
1/14/2022	13.52	ND	Trace	0	3.92	ND	0	0	5.56	ND	Trace	0
1/26/2022	13.44	ND	Trace	0	4.06	ND	0	0	5.67	ND	Trace	0
2/10/2022	19.21	ND	0	0	3.07	ND	0	0	5.39	ND	0	0
2/24/2022	17.65	ND	0	0	4.08	ND	0	0	5.52	34.7	0.6	0.2
3/10/2022	18.44	ND	0	0	4.99	ND	0	0	6.23	ND	0	0
3/24/2022	16.06	ND	0	0	2.91	ND	0	0	6.24	ND	0	0
4/7/2022	15.60	ND	0	0	4.23	ND	0	0	6.05	ND	0	0
4/18/2022	15.39	ND	0	0	4.46	ND	0	0	6.29	ND	0	0
5/2/2022	15.17	ND	0	0	5.13	ND	0	0	6.40	ND	Trace	0
5/20/2022	15.41	ND	0	0	5.21	ND	0	0	6.52	ND	0	0
6/2/2022	15.34	ND	0	0	5.39	ND	0	0	6.43	ND	0	0
6/16/2022	14.95	ND	Trace	0	5.27	ND	0	0	8.80	ND	0	0
6/30/2022	15.03	ND	Trace	0	5.35	ND	0	0	8.96	ND	0	0
7/15/2022	15.22	ND	Trace	0	6.79	ND	0	0	7.34	ND	0	0
7/28/2022	15.38	ND	Trace	0	6.91	ND	0	0	7.41	ND	0	0
8/12/2022	16.60	ND	Trace	0	6.54	ND	Trace	0	7.90	ND	0	0
8/29/2022	15.61	ND	0	0	4.35	ND	0	0	6.26	ND	0	0
9/16/2022	15.30	ND	0	0	6.00	37.20	0.75	0.25	7.30	31.90	3.40	0.25
9/30/2022	15.00	ND	Trace	0	7.00	ND	Trace	0	7.40	32.00	3.30	0.25
10/17/2022	14.85	ND	Trace	0	7.83	ND	Trace	0	7.90	32.85	2.45	0.10
10/27/2022	14.93	ND	Trace	0	7.97	ND	Trace	0	8.27	32.97	2.33	0.50
11/10/2022	14.77	ND	Trace	0	7.72	ND	Trace	0	8.13	32.82	2.48	0.50
11/30/2022	11.23	ND	Trace	0	3.22	ND	Trace	0	3.29	33.63	1.67	0.50
12/16/2022	11.06	ND	Trace	0	3.34	ND	Trace	0	3.16	33.69	1.61	0.50
12/27/2022	11.49	ND	Trace	0	2.96	ND	Trace	0	2.87	33.52	1.78	0.50
1/13/2023	12.46	ND	Trace	0	2.09	ND	Trace	0	2.61	33.62	1.68	0.50
1/27/2023	18.73	42.11	0.71	0	2.21	ND	Trace	0	5.29	34.48	0.82	0.50
2/9/2023	17.23	ND	Trace	0	3.00	ND	Trace	0	5.74	ND	Trace	0
2/23/2023	16.19	ND	0	0	3.96	ND	0	0	5.78	34.60	0.70	0.25
3/9/2023	16.06	ND	0	0	3.74	ND	0	0	5.56	34.29	1.01	0.50
3/23/2023	15.23	PoP	Trace	0	4.56	PoP	Trace	0	6.28	ND	Trace	0
4/6/2023	16.13	ND	0	0	3.96	ND	0	0	5.69	34.62	0.68	0.50
4/19/2023	14.87	ND	0	0	4.19	PoP	Trace	0	5.99	ND	Trace	0.00
5/5/2023	15.96	ND	0	0	3.72	ND	0	0	5.79	34.69	0.61	0.50
5/18/2023	14.23	ND	0	0	1.60	ND	0	0	4.40	32.92	2.38	0
6/1/2023	13.86	PoP	Trace	0	4.38	PoP	Trace	0	5.64	ND	Trace	0
6/15/2023	13.75	PoP	Trace	0	4.80	ND	0.00	0	5.63	32.85	2.40	1.10
6/29/2023	13.74	PoP	Trace	0	5.84	PoP	Trace	0	6.57	ND	Trace	0.10
7/13/2023	13.79	PoP	Trace	0	5.90	PoP	Trace	0	6.58	ND	Trace	0
7/27/2023	16.57	PoP	Trace	0	7.15	PoP	Trace	0	8.10	34.55	0.75	Trace
8/10/2023	16.08	PoP	Trace	0	7.90	PoP	Trace	0	7.75	ND	Trace	0
8/24/2023	16.70	PoP	Trace	0	8.55	PoP	Trace	0	8.28	ND	Trace	0
9/7/2023	16.74	PoP	Trace	0	8.63	PoP	Trace	0	8.66	ND	Trace	0
9/21/2023	15.70	PoP	Trace	0	8.70	PoP	Trace	0	8.50	ND	Trace	0
10/5/2023	12.60	PoP	Trace	0	5.50	PoP	Trace	0	8.50	ND	Trace	0
10/19/2023	15.45	PoP	Trace	0	7.00	PoP	Trace	0	7.36	33.60	1.70	0.30
11/2/2023	15.25	PoP	Trace	0	7.20	PoP	Trace	0	7.73	PoP	Trace	0

TABLE 1

**SUMMARY OF DNAPL RECOVERY MEASUREMENTS  
UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-57B				MW-68B				MW-70B			
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)
11/16/2023	15.18	ND	0	0	5.57	ND	0	0	7.60	34.40	1.00	0.25
11/30/2023	15.56	ND	0	0	6.75	ND	0	0	11.50	35.70	0.75	0.05
12/14/2023	14.93	PoP	Trace	0	6.30	ND	0	0	7.15	34.60	0.80	Trace
12/27/2023	14.83	PoP	Trace	0	5.11	PoP	Trace	0	6.50	34.50	1.00	0.10
1/11/2024	14.60	PoP	Trace	0	3.00	PoP	Trace	0	5.80	PoP	Trace	0
1/25/2024	17.20	PoP	Trace	0	0.50	ND	0	0	8.34	34.30	1.00	0.10
2/9/2024	15.11	PoP	Trace	0	2.56	ND	0	0	4.15	PoP	Trace	0
2/22/2024	15.50	PoP	Trace	0	3.80	PoP	Trace	0	5.46	32.30	3.00	0.60
3/7/2024	15.17	PoP	Trace	0	4.84	PoP	Trace	0	6.65	PoP	Trace	0
3/22/2024	12.02	PoP	Trace	0	4.35	PoP	Trace	0	6.32	34.40	1.00	Trace
4/18/2024	14.83	PoP	Trace	0	4.75	ND	0	0	6.38	35.00	0.50	TR
5/2/2024	14.88	ND	0	0	4.90	PoP	Trace	0	6.80	34.90	0.50	0.10
5/17/2024	3.75	PoP	Trace	0	2.00	PoP	Trace	0	5.46	34.80	0.50	0.10
5/30/2024	14.65	PoP	Trace	0	2.52	PoP	Trace	0	5.36	34.90	0.50	TR
6/13/2024	14.42	PoP	Trace	0	4.05	PoP	Trace	0	5.23	PoP	Trace	0.10
6/27/2024	14.78	PoP	Trace	0	4.56	ND	0	0	5.90	34.90	0.50	0.10
7/11/2024	14.27	PoP	Trace	0	2.05	PoP	Trace	TR	4.75	PoP	Trace	TR
7/25/2024	14.02	PoP	Trace	0	1.71	ND	0	0	4.22	PoP	Trace	TR
8/8/2024	20.10	PoP	Trace	0	NM	NM	NM	NM	5.65	35.00	0.30	TR
9/5/2024	17.13	PoP	Trace	0	5.47	PoP	Trace	0	5.72	34.40	1.00	0.10
9/19/2024	16.32	PoP	Trace	0	6.15	PoP	Trace	0	6.41	34.80	0.50	TR
<b>Total DNAPL Pumped (gal)</b>				<b>2.8</b>					<b>4.1</b>			<b>65.2</b>

\* - indicates DNAPL and groundwater mixture

ND - Not detected

--- - No DNAPL pumped

NM - Not measured

DTW - Depth to water (feet Below Top of Casing (BTOC))

PoP - Product on probe, not measureable

DTD - Depth to DNAPL (feet BTOC)

TR- Trace amount of DNAPL Extracted

† measureable

PL Extracted

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-74B				MW-75B				MW-78A				Approx DNAPL Recovered (gal)
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	
2/14/2013					10.01	34.1	3.1	0.3	NM	NM	NM	0	9.8
4/3/2013					13.71	36.47	0.73	0.3	NM	NM	NM	0	5.2
4/22/2013					9.72	36.72	0.48	0.3	NM	NM	NM	0	2.9
5/30/2013					9.61	35.09	2.11	0.8	NM	NM	NM	0	7.7
6/29/2013					10.61	35.61	1.59	0.8	NM	NM	NM	0	7.2
7/22/2013					9.74	35.71	1.49	0.8	NM	NM	NM	0	6.7
8/26/2013					10.76	35.93	1.27	0.8	NM	NM	NM	0	6.5
9/27/2013					10.52	36.39	0.81	0.5	NM	NM	NM	0	5.8
10/31/2013					10.31	36.47	0.73	1	NM	NM	NM	0	5.1
11/27/2013					10.39	36.51	0.69	1	NM	NM	NM	0	4.7
12/31/2013					10.13	36.72	0.48	1	NM	NM	NM	0	4.7
1/30/2014					12.62	36.49	0.71	0.8	NM	NM	NM	0	4.7
3/3/2014					12.12	36.35	0.85	0.8	NM	NM	NM	0	4.9
3/31/2014					12.01	36.27	0.93	0.8	NM	NM	NM	0	5.0
4/30/2014					11.84	36.02	1.18	0.8	NM	NM	NM	0	5.1
5/27/2014					11.71	35.79	1.41	0.8	NM	NM	NM	0	4.9
6/26/2014					11.58	35.91	1.29	0.5	NM	NM	NM	0	5.0
7/31/2014					11.32	35.82	1.38	0.5	NM	NM	NM	0	4.8
8/27/2014					11.19	36.09	1.11	0.5	NM	NM	NM	0	4.3
10/3/2014					11.09	36.01	1.19	0.5	NM	NM	NM	0	4.8
11/3/2014					11.16	36.19	1.01	0.8	9.31	19.12	6.23	2	7.3
11/24/2014					11.21	36.27	0.93	0.5	9.39	19.62	5.73	2	8.0
12/22/2014					11.26	36.19	1.01	0.5	9.34	19.86	5.49	2	8.3
1/29/2015					11.06	36.34	0.86	0.5	9.14	21.29	4.06	2	7.8
2/26/2015					11.09	36.34	0.86	0.5	9.17	19.97	5.38	2.5	10.0
3/26/2015					10.93	36.42	0.78	0.5	9.12	20.31	5.04	0.8	7.3
4/27/2015					10.78	36.52	0.68	0.5	9.17	20.46	4.89	2	10.5
5/26/2015					10.61	36.72	0.48	0.8	9.09	20.59	4.76	2.5	12.3
7/6/2015					8.52	36.91	0.29	0.8	7.01	21.16	4.19	2	10.5
8/3/2015					8.66	36.96	0.24	0.8	7.12	21.39	3.96	2.5	10.8
8/27/2015					9.31	36.91	0.29	0.8	7.96	21.51	3.84	2	8.3
10/5/2015					8.62	37.02	0.18	0.5	7.23	21.67	3.68	2	8.0
11/5/2015					8.34	36.93	0.27	0.5	7.02	21.56	3.79	2	8.0
12/3/2015					8.12	36.81	0.39	0.5	6.83	21.67	3.68	2	8.0
12/28/2015					8.01	36.72	0.48	0.5	6.71	21.52	3.83	2.3	9.0
2/3/2016					7.82	36.19	1.01	0.3	6.52	21.67	3.68	2	9.0
3/3/2016					7.74	36.27	0.93	0.5	6.46	21.72	3.63	2	9.3
3/31/2016					7.67	36.39	0.81	0.5	6.49	21.86	3.49	2	9.3
5/3/2016					7.79	36.47	0.68	0.5	6.57	21.94	3.41	2	7.8
6/2/2016					7.71	36.42	0.73	0.5	6.65	21.91	3.44	2	8.3
7/8/2016					7.8	36.53	0.62	0.5	6.71	21.97	3.38	2	8.0
8/3/2016					7.89	36.59	0.56	0.5	6.82	22.04	3.31	2	8.0
8/30/2016					7.96	36.64	0.51	0.5	6.94	22.21	3.14	2	8.3
9/30/2016					7.91	36.51	0.64	0.5	7.04	22.39	2.96	2	8.5
11/3/2016					7.86	36.36	0.79	0.5	7.11	22.49	2.86	2	8.5
11/30/2016					7.97	36.47	0.68	0.8	7.29	22.67	2.68	2	8.8
1/4/2017					8.04	36.36	0.79	0.8	7.42	22.74	2.61	2	8.8
2/7/2017					8.12	36.21	0.94	0.8	7.48	22.93	2.42	2.5	9.0
3/2/2017					8.01	36.26	0.89	0.8	7.36	23.26	2.09	2	8.5
4/3/2017					7.93	36.43	0.72	0.8	7.29	23.34	2.01	2	7.5
4/27/2017					7.86	36.52	0.63	0.8	7.36	23.42	1.93	2	8.0
5/29/2017					7.94	36.41	0.74	0.8	7.51	23.51	1.84	2	7.8
7/5/2017					8.04	36.36	0.79	0.8	7.79	23.59	1.76	2	7.3
8/1/2017					8.16	36.31	0.84	0.8	7.89	23.51	1.84	2	8.0
9/5/2017					8.22	36.47	0.68	0.8	7.81	23.48	1.87	2	8.3
10/4/2017					8.29	36.56	0.59	0.8	7.89	23.51	1.84	2	7.8
11/2/2017					8.37	36.51	0.64	1	7.97	23.59	1.76	2	8.5
11/29/2017					8.33	36.59	0.56	1	8.02	23.67	1.68	2	8.0
1/2/2018					8.07	36.72	0.43	1	8.17	23.82	1.53	2	8.3
2/7/2018					8.17	36.91	0.24	1	8.29	23.97	1.38	2	8.3
3/1/2018					8.31	36.94	0.21	1	8.47	23.91	1.44	2	7.5
4/2/2018					8.26	36.89	0.26	0.8	8.39	23.97	1.38	2.3	7.8
5/1/2018					8.92	36.96	0.19	0.8	9.02	24.06	1.29	2	9.0

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-74B				MW-75B				MW-78A				Approx DNAPL Recovered (gal)
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	
6/1/2018					9.34	36.91	0.24	0.8	9.21	24.13	1.22	2	9.8
6/29/2018					9.67	36.82	0.33	0.8	9.39	24.21	1.14	2.3	10.5
8/3/2018					9.84	36.87	0.28	0.8	9.47	24.31	1.04	2	10.0
8/31/2018					9.71	36.91	0.24	0.8	9.32	24.47	0.88	2	8.3
9/28/2018					9.62	36.84	0.31	0.8	9.22	24.39	0.96	2	8.3
11/2/2018					9.57	36.88	0.27	0.8	9.09	24.27	1.08	2	8.5
11/29/2018					9.41	36.92	0.23	1	8.96	24.22	1.13	2	7.5
1/2/2019					9.28	36.96	0.19	1	8.78	24.39	0.96	2	7.8
2/2/2019					9.22	36.91	0.24	1	8.71	24.47	0.88	2	8.0
2/28/2019					9.16	36.93	0.22	1	8.67	24.42	0.93	2	8.8
4/2/2019					9.06	36.91	0.24	1	8.58	24.43	0.92	2	8.8
4/25/2019					9.02	36.72	0.43	1	8.49	24.31	1.04	2	9.3
5/29/2019					9.07	36.67	0.48	1	8.42	24.26	1.09	2	9.3
6/12/2019					8.92	ND	Trace	0	8.67	23.96	1.39	2	9.0
6/30/2019					8.66	ND	Trace	0	9.36	23.77	1.58	2	9.8
7/16/2019					8.62	ND	Trace	0	9.29	23.62	1.73	2	10.5
8/2/2019					8.67	ND	Trace	0	9.34	23.57	1.78	2	8.0
8/15/2019					8.69	ND	0	0	9.42	23.06	2.29	2	12.0
8/28/2019					8.72	ND	Trace	0	9.51	23.01	2.34	2	12.0
9/17/2019					8.61	ND	Trace	0	9.39	22.76	2.59	2	13.0
10/2/2019					8.53	ND	Trace	0	9.27	22.58	2.77	2	10.5
10/16/2019					NM	NM	NM	0	10.16	21.63	3.72	2	8.0
10/31/2019					NM	NM	NM	0	10.41	21.79	3.56	2.5	8.5
11/15/2019					7.91	ND	0	0	8.01	21.62	3.73	1.5	5.0
12/3/2019					8.24	ND	0	0	8.41	22.12	3.23	2	6.5
12/18/2019					4.99	ND	0	0	8.38	ND	0	0	2.1
12/30/2019					7.79	35.3	1.85	0	9.16	19.93	5.42	1.5	3.3
1/7/2020					--	--	--	--	--	--	--	--	--
1/15/2020					6.47	36.4	0.75	0	8.79	24.9	0.45	0.1	4.1
1/27/2020					5.92	34.6	2.55	0.1	7.06	24.06	1.29	0	3.8
2/13/2020					7.88	35.08	2.07	0.1	8.01	24.08	1.27	0	3.3
2/25/2020					5.82	ND	0	0	7.84	21.86	3.49	0.3	2.6
3/13/2020					8.24	34.9	2.25	0.1	NM	NM	NM	0	2.3
3/31/2020					4.79	ND	0	0	7.82	23.1	2.25	0.1	5.9
4/9/2020					8.52	ND	0	0	7.52	22.5	2.85	0.1	7.3
4/27/2020					9.07	ND	0	0	8.33	23.2	2.15	0.5	7.7
5/14/2020					7.74	37.1	0.05	0	8.05	23.22	2.13	0.5	8.3
5/28/2020					5.06	ND	0	0	7.59	23.69	1.66	0.5	8.6
6/11/2020					5.79	37	0.15	TR	7.39	24.96	0.39	0.1	5.6
6/25/2020					4.87	ND	0	0	6.28	19.9	5.45	1.5	6.5
7/9/2020					8.91	ND	0	0	8.41	19.7	5.65	2.5	7.3
7/23/2020					8.71	ND	0	0	7.85	20.91	4.44	1.0	8.8
8/6/2020					6.74	ND	0	0	7.81	22.05	3.3	1.0	6.3
8/20/2020					6.01	ND	0	0	7.21	21.88	3.47	0.5	3.9
9/2/2020					8.61	ND	0	0	6.98	22.6	2.75	1.0	4.4
9/17/2020					8.52	ND	0	0	8.05	22.21	3.14	0.5	3.1
10/1/2020					7.33	37.1	Trace	0	8.01	24.1	1.25	1.0	3.9
10/14/2020					8.26	37.2	Trace	TR	8.11	24.9	0.45	0.5	8.3
10/28/2020					8.11	ND	0	0	7.99	25.08	0.27	0.3	6.3
11/12/2020					8.41	36.78	0.37	0.3	8.42	25.0	0.35	0.1	5.6
11/23/2020					8.62	36.04	1.11	0.3	9.19	25.08	0.27	0.3	3.3
12/10/2020					7.94	36.54	0.61	0.1	8.79	25.12	0.23	TR	4.8
12/21/2020					6.15	36.84	0.31	0.1	6.43	25.21	0.14	TR	3.9
1/7/2021					6.81	37.01	0.14	0.1	7.31	ND	0	0	4.1
1/21/2021					7.85	35.5	1.65	2.0	7.71	ND	0	0	7.8
2/4/2021					8.19	35.2	1.95	2.0	7.63	ND	0	0	7.8
2/23/2021					7.64	34.59	2.56	1.0	7.52	ND	0	0	6.5
3/11/2021					7.82	35.1	2.05	1.0	7.42	ND	0	0	6.5
3/25/2021					7.91	36.81	0.34	0.3	7.28	ND	0	0	5.3
4/8/2021					7.08	36.53	0.62	0	7.41	ND	0	0	5.0
4/22/2021					8.59	36.8	0.35	0.3	7.02	ND	0	0	4.4
5/4/2021	7.81	32.80	2.20	2.0	7.83	ND	0	0	7.22	ND	0	0	6.8
5/20/2021	5.93	33.40	1.60	0.5	8.06	37.1	0.05	0.3	8.04	ND	0	0	5.5

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-74B				MW-75B				MW-78A				Approx DNAPL Recovered (gal)
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	Pumped (gal)	
6/3/2021	6.54	33.62	1.38	0.5	3.71	37.02	0.13	0.1	7.49	ND	0	0	4.9
6/17/2021	6.86	34.70	0.30	0.1	5.21	ND	0	0	6.81	ND	0	0	3.9
7/1/2021	3.68	34.08	0.92	0.5	7.33	ND	0	0	NM	NM	NM	0	4.4
7/19/2021	5.36	34.15	0.85	0.8	5.16	ND	0	0	NM	NM	NM	0	4.0
7/29/2021	6.31	33.60	1.40	1.0	7.48	ND	0	0	7.18	ND	0	0	3.9
8/12/2021	7.51	33.34	1.66	1.0	7.58	ND	0	0	6.84	ND	0	0	4.4
8/26/2021	7.34	33.22	1.78	1.0	8.19	37.01	0.14	TR	6.92	ND	0	0	5.0
9/10/2021	7.81	34.40	0.60	0.2	8.63	ND	0	0	6.58	ND	0	0	2.6
9/22/2021	11.35	34.41	0.59	0	8.09	ND	0	0	NM	NM	NM	0	1.3
10/8/2021	6.94	33.58	1.42	0	8.03	ND	0	0	7.14	ND	0	0	1.0
10/20/2021	11.84	34.81	0.19	0	8.21	ND	0	0	NM	NM	NM	0	1.3
11/4/2021	7.24	33.83	1.17	0.3	7.70	ND	0	0	7.01	ND	0	0	2.0
11/18/2021	7.41	ND	0	0	7.70	ND	0	0	7.11	ND	0	0	0.3
12/3/2021	7.90	ND	0	0	7.94	ND	0	0	7.46	ND	0	0	1.3
12/16/2021	7.51	ND	0	0	8.12	ND	0	0	7.80	ND	0	0	1.3
12/30/2021	7.76	ND	Trace	0	NM	NM	NM	0	8.09	ND	Trace	0	1.5
1/14/2022	7.82	ND	Trace	0	NM	NM	NM	0	8.16	ND	Trace	0	1.5
1/26/2022	7.91	ND	Trace	0	NM	NM	NM	0	8.27	ND	Trace	0	1.5
2/10/2022	7.30	ND	0	0	NM	NM	NM	0	8.88	ND	0	0	0.9
2/24/2022	8.41	ND	0	0	NM	NM	NM	0	8.51	ND	0	0	1.1
3/10/2022	8.60	ND	0	0	NM	NM	NM	0	8.67	ND	0	0	1.2
3/24/2022	8.62	ND	0	0	NM	NM	NM	0	8.65	ND	0	0	0.3
4/7/2022	8.20	ND	0	0	NM	NM	NM	0	8.90	ND	0	0	0.5
4/18/2022	8.42	ND	0	0	NM	NM	NM	0	8.96	ND	0	0	2.3
5/2/2022	8.52	ND	0	0	NM	NM	NM	0	9.02	ND	0	0	2.5
5/20/2022	8.51	ND	0	0	NM	NM	NM	0	9.13	ND	0	0	2.5
6/2/2022	8.39	ND	0	0	NM	NM	NM	0	9.26	ND	0	0	2.5
6/16/2022	9.09	ND	Trace	0	NM	NM	NM	0	9.13	ND	Trace	0	1.8
6/30/2022	9.47	ND	Trace	0	NM	NM	NM	0	9.23	ND	Trace	0	1.4
7/15/2022	8.41	ND	Trace	0	NM	NM	NM	0	9.26	ND	Trace	0	2.5
7/28/2022	8.51	ND	Trace	0	NM	NM	NM	0	9.36	ND	Trace	0	2.5
8/12/2022	8.82	ND	Trace	0	NM	NM	NM	0	9.59	ND	Trace	0	0.4
8/29/2022	8.62	ND	0	0	NM	NM	NM	0	9.41	ND	0	0	3.5
9/16/2022	8.80	ND	Trace	0	NM	NM	NM	0	NM	NM	NM	0	4.5
9/30/2022	8.70	ND	0	0	NM	NM	NM	0	9.20	ND	Trace	0	8.0
10/17/2022	9.24	ND	0	0	NM	NM	NM	0	9.21	ND	Trace	0	5.1
10/27/2022	9.42	ND	0	0	NM	NM	NM	0	9.34	ND	Trace	0	5.5
11/10/2022	9.31	ND	0	0	NM	NM	NM	0	9.17	ND	Trace	0	5.5
11/30/2022	6.02	ND	0	0	NM	NM	NM	0	5.81	ND	0	0	5.0
12/16/2022	6.12	ND	0	0	NM	NM	NM	0	5.72	ND	0	0	5.0
12/27/2022	6.02	ND	0	0	NM	NM	NM	0	6.17	ND	0	0	5.0
1/13/2023	6.67	ND	0	0	NM	NM	NM	0	6.79	ND	0	0	5.0
1/27/2023	7.64	ND	Trace	0	NM	NM	NM	0	8.6	ND	0	0	2.8
2/9/2023	7.21	ND	0	0	NM	NM	NM	0	8.65	ND	Trace	0	0.9
2/23/2023	7.84	ND	0	0	NM	NM	NM	0	8.61	ND	0	0	3.3
3/9/2023	7.67	ND	0	0	NM	NM	NM	0	8.51	ND	0	0	3.5
3/23/2023	8.12	ND	0	0	NM	NM	NM	0	8.47	ND	Trace	0	3.3
4/6/2023	7.81	ND	0	0	NM	NM	NM	0	8.59	ND	0	0	4.5
4/19/2023	7.9	ND	0	0	7.11	NM	NM	0	8.5	ND	0	0	4.0
5/5/2023	7.62	ND	0	0	8.01	NM	NM	0	8.42	ND	0	0	4.0
5/18/2023	6.10	ND	0	0	6.72	NM	NM	0	7.82	ND	0	0	3.0
6/1/2023	6.85	ND	Trace	0	NM	NM	NM	0	7.50	ND	0	0	2.4
6/15/2023	6.86	ND	0.00	0	NM	NM	NM	0	7.54	ND	0	0	3.6
6/29/2023	7.24	ND	Trace	0	7.85	ND	Trace	0	7.57	ND	0	0	1.7
7/13/2023	6.92	ND	0.00	0	7.8	ND	Trace	0	7.44	ND	0	0	1.6
7/27/2023	7.70	ND	0.00	0	8.15	ND	Trace	0	7.52	ND	0	0	0.0
8/10/2023	8.52	ND	Trace	0	8.2	ND	Trace	0	7.89	ND	Trace	0	2.2
8/24/2023	9.90	ND	Trace	0	9.75	ND	Trace	0	9.03	ND	Trace	0	1.3
9/7/2023	9.96	ND	Trace	0	9.82	ND	Trace	0	9.07	ND	Trace	0	1.4
9/21/2023	8.90	ND	Trace	0	8.50	ND	Trace	0	8.51	ND	Trace	0	0.9
10/5/2023	8.95	ND	Trace	0	--	--	--	-	7.95	ND	Trace	0	1.2
10/19/2023	8.41	PoP	Trace	0	8.00	PoP	Trace	0	7.68	ND	0	0	1.3
11/2/2023	8.78	33.70	2.40	0.80	7.92	PoP	Trace	0	8.31	ND	0	0	2.0

**TABLE 1**  
**SUMMARY OF DNAPL RECOVERY MEASUREMENTS**  
**UPRR HOUSTON, TX - WOOD PRESERVING WORKS**

DNAPL Recovery Date	MW-74B				MW-75B				MW-78A				Approx DNAPL Recovered (gal)
	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	DTW (ft BTOC)	DTD (ft BTOC)	DNAPL Thickness (ft)	DNAPL Pumped (gal)	
11/16/2023	8.80	35.20	1.00	0.20	7.77	ND	0	0	8.70	ND	0	0	2.7
11/30/2023	8.41	35.45	0.75	0.10	5.90	PoP	Trace	0	8.92	ND	0	0	0.5
12/14/2023	8.70	34.00	2.10	0.10	7.70	ND	0	0	8.45	ND	0	0	2.2
12/27/2023	8.15	39.00	1.00	0.20	7.74	PoP	Trace	0	8.12	ND	0	0	0.6
1/11/2024	7.37	PoP	Trace	0.00	7.30	ND	0	0	7.80	ND	0	0	0.4
1/25/2024	7.50	35.00	1.00	0.10	3.65	ND	0	0	7.72	ND	0	0	1.2
2/9/2024	6.76	PoP	Trace	0.00	7.30	35.20	2.00	0.50	11.42	ND	0	0	0.6
2/22/2024	7.41	35.60	0.50	0.20	7.80	36.70	0.50	0.10	7.30	ND	0	0	1.6
3/7/2024	8.20	PoP	Trace	0.00	7.82	36.20	1.00	0.30	7.90	ND	0	0	1.0
3/22/2024	NM	PoP	Trace	0.00	NM	PoP	Trace	0.00	8.56	PoP	Trace	0	1.0
4/18/2024	7.60	35.20	1.00	0.30	8.15	PoP	Trace	0.10	7.95	ND	0	0	0.8
5/2/2024	7.75	35.20	1.00	0.10	8.11	36.70	0.50	0.10	7.90	ND	0	0	0.6
5/17/2024	6.55	35.50	0.50	0.10	7.60	PoP	Trace	0	7.75	ND	0	0	0.8
5/30/2024	6.95	35.00	1.00	0.30	NM	NM	NM	NM	5.45	36.90	0.5	0.1	1.5
6/13/2024	NM	NM	NM	NM	8.55	PoP	Trace	0	7.65	ND	0	0	0.7
6/27/2024	7.02	35.00	1.00	0.20	9.00	PoP	Trace	0	8.02	ND	0	0	0.6
7/11/2024	6.70	35.10	1.00	0.25	8.48	PoP	Trace	0.10	7.40	ND	0	0	0.8
7/25/2024	5.94	35.20	1.00	0.20	10.20	ND	0	0	7.01	ND	0	0	0.7
8/8/2024	6.05	PoP	Trace	0.10	7.90	ND	0	0	6.85	ND	0	0	0.5
9/5/2024	7.50	PoP	Trace	0.10	7.54	PoP	Trace	TR	7.01	ND	0	0	0.9
9/19/2024	7.75	PoP	Trace	TR	7.87	36.20	1.00	0.30	8.66	PoP	Trace	0	0.4
<b>Total DNAPL Pumped (gal)</b>				<b>11.2</b>				<b>62.4</b>			<b>151.4</b>		<b>1090.1</b>

\* - indicates DNAPL and groundwater mixture

--- - No DNAPL pumped

DTW - Depth to water (feet Below Top of Casing (BTOC))

DTD - Depth to DNAPL (feet BTOC)

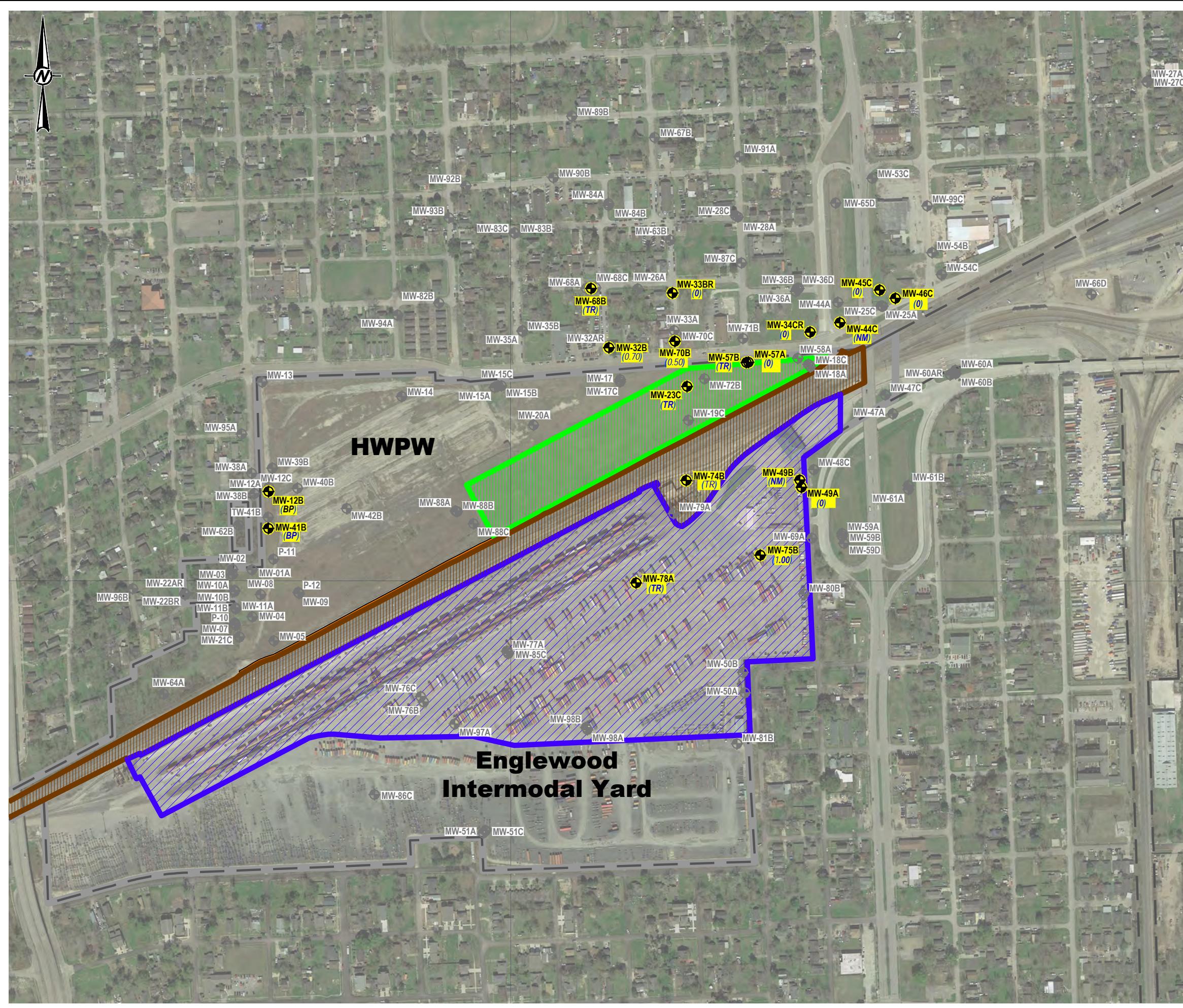
ND - Not detected

NM - Not measured

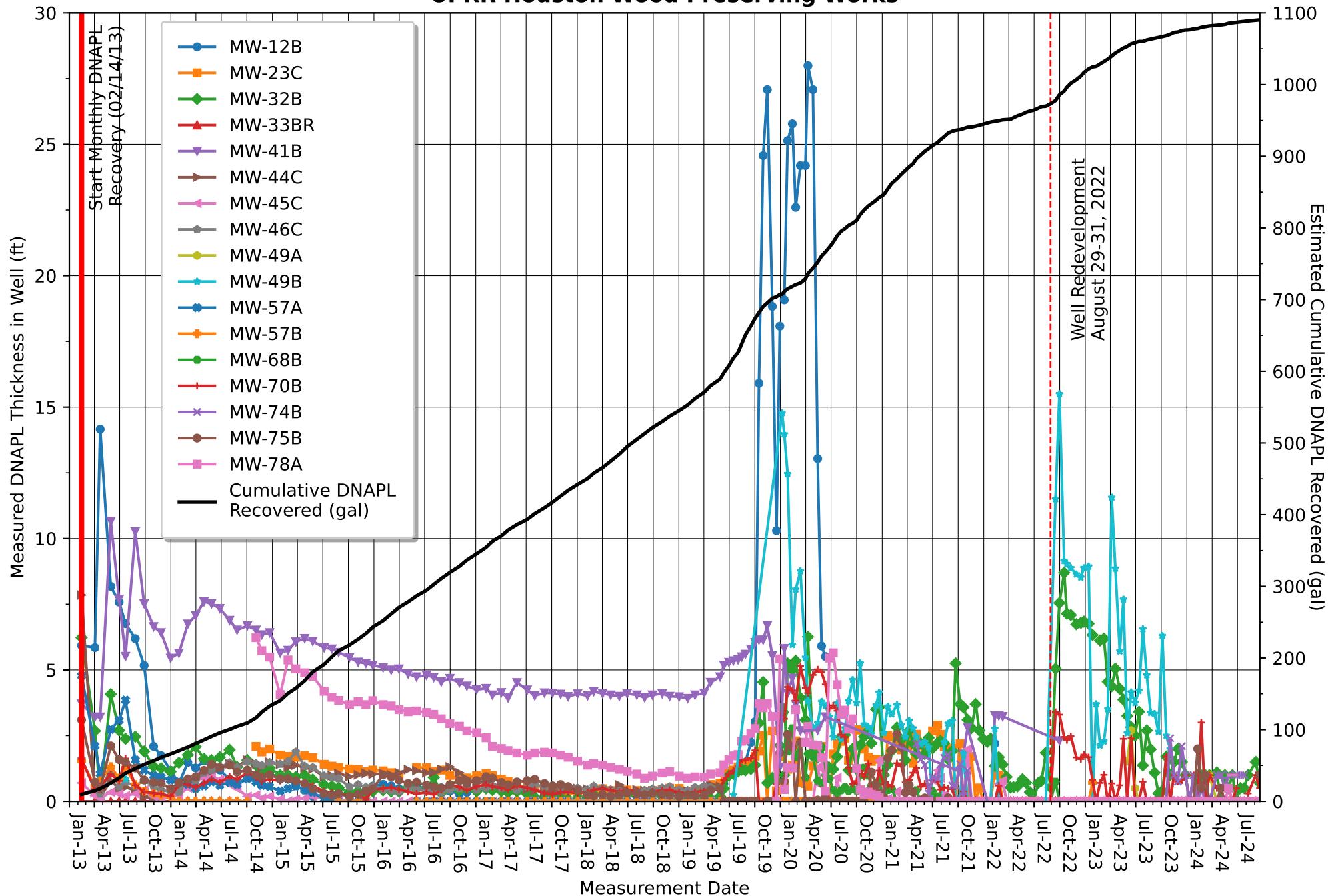
PoP - Product on probe, not measureable

TR- Trace amount of DNAPL Extracted

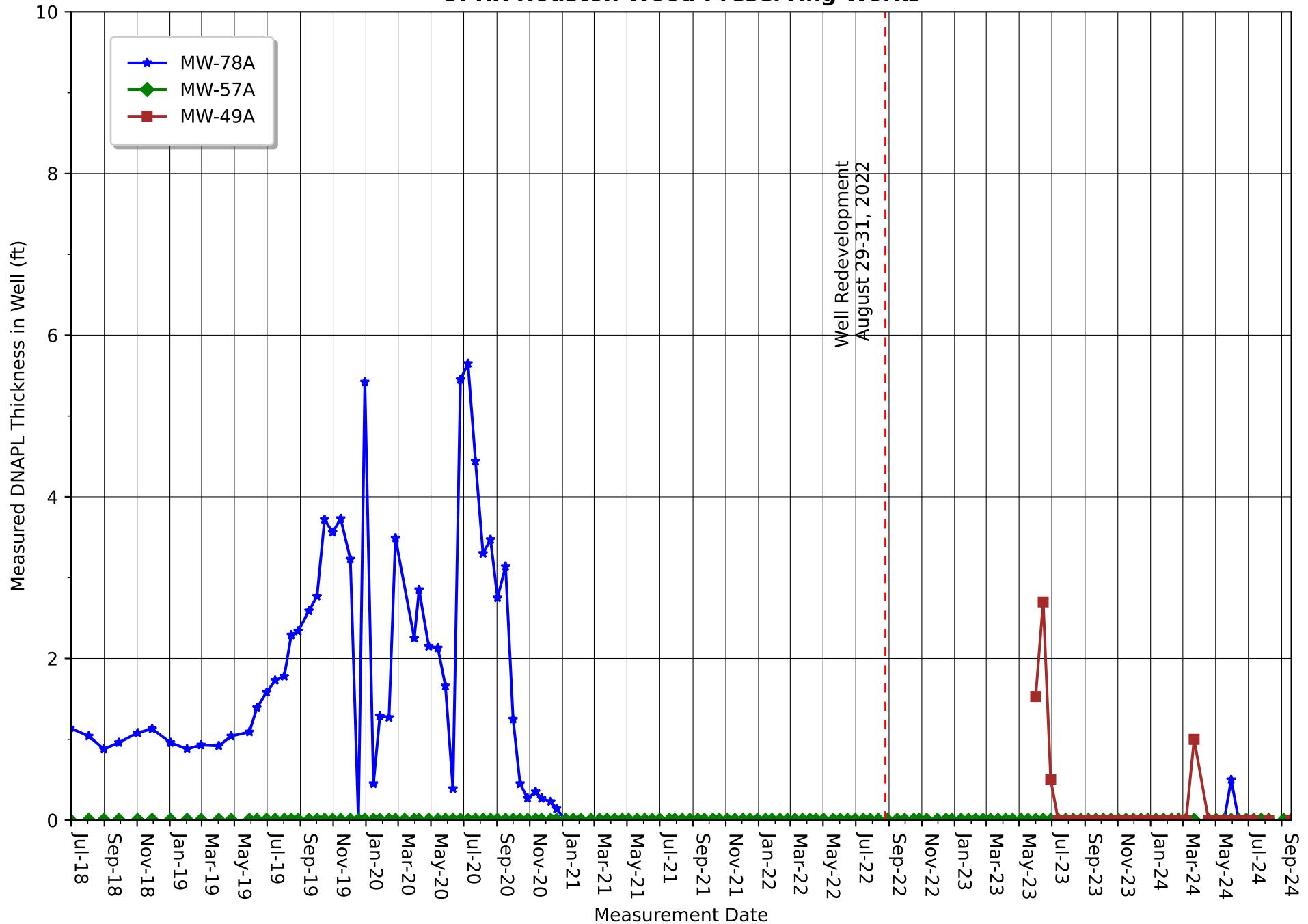
## **FIGURES**



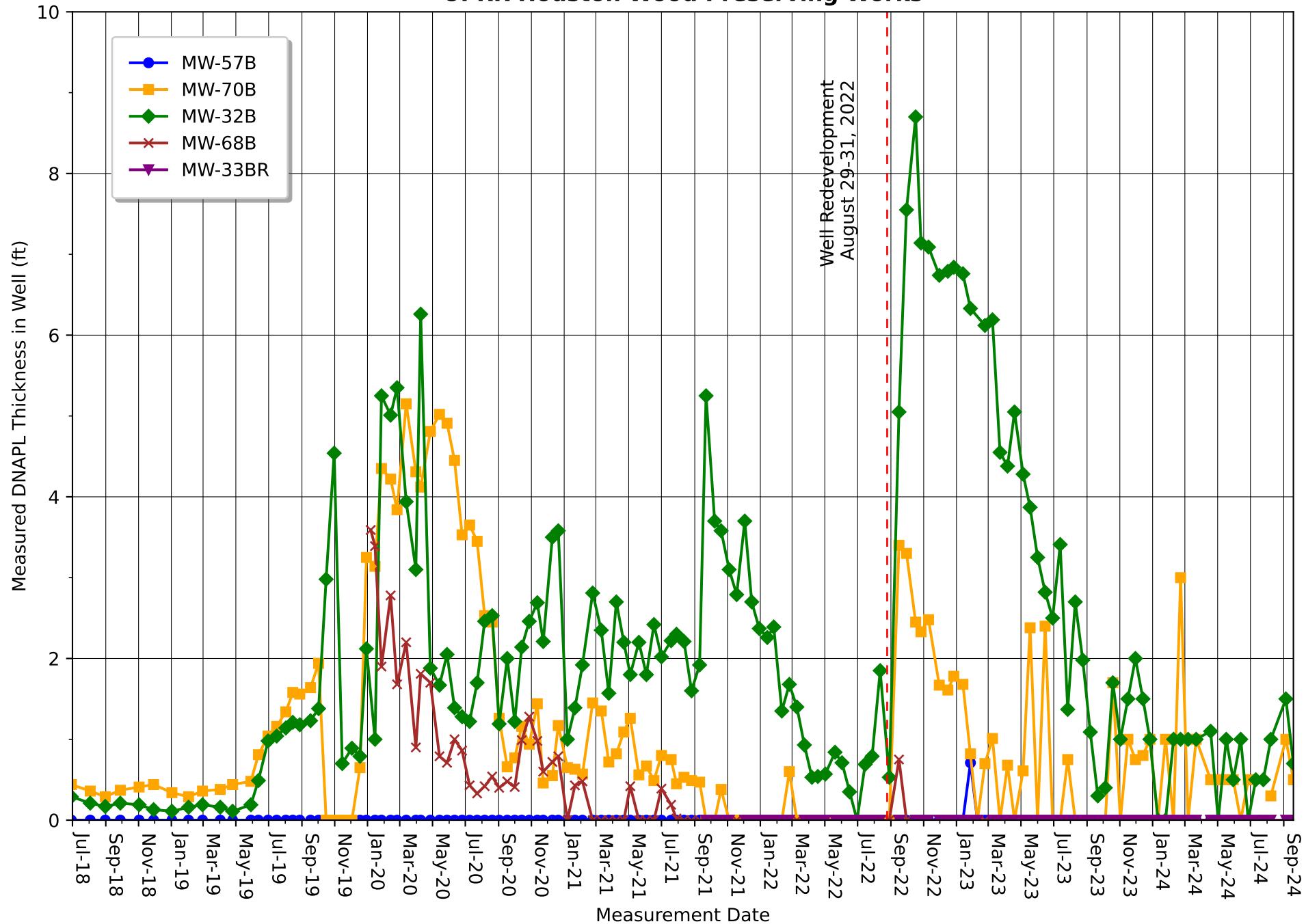
**Figure 2**  
**DNAPL Recovery Activities February 2013 - September 2024**  
**UPRR Houston Wood Preserving Works**



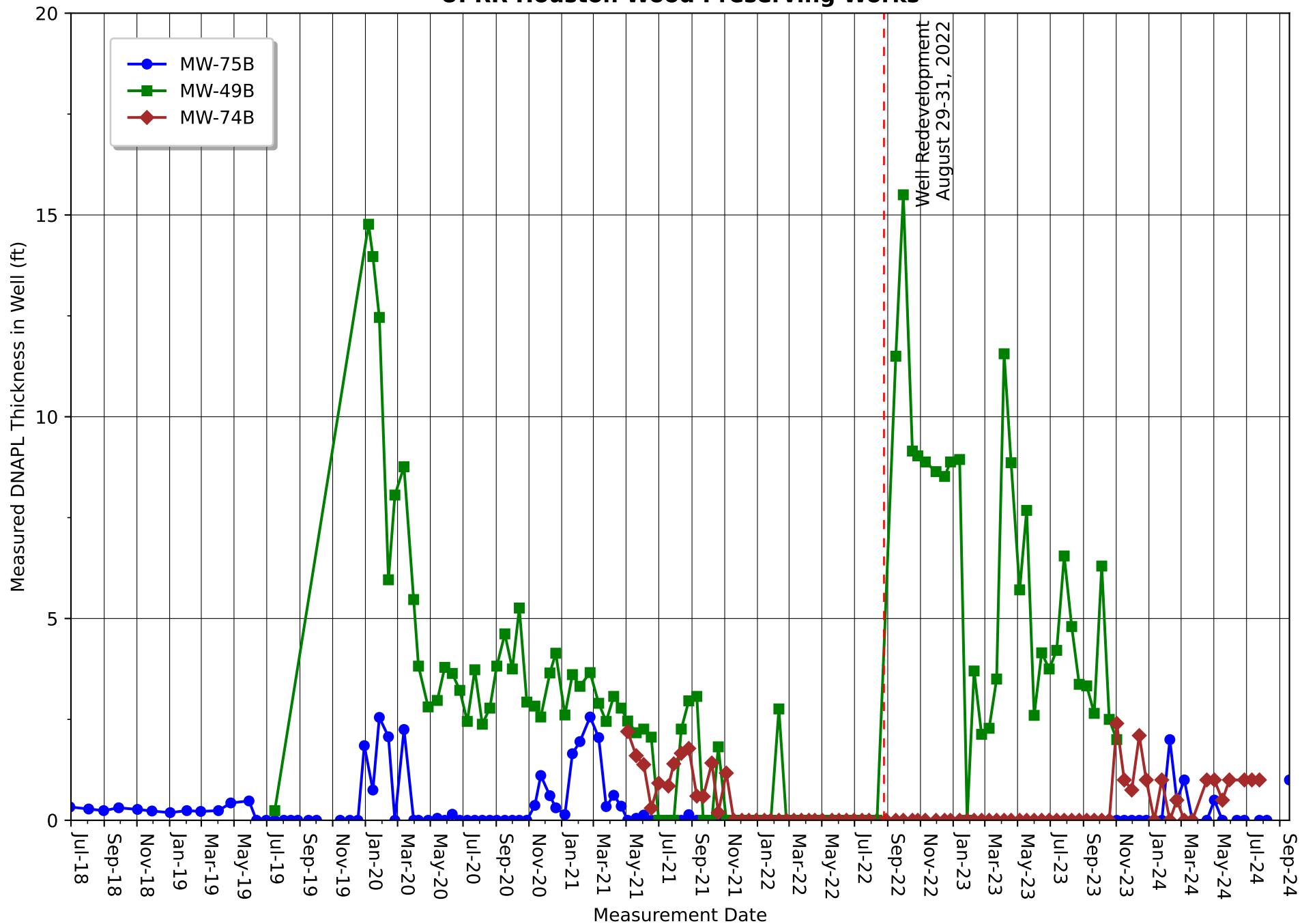
**Figure 3**  
**A-TZ Wells-DNAPL Recovery Activities July 2018 - September 2024**  
**UPRR Houston Wood Preserving Works**



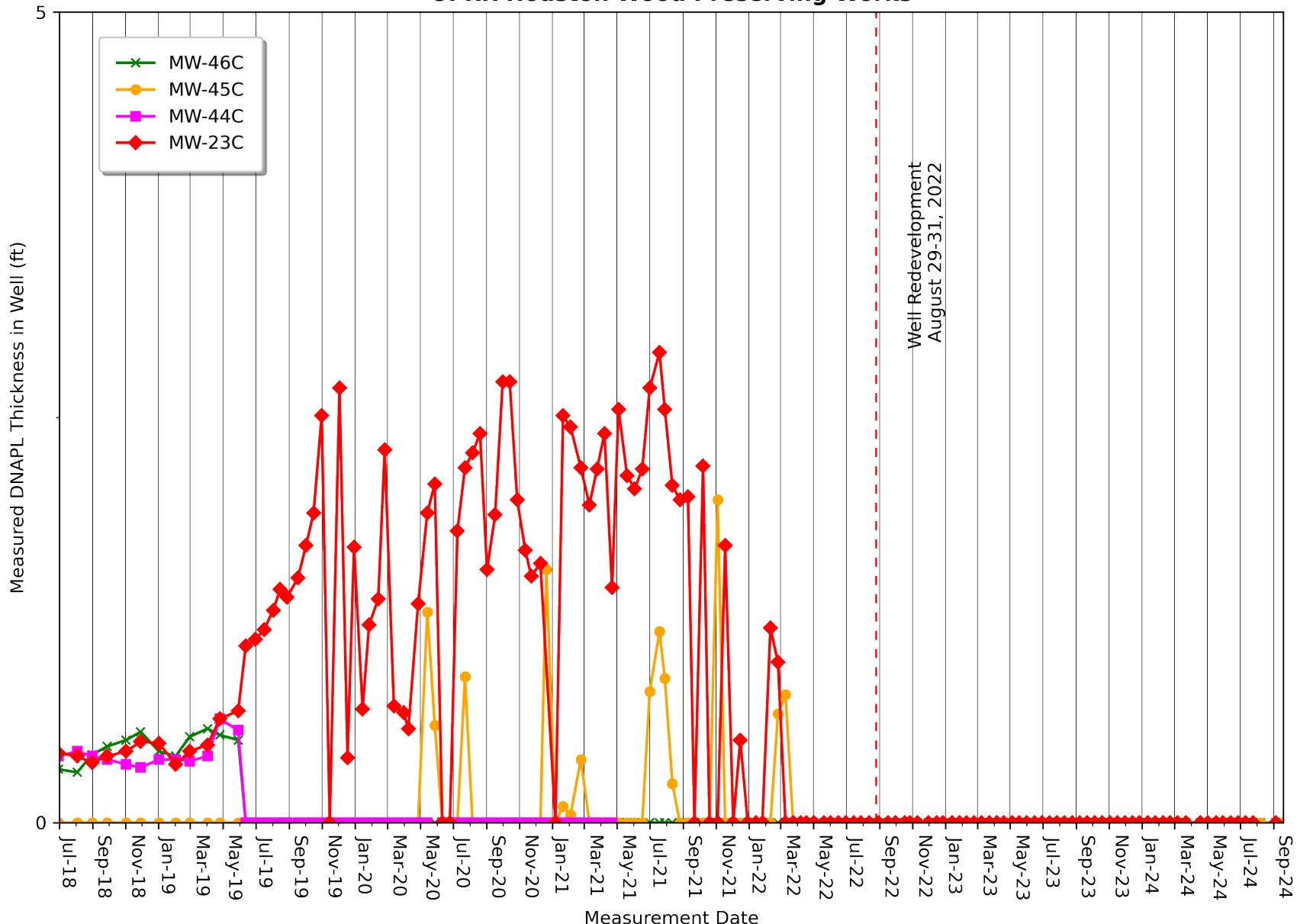
**Figure 5**  
**B-CZ/B-TZ Wells (North (On-site and Off-site)-DNAPL Recovery Activities July 2018 - September 2024**  
**UPRR Houston Wood Preserving Works**



**Figure 6**  
**B-CZ/B-TZ Wells (Englewood Intermodal Yard)-DNAPL Recovery Activities July 2018 - September 2024**  
**UPRR Houston Wood Preserving Works**

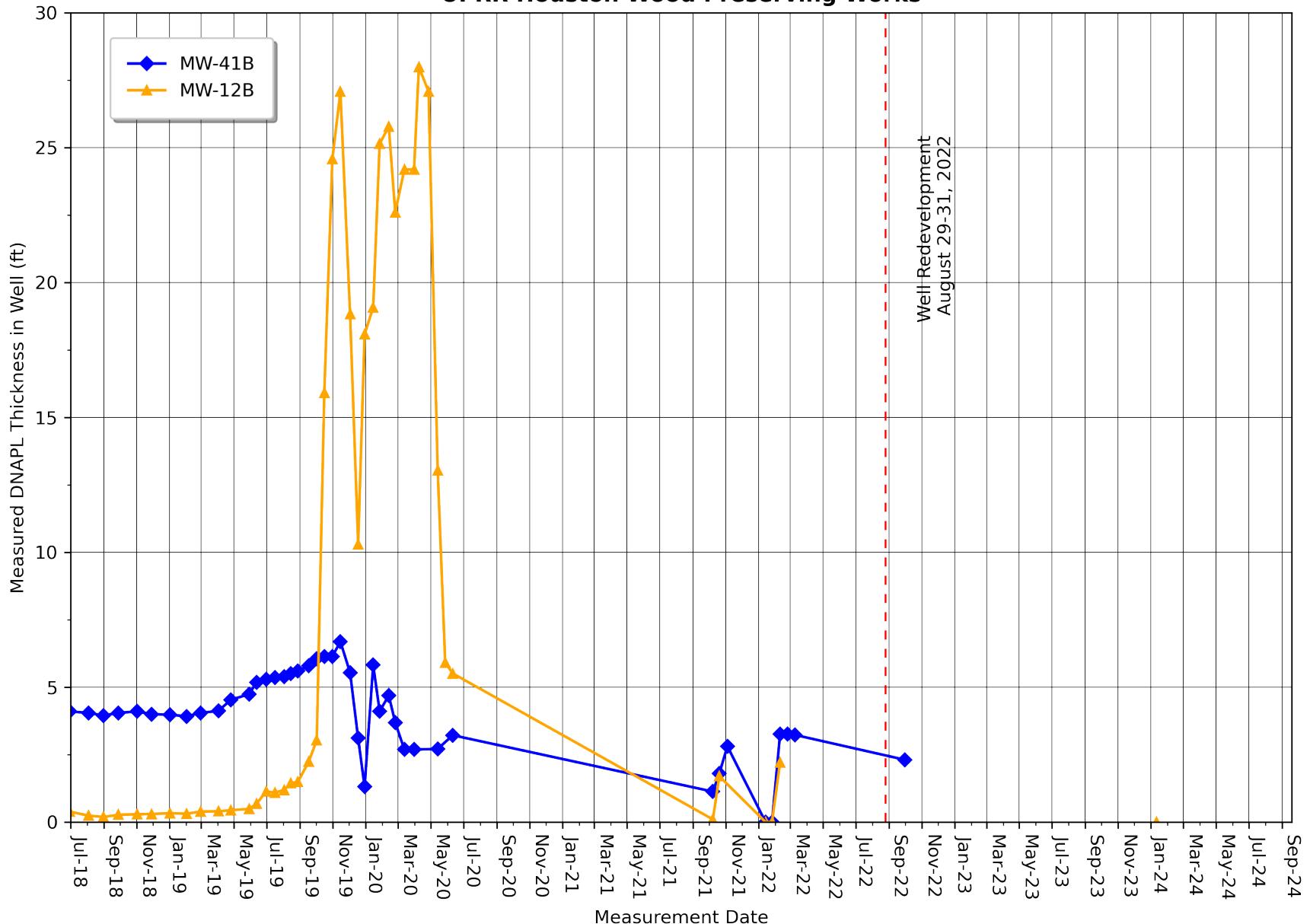


**Figure 7**  
**C-TZ Wells-DNAPL Recovery Activities July 2018 - September 2024**  
**UPRR Houston Wood Preserving Works**



Note: MW-44C damaged in October 2019

**Figure 4**  
**B-TZ Wells (West Side)-DNAPL Recovery Activities July 2018 - September 2024**  
**UPRR Houston Wood Preserving Works**



Note: DNAPL has been below top of in-well pumps for a majority of recovery events since the 3<sup>rd</sup> Q 2020 (not measurable).

**ATTACHMENT 1**

## Recovered DNAPL Waste Manifest

Please print or type.

1. Generator ID Number	TXD000820266	2. Page 1 of	(888) 877-7267	3. Emergency Response Phone	4. Manifest Tracking Number
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 (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 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 US Ecology 3277 County Rd 69 Facility: Phenixtown, TX 78380 (800) 242-3209					
9a. HM			10. Containers		
9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))  X 1. RQ, NA3082, Hazardous Waste, Liquid, n.o.s. (creosote, benzene), 9, PG III (F034)			No.	Type	11. Total Quantity
			1	DM	P
					F034
					D018
14. Special Handling Instructions and Additional Information 1. WMR 020000 Profile 090130010-0 EXP: 4/08/25 Bill to: E3 Environmental- PO Box 7, Clinton, MS 39060 Email Invoices: e3admin@e3enviro.com/claraque@e3enviro.com					
Job #: 135-24-0 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/Officer's Printed/Typed Name  X Juan Navarro			Signature  X		
			Month	Day	Year
			10	17	2024
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Transporter signature (for exports only): _____					
Date leaving U.S.: _____					
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name Juan Navarro Signature Month Day Year 10 18 24					
Transporter 2 Printed/Typed Name Signature Month Day Year					
18. Discrepancy 18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
Manifest Reference Number:					
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.		
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 Signature Month Day Year					

Please print or type.

Form Approved, OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number TXD000820266	2. Page 1 of 1	3. Emergency Response Phone (888) 877-7267	4. Manifest Tracking Number <b>026660633 JJK</b>
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 Site Address (if different than mailing address) Union Pacific Railroad (UPRR) 4910 Liberty Road Houston, TX 77026			
6. Generator's Phone (414) 267-4164		U.S. EPA ID Number <b>TXR000083939</b>			
7. Transporter 1 Company Name Enhanced Environmental & Emergency Services, Inc.		U.S. EPA ID Number <b>TXR000083939</b>			
8. Designated Facility Name and Site Address US Ecology 3277 County Rd 69 Facility's Phone Brown, TX 78380		U.S. EPA ID Number <b>TXD069452340</b>			
9a. HM X NA3077, Hazardous Waste, Solid, n.o.s.(creosote), 9, PG III (F034)		10. Containers No. 1 Type DM	11. Total Quantity 15	12. Unit Wt./Vol. P	13. Waste Codes F034 0917406H K001
2.					
3.					
4.					
14. Special Handling Instructions and Additional Information 1. WRM 019922/Proline# 090128940-0 EXP: 3/03/25 Bill to: E3 Environmental- PO Box 7, Clinton, MS 39060 Email invoices: e3admin@e3enviro.com/claraque@e3enviro.com Job#: 135-24-0 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/Officer's Printed/Typed Name X Juan Navarro		Signature		Month 10	Day 17 Year 2024
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.      Port of entry/exit: _____ Transporter signature (for exports only): _____					
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name Juan Navarro      Signature <i>Juan Navarro</i> Month 10 Day 10 Year 2024 Transporter 2 Printed/Typed Name      Signature      Month      Day      Year					
18. Discrepancy 18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number:					
18b. Alternate Facility (or Generator) 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.					
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      Signature      Month      Day      Year					

Please print or type.			
1. Generator ID Number TXD000820266 1 2. Page 1 of 3. Emergency Response Phone (888) 877-7267 4. Manifest Tracking Number 026660634 JJK			
5. Generator's Name and Mailing Address Union Pacific Railroad (UPRR) c/o GHD-Attn: Manifest Receiving 9100 Centre Pointe Drive Suite # 240 4910 Liberty Road Houston, TX 77026			
Generator's Phone: West Chester, OH 45069 (414) 267-4164			
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 US Ecology 3277 County Rd 69 TXD069452340			
Facility's Phone: Brown, TX 78380 (800) 242-3209			
9a. HM 9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) NA3082, Hazardous waste, liquid, n.o.s. (Creosote), 9, III RQ(F034) ERG #171			
10. Containers 11. Total Quantity 12. Unit Wt./Vol. 13. Waste Codes F034 0914101H			
No. Type P			
4 DM 650			
2.			
3.			
4.			
14. Special Handling Instructions and Additional Information Job#: 135-24-0 Bill to: E3 Environmental- PO Box 7, Clinton, MS 39060 Email Invoices: e3admin@e3enviro.com/claraque@e3enviro.com 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/Officer's Printed/Typed Name		Signature Month Day Year	
X and Benson		X and Benson 10/17/24	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:			
Transporter signature (for exports only):			
17. Transporter Acknowledgment of Receipt of Materials			
Transporter 1 Printed/Typed Name		Signature Month Day Year	
Juan Navarro		Juan Navarro 10/18/24	
Transporter 2 Printed/Typed Name		Signature Month Day Year	
18. Discrepancy			
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection			
Manifest Reference Number:			
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.			
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 Signature Month Day Year			