November 15, 2024 Project No. 31406585.016

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

Re: **MONTHLY STATUS UPDATE – ENGLEWOOD INTERMODAL YARD – NAPL COLLECTION SYSTEM/CONCRETE CAP REPAIRS AND REVISED INTERIM MEASURES WORK PLAN CONSTRUCTION ACTIVITIES**
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), is pleased to provide this monthly status update for October 2024 summarizing the weekly construction activities being conducted at the Englewood Intermodal Yard concrete cap area within the UPRR Houston Wood Preserving Works Facility (the Site). The construction activities are being conducted following the *Revised Interim Measures Work Plan – Englewood Intermodal Yard (EIY)* dated October 20, 2023, and prepared by WSP. The Texas Commission on Environmental Quality (TCEQ) requested in the Conditional Approval letter dated January 9, 2024, that weekly summaries be provided in the monthly status updates detailing the activities being implemented per the Revised Interim Measures Work Plan (IMWP). In addition, a summary of the weekly inspections conducted at the Englewood Intermodal Yard concrete cap area is provided in this monthly status update as requested by the TCEQ in a letter dated March 20, 2018. Below is a summary of the IMWP activities and inspections for October 2024.

Interim Measures Work Plan Activities

The TCEQ Conditional Approval letter dated January 9, 2024 for the Revised IMWP requested UPRR provide weekly summaries during the remediation activities detailing that adequate air monitoring and dust suppression, soil management, and stormwater protection activities are being implemented in accordance with the approved plans provided in the Revised IMWP. UPRR initiated the remediation activities on April 29, 2024. The following is a summary of the weekly IMWP activities conducted in October 2024:

Week Period October 1 through October 4, 2024:

- **Remediation Activities**
  - Focused excavation work completed, and waiting for joints to be sealed by the remediation contractor. No remediation activities were conducted this week.

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- **Dust Control and Air Monitoring**
  - No dust generating activities took place and no air monitoring was conducted.

- **Soil/Waste Management**
  - No roll-off containers were filled this week. Roll-off containers staged at the Site were kept covered.
  - No roll-off containers were transported off site this week.

- **Stormwater Management**
  - No additional stormwater was recovered from the Site this week. Therefore, like the previous week, approximately 390,000 gallons of stormwater are being stored onsite pending profiling and disposal.

Week Period October 7 through October 11, 2024:

- **Remediation Activities**
  - Focused excavation work completed, and waiting for joints to be sealed by the remediation contractor. No remediation activities were conducted this week.

- **Dust Control and Air Monitoring**
  - No dust generating activities took place and no air monitoring was conducted.

- **Soil/Waste Management**
  - No roll-off containers were filled this week. Roll-off containers staged at the Site were kept covered.
  - No roll-off containers were transported off site this week.

- **Stormwater Management**
  - No additional stormwater was recovered from the Site this week. Therefore, like the previous week, approximately 390,000 gallons of stormwater are being stored onsite pending profiling and disposal.

Week Period October 14 through October 18, 2024:

- **Remediation Activities**
  - Focused excavation work completed, and waiting for joints to be sealed by the remediation contractor. No remediation activities were conducted this week.

- **Dust Control and Air Monitoring**
  - No dust generating activities took place and no air monitoring was conducted.

- **Soil/Waste Management**
  - No roll-off containers were filled this week. Roll-off containers staged at the Site were kept covered.
  - No roll-off containers were transported off site this week.

- **Stormwater Management**
  - No additional stormwater was recovered from the Site this week. Therefore, like the previous week, approximately 390,000 gallons of stormwater are being stored onsite pending profiling and disposal.

Week Period October 21 through October 26, 2024:

- **Remediation Activities**
  - E3's concrete contractor (Ashton), and Diamond Polish, Ashton's sealant contractor, conducted joint sealing work from October 24th through October 26th (Photos 1–14).
  - The joint sealing task was not completed because the sealant machine became inoperable. Ashton will re-schedule the work when the machine is repaired.

- **Dust Control and Air Monitoring**
  - Atlas conducted real time air and dust monitoring at the Site on October 24th through October 26th on behalf of UPRR in accordance with the Dust Control and Air Monitoring (DCAM) Plan provided in the Revised IMWP. Monitoring levels did reach the Stop Work threshold on the morning of October 24, 2024. However, work had not begun at the Site when the Stop Work threshold was reached. Monitor levels were below the Stop Work threshold when work started at the site. Regional haze throughout the city of Houston was responsible for the elevated monitor levels.

- **Soil/Waste Management**
  - No roll-off containers were filled this week. Roll-off containers staged at the Site were kept covered.
  - Seven roll-offs containing Class 2 non-hazardous soil waste were transported to the Republic Services McCarty Road Facility.

- **Stormwater Management**
  - No additional stormwater was recovered from the Site this week. Therefore, like the previous week, approximately 390,000 gallons of stormwater are being stored onsite pending profiling and disposal.

Week Period October 28 through October 31, 2024:

- **Remediation Activities**
  - Focused excavation work completed, and waiting for Aston to re-schedule and finish joint sealing. No remediation activities were conducted this week.

- **Dust Control and Air Monitoring**
  - No dust generating activities took place and no air monitoring was conducted..

- **Soil/Waste Management**
  - No roll-off containers were filled this week. Roll-off containers staged at the Site were kept covered.
  - No roll-off containers were transported off site this week.

- **Stormwater Management**
  - No additional stormwater was recovered from the Site this week. Therefore, like the previous week, approximately 390,000 gallons of stormwater are being stored onsite pending profiling disposal

Non-Aqueous Phase Liquid (NAPL) Collection System Inspections

A NAPL Collection System was installed in the Englewood Intermodal Yard in January 2019 to address the tar-like substance seeps within parking stalls B100 to B109 (for container trailers). The following is a summary of the observations from the weekly inspections of the NAPL Collection System and Englewood Intermodal Yard concrete pavement near the collection system for October 2024 (select photographs from the weekly inspections are provided in Attachment C):

- The NAPL Collection System Sump 1 (B099/B100 stalls), Sump 2 (B103/B104 stalls), and Sump 3 (B107/B108 stalls) have continued to be checked weekly for NAPL using an interface probe. A hoe has continued to be used to recover NAPL, if present, from the bottom of each of the sumps during the weekly inspections. No NAPL was detected or recovered from Sumps 1, 2 and 3 during the October 2024 weekly inspections. A notation on the presence of NAPL in each sump, tabulation of depth and thickness of NAPL, if detected, and a tabulation of total mass of NAPL recovered from each sump is provided on the enclosed Table 1. NAPL recovered from the sumps is placed in a drum for disposal. The drum is staged at the Container Storage Area (CSA). The inflow protector was monitored for NAPL accumulation, and no accumulation was observed through October 2024.
- Water levels in NAPL Collection System Sump 1, Sump 2, and Sump 3 were measured at the following levels below the top of the manholes:
  - October 2nd – B099/B100 was measured at 11.5 inches, B103/B104 was measured at 36.5 inches, and B107/B108 was measured at 36 inches (Photo 15, 16 and 17).
  - October 9th – at 10, 37, and 36 inches (Photo 18, 19 and 20).
  - October 16th – at 12, 38, and 36 inches (Photo 21, 22 and 23).
  - October 24th – at 14, 41, and 40 inches (Photo 24, 25 and 26).
  - October 30th – at 4, 37.5, and 37 inches (Photo 27, 28 and 29).
- During the October 2024 inspections, the water in Sump 1 was observed to be clear or light brown in color. The water in Sump 2 was observed to be clear to light brown in color. The water in Sump 3 was observed to be clear to brown in color. A sheen was observed at Sump 1 during the October 9th, 16th, and 24th inspections (Photos 18, 21, and 24). No odors were reported during the October inspections.
- Tar material seep was observed along the concrete joint for the NAPL Collection System at Track 802 on October 9th. The tar-like material was recovered during the weekly inspections (Photo 30).

Areas Outside NAPL Collection System Inspections

For areas outside the NAPL Collection System, WSP made the following observations during the weekly inspections:

- A small amount of tar-like material was observed and recovered at the Track 802 location on October 9th (Photo 30).
- Tar-like material observed during the weekly inspection events was removed and recovered using a hand tool to scrape up the material. With the implementation of the Focused Excavations, there is only one location

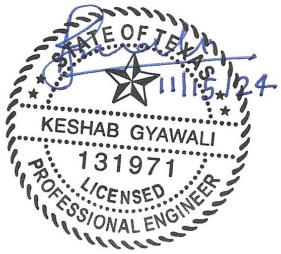
outside the NAPL Collection System where tar material seeps were observed (Track 802). The seep activity during the month of October was lower compared to the September inspections. The collection volume of the tar material from the seep decreased from 0.08 gallons over 4 inspections to 0.02 gallons over 5 inspections due to the quantity of excavations at the seep locations. The material recovered was placed in a drum staged at the CSA for disposal.

- During the October 2024 inspections, no NAPL seeps were observed at the seven August 2020 test pit locations (stalls A010, A021, A098, B013, B057, B096 and B108) or three other stall numbers B042, B056, and B102 Joint.
- The previously observed seeps at A010, A022, B042, B056, B057, B096, B100, B102, B105, and RD-14 have been addressed through the Focused Excavation activities.
- There was no brown water staining observed during the month of October.

If you have any questions or need additional information, please feel free to call us at (512) 501-5547 or Mr. Kevin Peterburs of UPRR at (414) 267-4164.

Sincerely,

WSP USA Inc.



Manny Higa, GIT
Consultant, Environmental Scientist

Keshab Gyawali, P.E.
Senior Consultant, Environmental Engineer

CC: Kevin Peterburs, UPRR – Milwaukee, WI
Karina Rocha, Waste Section Manager, TCEQ Region 12, Houston

Attachment Table 1 – NAPL Measurements – NAPL Collection System
Attachment A – Weekly Inspection Photolog
Attachment B – Air Monitoring Monthly Report – June 2024
Attachment C – Dust Control and Air Monitoring Plan Addendum

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

Measured Date	Sump 1 (B099/B100) Freeboard (in)	Sump 2 (B103/B104) Freeboard (in)	Sump 3 (B107/B108) Freeboard (in)	Depth to DNAPL (in)	Comments
8/14/2019	2.5	28	29	Not measurable	
8/21/2019	0	27.5	26.5	Not measurable	
8/28/2019	44.5	47.9	45	Not measurable	Water from sumps pumped out
9/4/2019	19	42	41.5	Not measurable	
9/13/2019	0	39.5	38	Not measurable	
9/20/2019	0	3	2.5	Not measurable	
9/25/2019	0	42	42.5	Not measurable	Water from sumps pumped out
10/2/2019	2.5	42.5	42	Not measurable	Sheen visible in B107/B108 sump, less than 0.1 gal of DNAPL recovered
10/9/2019	3	42	41.5	Not measurable	Sheen visible in B107/B108 sump, less than 0.1 gal of DNAPL recovered
10/16/2019	0	39.5	39	Not measurable	Less than 0.1 gal of DNAPL recovered from B107/B108 Sump
10/24/2019	3	35	25	Not measurable	Less than 0.1 gal of DNAPL recovered from B107/B108 Sump
10/29/2019	0	24	23	Not measurable	Water from sumps pumped out
10/30/2019	0	40	39	Not measurable	Slight sheen visible in B107/B108 sump
11/6/2019	9	39	38.5	Not measurable	
11/13/2019	7	30	29	Not measurable	Less than 0.1 gal of DNAPL recovered from B107/B108 Sump
11/19/2019	4	26	25.5	Not measurable	
11/27/2019	0	25	23	Not measurable	
12/3/2019	2	25.5	25	Not measurable	Less than 0.1 gal of DNAPL recovered from B107/B108 Sump
12/11/2019	1.5	17	16.54	Not measurable	Less than 0.1 gal of DNAPL recovered from B107/B108 Sump
12/17/2019	5	19.5	17.5	Not measurable	
12/23/2019	10	21	20.5	Not measurable	
1/7/2020	9	13	12.5	Not measurable	
1/8/2020	9	13	12.5	Not measurable	Water from sumps pumped out
1/17/2020	0	32	31.5	Not measurable	
1/21/2020	2.5	26.5	26	Not measurable	
1/28/2020	0	0	0	Not measurable	
2/4/2020	2	11	10.5	Not measurable	
2/12/2020	0	0	0	Not measurable	
2/18/2020	1.5	11.5	10.25	Not measurable	Water from sumps pumped out on 2/20/2020
2/27/2020	2	42	36	Not measurable	
3/6/2020	1	36	36	Not measurable	
3/11/2020	2	36	35.5	Not measurable	
3/18/2020	0	35.5	35	Not measurable	
3/27/2020	0	29	28	Not measurable	
4/3/2020	1.5	29	28.5	Not measurable	
4/8/2020	0	23	22	Not measurable	
4/15/2020	0.5	23	22	Not measurable	
4/21/2020	0	21	21	Not measurable	
4/28/2020	0	23	22	Not measurable	
5/4/2020	-	-	-	Not Measured	Measurements were not taken; the inspector was unable to open the sumps
5/12/2020	0	20	19	Not measurable	
5/19/2020	0	15.75	14.25	Not measurable	Sump 1 pumped down (May 22nd)
5/27/2020	0	14	13	Not measurable	
6/1/2020	0	7	5	Not measurable	
6/10/2020	0	10	9	Not measurable	
6/17/2020	1	12	11	Not measurable	
6/25/2020	0	0	0	Not measurable	
6/30/2020	0	0	0	Not measured	
7/1/2020	48	46	47	Not measurable	Sumps 1, 2, & 3 pumped down
7/8/2020	34	24.5	24	Not measurable	Less than 0.1 gal of DNAPL recovered from B107/B108 Sump
7/15/2020	32	29.5	29	Not measurable	Sheen visible in B99/B100 sump & B107/B108 sump, less than 0.1 gal of DNAPL recovered B107/B108 sump
7/23/2020	0	23	22.5	Not measured	Less than 0.1 gal of DNAPL recovered from B107/B108 Sump
7/31/2020	0	11	10	Not measurable	
8/5/2020	0	7	5	Not measurable	
8/13/2020	1	11	10	Not measurable	
8/19/2020	0	7	6	Not measurable	
8/26/2020	0	10	9	Not measurable	
9/2/2020	43	37	38	Not measurable	Sumps 1, 2, & 3 pumped down (September 1); Sheen visible in B99/B100 sump & B107/B108 sump
9/9/2020	28	37	36	Not measurable	Sheen visible in B107/B108 sump
9/15/2020	1	35	33	Not measurable	
9/23/2020	0	0	0	Not measurable	

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

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UPRR Houston, tx - Wood Preserving Works

Measured Date	Sump 1 (B099/B100) Freeboard (in)	Sump 2 (B103/B104) Freeboard (in)	Sump 3 (B107/B108) Freeboard (in)	Depth to DNAPL (in)	Comments
1/12/2022	6	12	12	Not measurable	
1/19/2022	13.5	17	16	Not measurable	Sheen visible in B099/B100 sump
1/27/2022	3	9	9	Not measurable	
2/2/2022	-	-	-	Not Measured	Measurements were not taken; the inspector was unable to open the sumps
2/9/2022	9	15	15	Not measurable	
2/16/2022	8.5	17	16	Not measurable	
2/23/2022	5.5	14	13.5	Not measurable	
3/2/2022	5.5	15	14	Not measurable	
3/9/2022	4.5	7	6	Not measurable	
3/16/2022	48	36	45	Not measurable	Sumps 1,2, & 3 pumped down during inspection; less than 0.5 gal of DNAPL recovered B107/B108 sump
3/23/2022	6	29	28	Not measurable	
3/30/2022	5.5	28	28	Not measurable	
4/6/2022	3.5	19	18	Not measurable	
4/13/2022	4.5	18	15	Not measurable	Sheen visible in B099/B100 sump
4/20/2022	5	18	18	Not measurable	Sheen visible in B099/B100 sump
4/27/2022	4.5	12	8.5	Not measurable	
5/4/2022	48	42	45	Not measurable	Sumps 1,2, & 3 pumped down during inspection; Sheen visible in B099/B100 sump
5/11/2022	16	44.5	44	Not measurable	Sheen visible in B099/B100, B103/104, and B107/B108 sumps
5/18/2022	6.5	45	45	Not measurable	
5/25/2022	0	25	24	Not measurable	
6/1/2022	5.5	24	24	Not measurable	
6/8/2022	5	22	22	Not measurable	Sheen visible in B099/B100 and B103/104 sumps
6/15/2022	5	25	24	Not measurable	
6/22/2022	4.5	24	21	Not measurable	
6/29/2022	6	21	21	Not measurable	
7/6/2022	5.5	13	13	Not measurable	
7/13/2022	5	15	14	Not measurable	Sheen visible in B099/B100 sump
7/20/2022	51.5	38	43.5	Not measurable	Sumps 1,2, & 3 pumped down during inspection; less than 0.1 gal of DNAPL recovered B099/B100 sump
7/27/2022	4	42	40	Not measurable	
8/3/2022	5	39	39	Not measurable	
8/10/2022	5.5	38	38	Not measurable	Sheen visible in B107/B108 sump
8/17/2022	5.5	25.5	25	Not measurable	
8/24/2022	0	0.5	0	Not measurable	Inspector unable to open B099/B100 and B107/B108 sumps as there was standing water on top of the sumps due to ongoing rain event
8/31/2022	52	52	48	Not measurable	Sumps 1,2, & 3 pumped down during inspection; sheen visible in B103/B104 sump
9/7/2022	3	37	37	Not measurable	
9/14/2022	1	34	31	Not measurable	Sheen visible in B099/B100 sump
9/21/2022	2.2	31.5	27.5	Not measurable	Sheen visible in B107/B108 sump
9/28/2022	3	30	31	Not measurable	Sheen visible in B099/B100 and B107/B108 sumps
10/5/2022	8	33	33	Not measurable	Sheen visible in B099/B100 and B107/B108 sumps
10/12/2022	7	32	32	Not measurable	Sheen visible in B099/B100 and B107/B108 sumps
10/19/2022	48	48	48	Not measurable	Sumps 1,2, & 3 pumped down during inspection; less than 0.1 gal of DNAPL recovered from B107/108 sump; small amount of DNAPL visible but not recoverable in B099/B100 sump; sheen visible in B099/B100 and B103/B104 sumps on recharge water after pumpdown
10/26/2022	6	46	45	Not measurable	Sheen visible in B107/B108 sump
11/2/2022	4	19	19	Not measurable	
11/9/2022	6	14	13	Not measurable	
11/16/2022	8	14	12	Not measurable	
11/22/2022	0	0	0	Not measurable	
11/30/2022	3	10	9	Not measurable	Very slight sheen visible in Sumps 1, 2, and 3; less than 0.2 gal of DNAPL recovered from B107/108 sump
12/7/2022	4	13.5	13	Not measurable	
12/14/2022	0	0	0	Not measurable	Replaced dipper tool with hoe for NAPL recovery from sumps. Less than 0.4 gal of DNAPL recovered from B099/B100 sump; approximately 0.1 gal of DNAPL recovered from B107/B108 sump
12/21/2022	4	8	7	Not measurable	
12/28/2022	16	14	14	Not measurable	
1/4/2023	3.5	7.5	6	Not measurable	
1/11/2023	12	12	3	Not measurable	
1/18/2023	3	13	13	Not measurable	
1/25/2023	3	6	5	Not measurable	

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UPRR Houston, tx - Wood Preserving Works

Measured Date	Sump 1 (B099/B100) Freeboard (in)	Sump 2 (B103/B104) Freeboard (in)	Sump 3 (B107/B108) Freeboard (in)	Depth to DNAPL (in)	Comments
2/1/2023	<1	1	<1	Not measurable	
2/8/2023	5	13	12	Not measurable	
2/15/2023	<1	2	2.5	Not measurable	Sumps B099/B100, B103/B104, and B107/B108 pumped down during inspection
2/22/2023	32	42	43	Not measurable	Sheen visible in B099/B100, B103/B104, and B107/B108 sumps; water in B099/B100 noted as brown color with high turbidity
3/1/2023	9	41	40	Not measurable	Sheen visible in B099/B100, B103/B104, and B107/B108 sumps, water color in sumps noted as brown
3/8/2023	5	42	41	Not measurable	B099/B100 & B103/B104 light brown color
3/15/2023	4	42	41	Not measurable	B099/B100 and B013/B104 brown color; B107/B108 very light brown color
3/22/2023	8	26.5	25.5	Not measurable	B099/B100 light brown color
3/29/2023	3	24	25	Not measurable	B099/B100 light brown color
4/5/2023	2.5	25	25	Not measurable	B099/B100 light brown color
4/12/2023	4	12	14	Not measurable	All three sumps pumped down during inspection, B099/B100 brown color
4/19/2023	5	42	42	Not measurable	Sheen visible in B107/B108 sump
4/26/2023	4	31.5	31.5	Not measurable	Sheen visible in B107/B108 sump
5/3/2023	3	18	17.5	Not measurable	
5/10/2023	0	1.5	0	Not measurable	Sheen visible in B107/B108 sump
5/17/2023	0	2	0	Not measurable	Sheen visible in B107/B108 sump
5/24/2023	2	14	13	Not measurable	Pumpdown and boom swap.
5/31/2023	28	50	49	Not measurable	B099/B100 water color brown. B103/B104 and B107/B108 water color light brown.
6/7/2023	3	38	37	Not measurable	Sheen visible in all Sumps. B099/B0100 water color brown and, light brown on both B103/B104 and B107/B108.
6/14/2023	4	38	37	Not measurable	Sheen Visible in B099/B100 & B107/B108. water color brown on B099/B100 & light brown in all other sumps.
6/21/2023	3	36	37	Not measurable	Sheen Visible in B107/B108. water color brown on B099/B100 & light brown in all other sumps.
6/28/2023	3	31	31	Not measurable	Sheen Visible in B099/B100 & B107/B108. water color dark brown on B099/B100 & B107/B108, light brown in B103/B104.
7/12/2023	3	20	19	Not measurable	Sheen Visible in B099/B100 and B107/B108. Water color brown on B099/B100, light brown in B103/B104.
7/19/2023	3	19	19	Not measurable	Sheen Visible on B099/B100 and B107/B108. Water color brown on B099/B100 and clear on B103/B104 and B107/B108.
7/26/2023	3	21	20	Not measurable	Sheen Visible on B099/B100 and B107/B108. Water color brown on B099/B100, light brown on B103/B104, and clear on B107/B108.
8/2/2023	0	16.5	15.5	Not measurable	Sheen Visible on B107/B108. Water color dark brown on B099/B100, light brown on B103/B104, and clear on B107/B108. Pumpdown conducted 8/4/2023.
8/9/2023	42	47	47	Not measurable	Sheen Visible on B099/B100 and B107/B108. Water color brown on B099/B100, light brown on B103/B104, and clear on B107/B108.
8/16/2023	38.5	47	47	Not measurable	Sheen Visible on B099/B100 and B107/B108. Water color brown on B099/B100 and light brown on B103/B104 and B107/B108.
8/23/2023	33	46	46	Not measurable	Sheen visible in all Sumps. B099/B100 water color dark brown and, light brown on both B103/B104 and B107/B108.
8/30/2023	33	46	44	Not measurable	Sheen visible in all Sumps. B099/B100 water color dark brown and, light brown on both B103/B104 and B107/B108.
9/6/2023	1	38	38	Not measurable	Sheen visible in all Sumps. B099/B100 water color light brown, and clear on both B103/B104 and B107/B108.
9/13/2023	0	33	33	Not measurable	Sheen Visible on B099/B100 and B107/B108. Water color brown on B099/B100 and clear on B103/B104 and B107/B108. Pumpdown conducted 9/15/2023.
9/20/2023	14	41	40	Not measurable	Sheen Visible on B099/B100 and B107/B108. Water color brown on B099/B100 and light brown on B103/B104 and B107/B108.
9/27/2023	0.5	33	34	Not measurable	Sheen Visible on B099/B100 and B107/B108. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.

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

Measured Date	Sump 1 (B099/B100) Freeboard (in)	Sump 2 (B103/B104) Freeboard (in)	Sump 3 (B107/B108) Freeboard (in)	Depth to DNAPL (in)	Comments
10/4/2023	0	0	0	Not measurable	No sheen visible in all sumps. Water color brown on B099/B100 and light brown on B103/B104 and B107/B108. Heavy rains all week filled up sumps.
10/11/2023	0	0	0	Not measurable	Sheen visible on B103/B104. B099/B100 water color light brown, clear on B103/B104 and B107/B108. Heavy rains in the week filled up sumps. Pumpdown conducted 10/13/2023.
10/18/2023	46	48	47	Not measurable	Sheen visible on B099/B100 and B107/B108. Water color brown on B099/B100. Water color clear on B103/B104. Water color light brown on B107/B108.
10/25/2023	39	44	43	Not measurable	Sheen visible on B099/B100 and B107/B108. Water color dark brown on B099/B100 and light brown on B103/B104 and B107/B108.
11/1/2023	6.5	33	33	Not measurable	Sheen visible on B099/B100 and B107/B108. Water color light brown on B099/B100 and clear on 103/B104 and B107/B108.
11/8/2023	12	34	33	Not measurable	Sheen visible on B099/B100. Water color light brown on B099/B100 and clear on 103/B104 and B107/B108.
11/15/2023	2	6	5.5	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on 103/B104 and B107/B108.
11/22/2023	7	13	12	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on 103/B104 and B107/B108.
11/29/2023	5.5	10	9.5	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on 103/B104 and B107/B108.
12/6/2023	8	14	14	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on 103/B104 and B107/B108.
12/13/2023	5	10	9.5	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on 103/B104 and B107/B108.
12/20/2023	5	10	9	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on 103/B104 and B107/B108.
12/27/2023	6	13	11	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on 103/B104 and B107/B108.
1/3/2024	0	0	0	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on 103/B104 and B107/B108.
1/10/2024	5	10	9.5	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.
1/17/2024	12	15.5	15	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.
1/24/2024	0	0	0	Not measurable	No sheen observed in any of the sumps. Water color clear in all sumps.
1/31/2024	2	9.5	9	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.
2/7/2024	2	18	16	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.
2/14/2024	6	18	18	Not measurable	No sheen observed in any of the sumps. Water color clear on B099/B100, B103/B104 and B107/B108.
2/21/2024	6	14	13	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.
2/28/2024	4	14	15	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.
3/6/2024	4	15	15	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.
3/13/2024	0	11	11	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.
3/20/2024	0	7.5	7.5	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.

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

Measured Date	Sump 1 (B099/B100) Freeboard (in)	Sump 2 (B103/B104) Freeboard (in)	Sump 3 (B107/B108) Freeboard (in)	Depth to DNAPL (in)	Comments
3/27/2024	0	7	6	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108. Some DNAPL (1.5 inches) was recovered from the bottom of Sump 1.
4/3/2024	0	10	10	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108. Some DNAPL (3 cubic inches) was recovered from the bottom of Sump 1.
4/10/2024	0	0	0	Not measurable	No sheen observed in any of the sumps. Water color brown on B099/B100 and clear on B103/B104 and B107/B108.
4/17/2024	0	10	9.5	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.
4/24/2024	2.5	12	11	Not measurable	Sheen visible on B099/B100. Water color brown on B099/B100 and clear on B103/B104 and B107/B108. Pumpdown conducted 4/26/2024.
5/1/2024	9	20	21	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.
5/8/2024	1	23	22	Not measurable	Sheen visible on B099/B100. Water color brown on B099/B100 and light brown on B103/B104 and clear on B107/B108.
5/15/2024	0	20	21	Not measurable	No sheen observed in any of the sumps. Water color light brown on B099/B100 and clear on B103/B104 and B107/B108.
5/22/2024[1]	--	--	--	--	--
5/29/2024	0	19.5	19	Not measurable	No sheen observed in any of the sumps. Water color brown on B099/B100 and clear on B103/B104 and B107/B108.
6/5/2024	Not measurable	Not measurable	13	Not measurable	Sumps B099/B100 and B103/B104 could not be opened due to ongoing excavation. No sheen observed in any of the sumps. Water color was clear to cloudy by B107/B108.
6/12/2024	0	13	13	Not measurable	No sheen observed in any of the sumps. Water color was brown to cloudy by B099/B100, clear to cloudy by B103/B104, and clear by B107/B108.
6/19/2024	0	13	13	Not measurable	Sheen observed at B099/B100 and B107/B108. Water color was dark brown by B099/B100 and clear by B103/B104 and B107/B108.
6/26/2024	2.5	10.5	10	Not measurable	Sheen observed at B099/B100. Water color was brown to cloudy by B099/B100 and clear by B103/B104 and B107/B108.
7/3/2024	23	43	42	Not measurable	Dark brown water color and sheen observed at B099/B100. Brown water color and no sheen observed at B103/B104. Brown water color and sheen observed at B107/B108.
7/10/2024	13	35	34	Not measurable	Light brown water color and sheen observed at B099/B100. Brown water color and no sheen observed at B103/B104 and B107/B108.
7/17/2024	9	39	38	Not measurable	Light brown water color observed at all three sump systems. Sheen observed at B099/B100, 3 cubic in NAPL recovered from sump. No sheen observed at B103/B104 and B107/B108.
7/24/2024	0	36	36	Not measurable	Light brown water color observed at all three sump systems. Sheen observed at B103/B104. No sheen observed at B099/B100 and B107/B108.
7/31/2024	45	45	45	Not measurable	Brown water color and sheen observed at B099/B100. Light brown water color and no sheen observed at B103/104 and B107/108
8/7/2024	23	32	32	Not measurable	Brown water color and no sheen observed at B099/B100. Brown/cloudy water color and no sheen observed at B103/B104 and B107/B108.

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

Measured Date	Sump 1 (B099/B100) Freeboard (in)	Sump 2 (B103/B104) Freeboard (in)	Sump 3 (B107/B108) Freeboard (in)	Depth to DNAPL (in)	Comments
8/14/2024	24	42.5	41.5	Not measurable	Brown water color and sheen observed at B099/B100. Gray water color and no sheen observed at B103/104. Light brown and no sheen observed at B107/108.
8/21/2024	22.5	42.5	41.5	Not measurable	Brown water color and no sheen observed at B099/B100, B103/104 and at B107/108.
8/28/2024	20	42	41.5	Not measurable	Tan water color and sheen observed at B099/B100. Brown water color and no sheen observed at B103/104. Light brown and no sheen observed at B107/108.
9/4/2024	8	41	40	Not measurable	Tan water color and sheen observed at B099/B100. Tan water color and no sheen observed at B103/B104 and B107/B108.
9/12/2024	5.5	39	38.5	Not measurable	Clear water and sheen observed at B099/B100. Brown water color and no sheen observed at B103/B104 and Tan water color and no sheen observed at B107/B108.
9/18/2024	7	38.5	38	Not measurable	Clear water with sheen observed at B099/B100. Brown water color and no sheen observed at B103/B104. Light brown and no sheen observed at B107/B108.
9/26/2024	9.5	40	39	Not measurable	Clear water color and sheen observed at B099/B100. Grey and turbid water with no sheen observed at B103/B104 and brownish water with no sheen observed at B107/B108.
10/2/2024	11.5	36.5	36	Not measurable	Clear water color and no sheen observed at B099/B100. Tan water color with no sheen observed at B103/B104. Brown water with no sheen observed at B107/B108.
10/9/2024	10	37	36	Not measurable	Clear water color and sheen observed at B099/B100. Clear water color with no sheen observed at B103/B104. Clear water with no sheen observed at B107/B108.
10/16/2024	12	38	36	Not measurable	Clear water color and sheen observed at B099/B100. Clear water color with no sheen observed at B103/B104. Clear water with no sheen observed at B107/B108.
10/24/2024	14	41	40	Not measurable	Light brown water color and sheen observed at B099/B100. Light brown water color with no sheen observed at B103/B104. Brown water with no sheen observed at B107/B108.
10/30/2024	4	37.5	37	Not measurable	Turbid tan water color with no sheen observed at B099/B100. Turbid tan water color with no sheen observed at B103/B104. Clear water with no sheen observed at B107/B108.

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

1. Freeboard not measured on 5/22/2024 due to the ongoing excavations as part of the Interim Measures Work Plan Construction Activities

ATTACHMENT A

Weekly Inspection Photolog

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
1	10/24/2024

Description:
Ashton, E3's concrete contractor, cut joints for FE-6.

Lat: 29.785278
Long: -95.318333

Photo No.	Inspection Date:
2	10/24/2024

Description:
Finished cut joints for FE-1&3.

Lat: 29.784167
Long: -95.320556

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
3	10/25/2024

Description:
Diamond Polish, Ashton's sealant contractor, sandblasted joints at FE-5.

Lat: 29.785000
Long: -95.318611

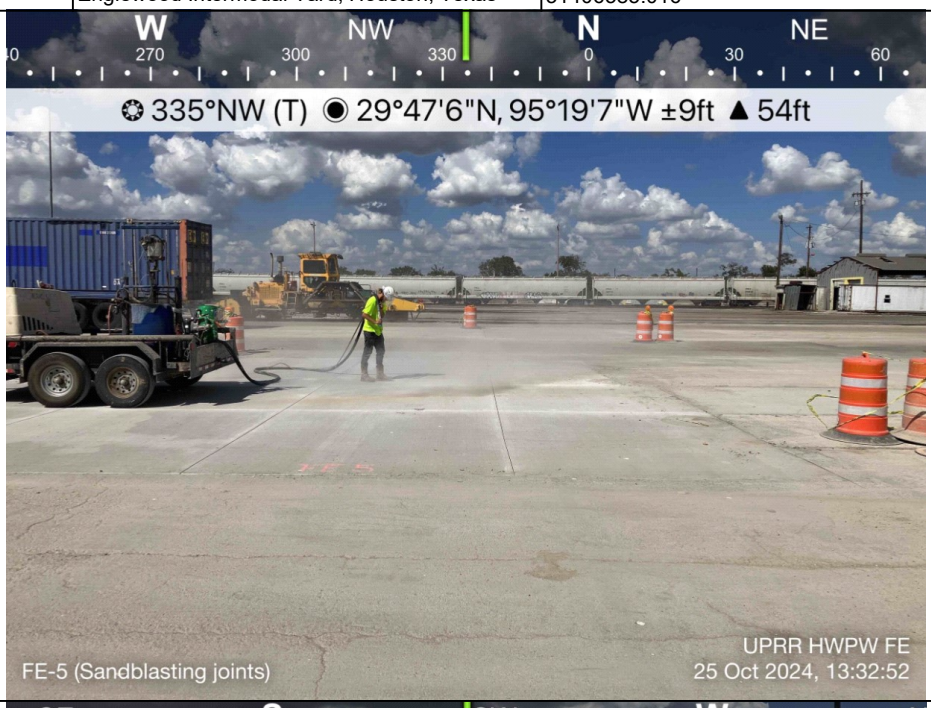
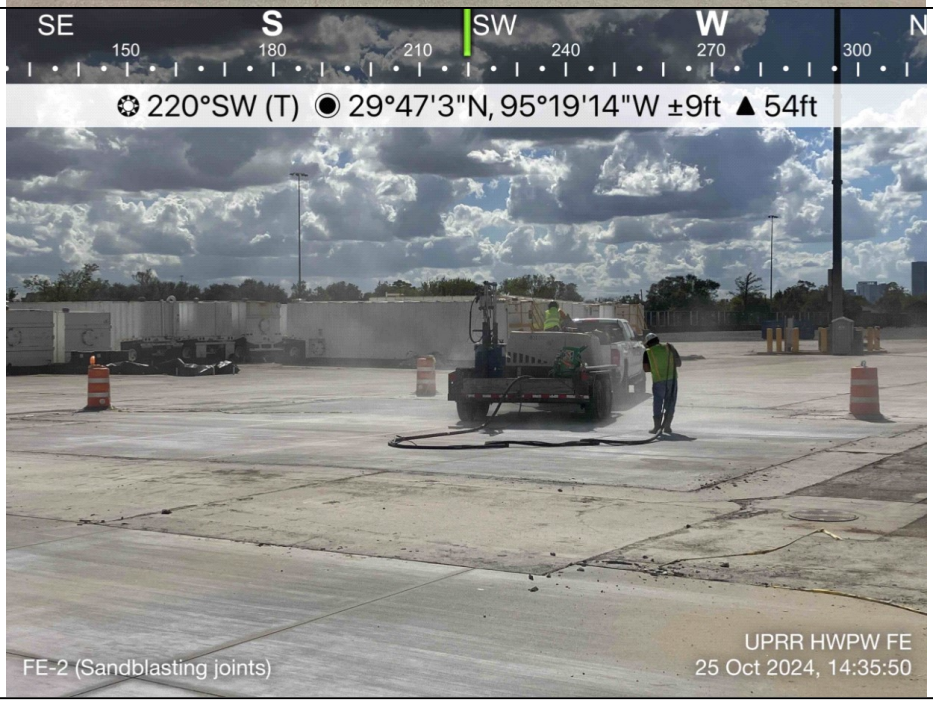


Photo No.	Inspection Date:
4	10/25/2024

Description:
Diamond Polish sandblasted joints at FE-2.

Lat: 29.784167
Long: -95.320556



PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
5	10/25/2024

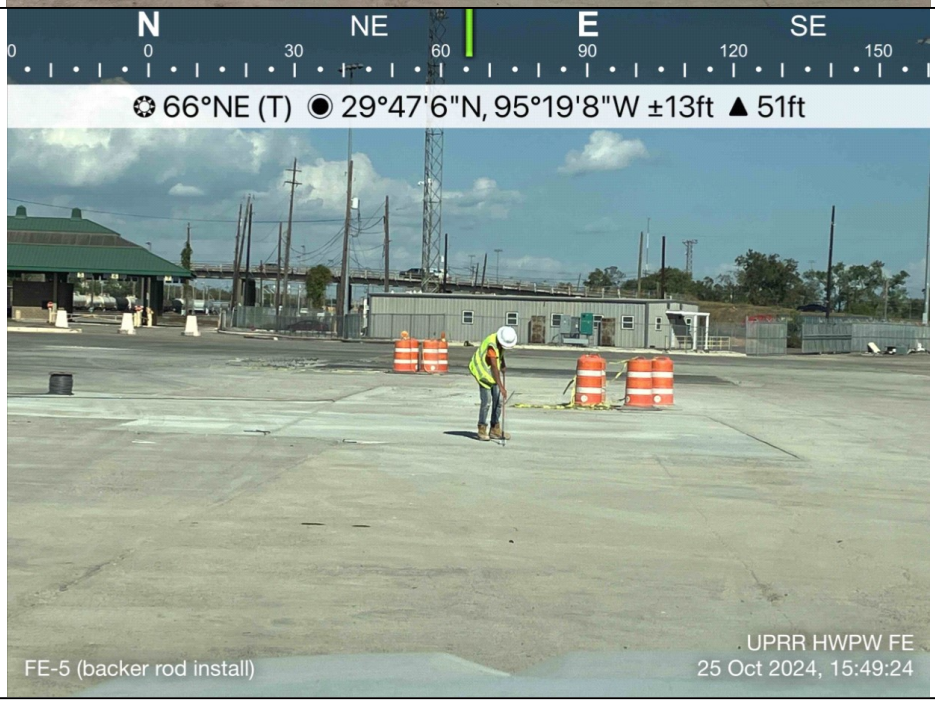
Description:
Diamond Polish installed backer rod at FE-7.

Lat: 29.784167
Long: -95.320278

Photo No.	Inspection Date:
6	10/25/2024

Description:
Diamond Polish installed backer rod at FE-5.

Lat: 29.785000
Long: -95.318889



PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
7	10/25/2024

Description:
Diamond Polish cleaned joints at FE-10.

Lat: 29.784722
Long: -95.317778

Photo No.	Inspection Date:
8	10/25/2024

Description:
Diamond Polish cleaned joints at FE-6.

Lat: 29.785000
Long: -95.318333

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
9	10/25/2024

Description:
Diamond Polish applying sealant to joints at FE-10.

Lat: 29.784722
Long: -95.317500

Photo No.	Inspection Date:
10	10/25/2024

Description:
Finished sealant on joints at FE-10.

Lat: 29.784722
Long: -95.317500

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
11	10/25/2024

Description:
Finished sealant on joints at FE-9.

Lat: 29.785000
Long: -95.318333

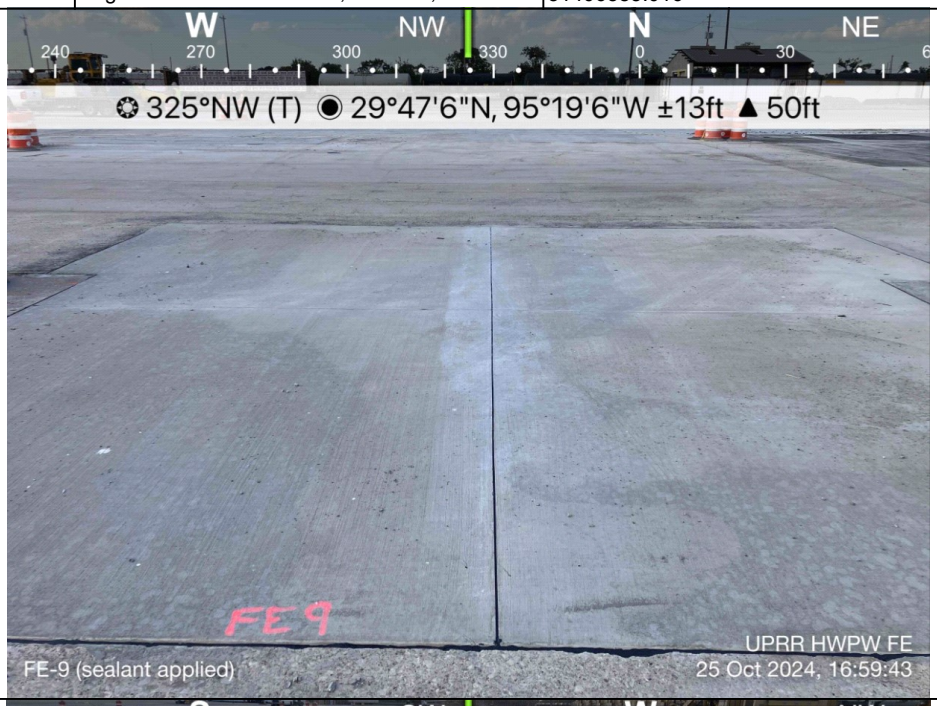


Photo No.	Inspection Date:
12	10/25/2024

Description:
Finished sealant on joints at FE-12.

Lat: 29.785278
Long: -95.318611

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
13	10/26/2024

Description:
Diamond Polish applying sealant by hand.

Lat: 29.785579
Long: -95.318611

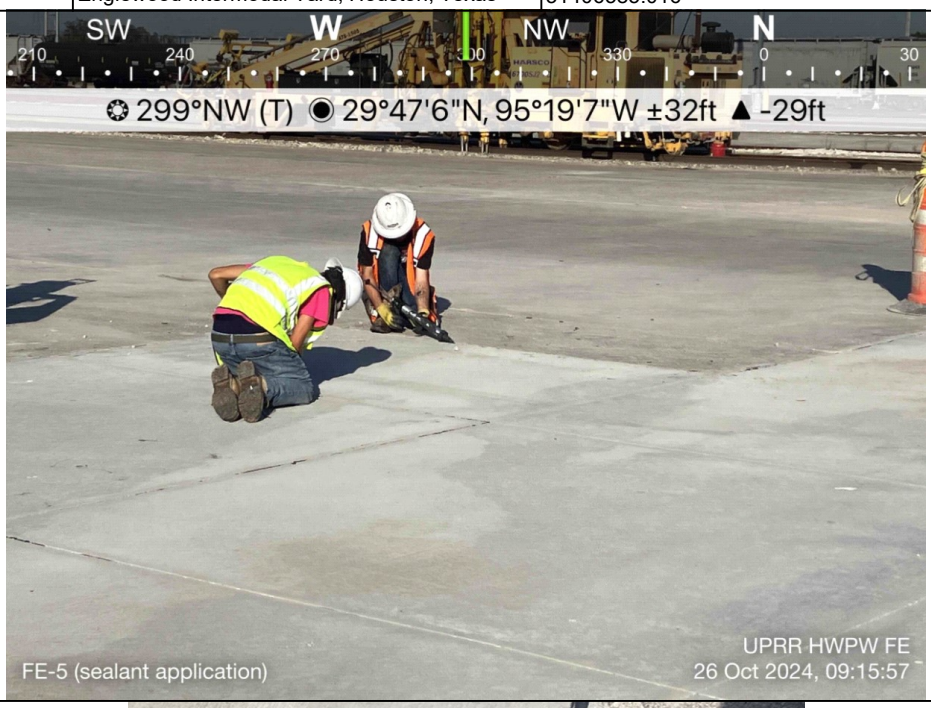


Photo No.	Inspection Date:
14	10/26/2024

Description:
Result of sealant application by hand. This remediation activity will be re-scheduled when the sealant machine is fixed.

Lat: 29.785579
Long: -95.318611

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
15	10/2/2024

Description:
Sump 1 (B99/B100), 11.5 inches of freeboard in sump. Color is clear, and no sheen or odor observed.

Lat: 29.784295
Long: -95.320732

Photo No.	Inspection Date:
16	10/2/2024

Description:
Sump 2 (B103/B104), 36.5 inches of freeboard in sump. Color is tan, and no sheen or odor observed.

Lat: 29.784239
Long: -95.320875

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
17	10/2/2024

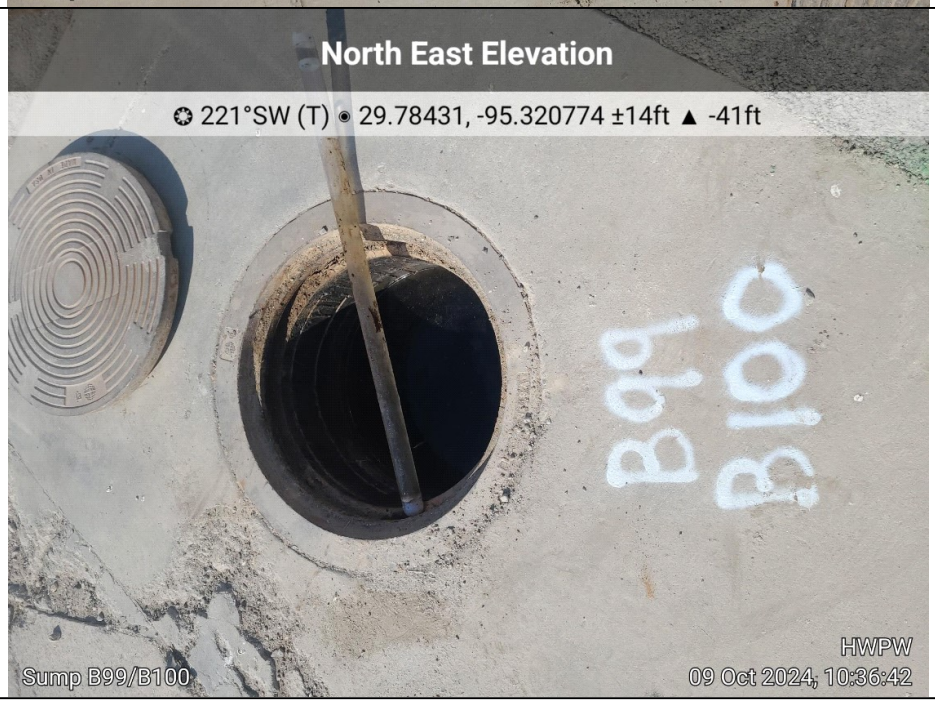
Description:
Sump 3 (B107/B108), 36 inches of freeboard in sump. Color is brown, and no sheen or odor observed.

Lat: 29.784136
Long: -95.320990

Photo No.	Inspection Date:
18	10/9/2024

Description:
Sump 1 (B99/B100), 10 inches of freeboard in sump. Color is clear, and no odor observed. Sheen observed on the surface.

Lat: 29.784310
Long: -95.320774



PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
19	10/9/2024

Description:
Sump 2 (B103/B104), 37 inches of freeboard in sump. Color is clear, and no sheen or odor observed.

Lat: 29.784262
Long: -95.320947

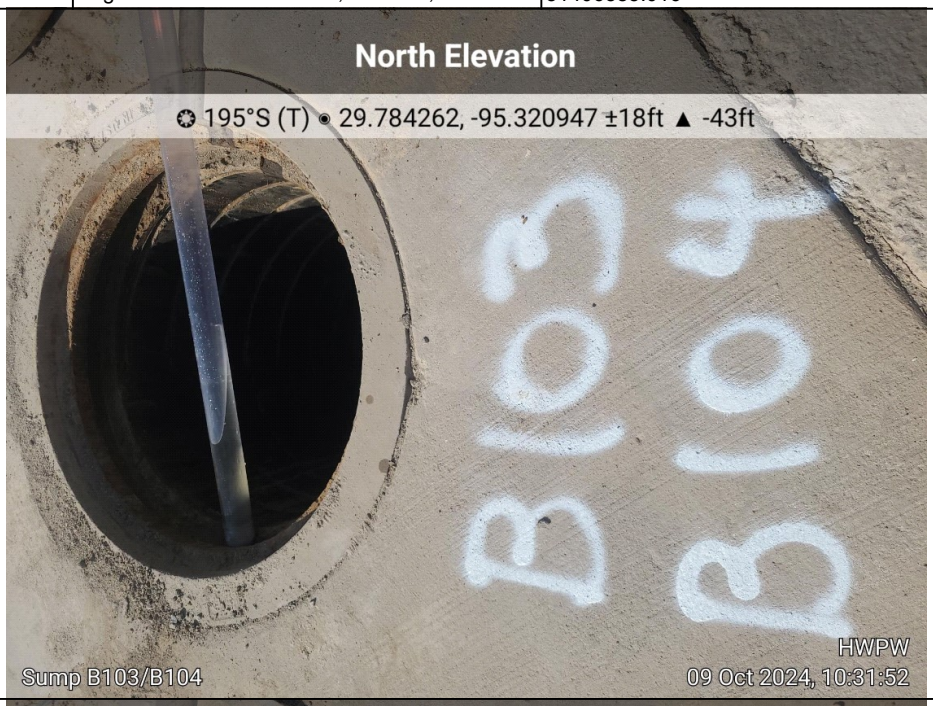
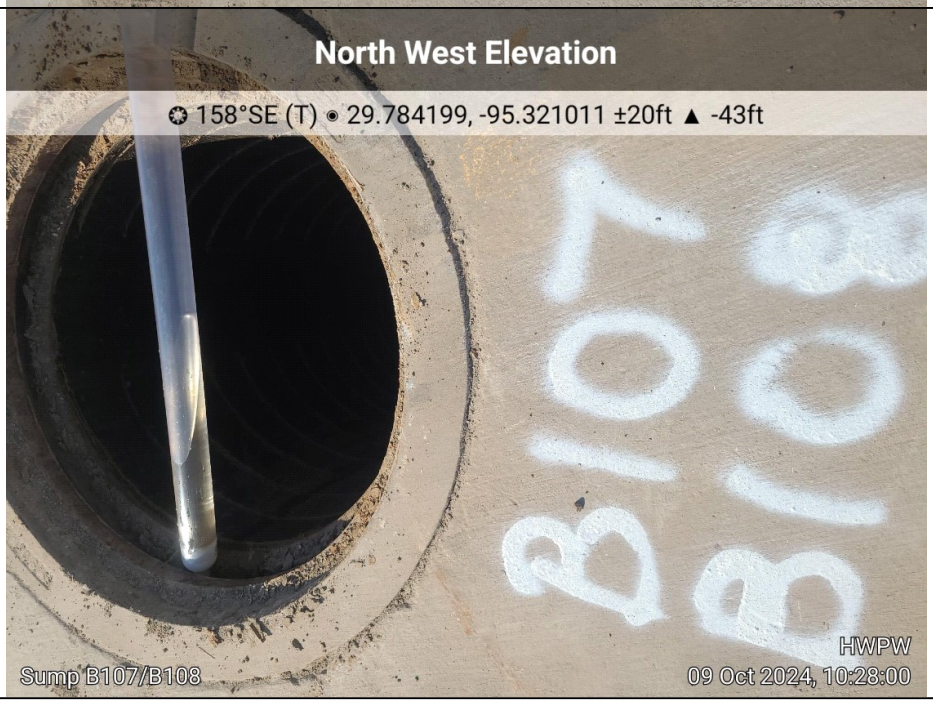


Photo No.	Inspection Date:
20	10/9/2024

Description:
Sump 3 (B107/B108), 36 inches of freeboard in sump. Color is clear, and no sheen or odor observed.

Lat: 29.784199
Long: -95.321011



PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
21	10/16/2024

Description:
Sump 1 (B99/B100), 12 inches of freeboard in sump. Color is clear, and no odor observed. Sheen observed on the surface.

Lat: 29.784265
Long: -95.320769

Photo No.	Inspection Date:
22	10/16/2024

Description:
Sump 2 (B103/B104), 38 inches of freeboard in sump. Color is clear, and no sheen or odor observed.

Lat: 29.784245
Long: -95.320867

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
23	10/16/2024

Description:
Sump 3 (B107/B108), 36 inches of freeboard in sump. Color is clear, and no sheen or odor observed.

Lat: 29.784212
Long: -95.320975

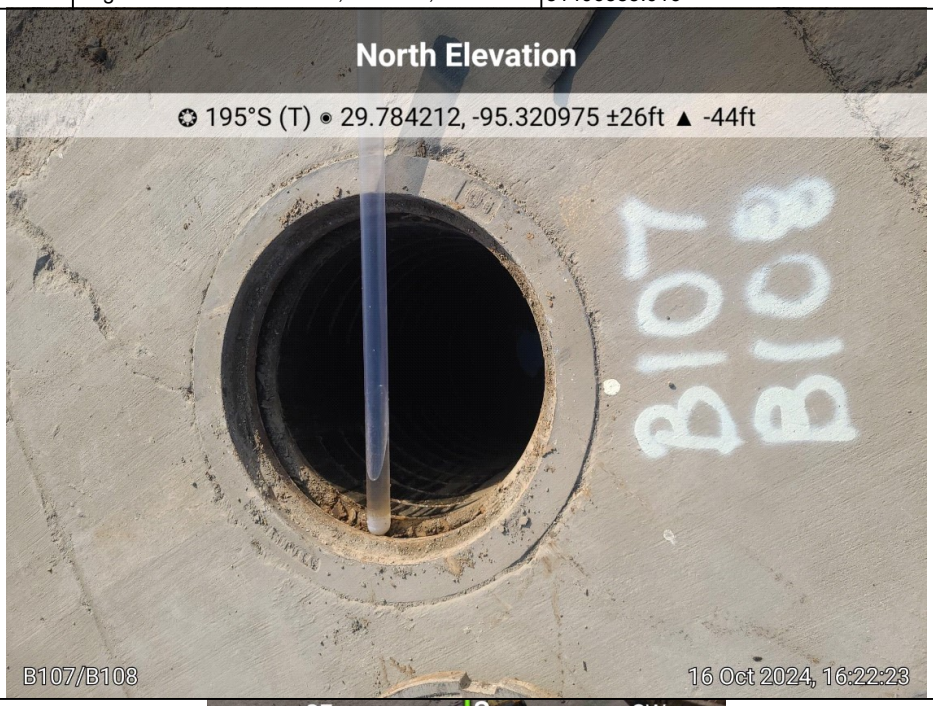
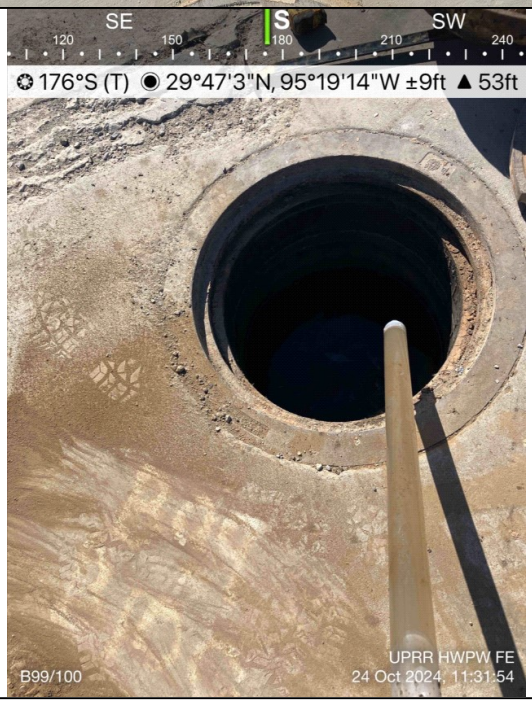


Photo No.	Inspection Date:
24	10/24/2024

Description:
Sump 1 (B99/B100), 14 inches of freeboard in sump. Color is light brown, and no odor observed. Sheen observed on the surface.

Lat: 29.784167
Long: -95.320556



PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
25	10/24/2024

Description:
Sump 2 (B103/B104), 41 inches of freeboard in sump. Color is light brown, and no sheen or odor observed.

Lat: 29.784167
Long: -95.320833

Photo No.	Inspection Date:
26	10/24/2024

Description:
Sump 3 (B107/B108), 40 inches of freeboard in sump. Color is brown, and no sheen or odor observed.

Lat: 29.784167
Long: -95.320833

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
27	10/30/2024

Description:
Sump 1 (B99/B100), 4 inches of freeboard in sump. Color is turbid tan, and no sheen or odor observed.

Lat: 29.784237
Long: -95.320695

Photo No.	Inspection Date:
28	10/30/2024

Description:
Sump 2 (B103/B104), 37.5 inches of freeboard in sump. Color is turbid tan, and no sheen or odor observed.

Lat: 29.78423
Long: -95.320861

PHOTOGRAPHIC LOG

Client Name:	Site Location:	Project No.
Union Pacific Railroad	Englewood Intermodal Yard, Houston, Texas	31406585.016

Photo No.	Inspection Date:
29	10/30/2024

Description:
Sump 3 (B107/B108), 37 inches of freeboard in sump. Color is clear, and no sheen or odor observed.

Lat: 29.784171
Long: -95.320991

Photo No.	Inspection Date:
30	10/9/2024

Description:
NAPL seep at Track 802. ~4 in^3 of tar removed.

Lat: 29.784948
Long: -95.32121

ATTACHMENT B

Air Monitoring Monthly Report – October 2024

Union Pacific Railroad
Houston Wood Preserving Works Site
Focused Excavation Project

Air Monitoring Monthly Report
October 2024

Houston, Texas

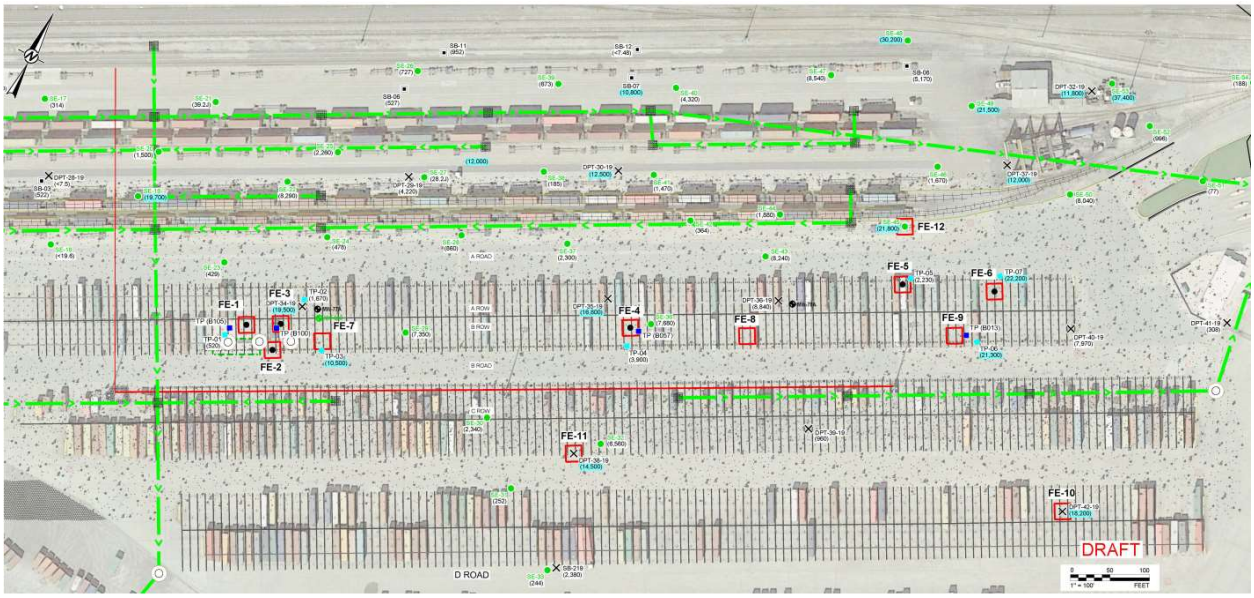
TABLE OF CONTENTS

SECTION 1 INTRODUCTION

1.1 Background Information

Atlas Technical Consultants, LLC (Atlas) is assisting Union Pacific Railroad (UPRR) with industrial hygiene consulting services in the Union Pacific Railroad (UPRR) Houston Wood Preserving Works Railyard (Site) portion of the Englewood Intermodal Yard (Site). Daily air monitoring is being performed during focused excavation work associated with the remediation of twelve (12) seep areas at the Site. The focused excavations are taking place on the east end of the Site, in the concrete-covered parking area just south of the southernmost rail track in the railyard. Figure 1 shows the approximate locations of the initial focused excavations. The exact size and location of the focus excavation locations may change as the project develops.

Figure 1-1 General Site Location Map



Atlas representatives are conducting area air monitoring for particulate matter 2.5 micrometers or less in diameter ($PM_{2.5}$), particulate matter 10 micrometers or less in diameter (PM_{10}), lead, arsenic and polynuclear aromatic hydrocarbons (PAHs) during excavation activities. Air monitoring stations are deployed each day of excavation activities and air monitoring is conducted until activities are complete each day. Atlas Industrial Hygienists continuously monitor particulate concentrations and equipment status throughout the sample period each day.

The Atlas team consisted of three (3) Industrial Hygienists (IH), Michaela Simpson, Armando Medina and Jaimen Shepherd, two (2) Senior Project Managers, Cynthia M. Garner and Sarah Vanderwielen. The onsite team worked under the direct supervision of Catherine G. McLain, an Atlas American Board of Industrial Hygiene (ABIH) Certified Industrial Hygienist (CIH). All air monitoring work is being conducted under the guidance of the TCEQ approved Dust Control and Air Monitoring Plan dated October 20, 2023.

1.2 Sampling Methodologies

Atlas employees utilize the following methodologies for air monitoring:

The area air sampling methodology is summarized in Table 1. The sampling analytical methods are those published by the National Institute for Occupational Safety and Health (NIOSH) and by the United States Environmental Protection Agency (USEPA). Analytical methods included Inductively Coupled Plasma (ICP) and Gas Chromatography-Mass Spectrometry (GC-MS). Collection media included unweighted (UW) 37 millimeter (mm) Mixed Cellulose Ester (MCE) filters and Polyurethane Foam (PUF) and XAD Resin packed Tubes. The collected samples were sealed and uniquely labeled at the end of the monitoring period and prepared for delivery to a certified analytical laboratory.

The samples were analyzed by CON-TEST, a Pace Analytical Laboratory (Pace) in East Longmeadow, Massachusetts. Pace is accredited by the American Industrial Hygiene Association (AIHA) Laboratory Accreditation Programs, LLC (AIHA LAP, LLC) Industrial Hygiene Laboratory Accreditation Program (IHLAP).

Table 1 – Analytical Methods
Union Pacific Houston Wood Preserving Works

Houston, Texas

Analytes	Sampling/Analytical Method	Collection Media	Flow Rate
Lead	NIOSH Method 7303; ICP	UW 37mm MCE Filter	1-4 l/min
Arsenic	NIOSH Method 7303; ICP	UW 37mm MCE Filter	2 l/min
Polynuclear Aromatic Hydrocarbons (PAH)	EPA TO-13A; GC-MS	PUF & XAD Resin Packed Tubes	1-5 l/min

Acronyms:
NA – Not Applicable

Overall averages presented are for the sample period specified by the start and stop time of each monitor. Unless otherwise stated, the sample periods are inclusive of all excavation activities.

The locations of the air monitors are consistent with the TCEQ approved Dust Control and Air Monitoring Plan dated October 20, 2023. Minor variations to monitor placement may occur as a result of excavation activities and/or environmental factors.

1.3 Equipment

Atlas is using the following equipment for onsite air monitoring:

Weather Station

A Lufft WS500 Weather Station is co-located with the Unit 01 air sampler. The weather station measured wind direction, wind speed, temperature, relative humidity and precipitation. The weather station logs data at one (1) minute intervals.

Direct Read Area Monitoring

Direct read air monitoring for $PM_{2.5}$ and PM_{10} is being conducted using a DustTrak DRX Desktop Aerosol Monitor, Model 8533 (DustTrak). The DustTrak is a real-time particulate monitor. Seven (7) air monitoring stations are setup for continuous $PM_{2.5}$ and PM_{10} air monitoring. $PM_{2.5}$ and PM_{10} concentrations are logged at one (1) minute intervals and reported as a 30-minute average. The air monitoring stations are mounted on tripods on at an approximate height of 5-6 feet. The air samplers are set in the same location daily.

Air monitoring stations are connected to the internet using Pine Environmental Global Telemetry Solutions (GTS). GTS is an advanced cellular and web-based system that provides access to real-time data.

The real-time data collection software is configured to generate text alerts of 30-minute dust concentration averages that exceed the specified particulate control levels. Notifications are sent directly to the onsite industrial hygienists. The onsite industrial hygienists respond to each alarm to make observations and determine the source of the elevated particulate readings. If the source of the elevated particulates was determined to be related to excavation activities, the industrial hygienists communicates findings to the designated UPRR representative along with any dust mitigation recommendations.

Air Samples

Area air samples are collected using a SKC Airchek 52 Sampling Pump, Tygon tubing and sampling media specified by sampling methods. The sampling pumps were positioned on tripods at a height representative of the breathing zone. Air sampling pumps were pre and post calibrated to the sampling method recommended flowrate using a TSI Primary Calibrator, Model 4146.

Atlas utilized the equipment described in Table 2 to record weather data and conduct direct read and area air monitoring.

Table 2 – Equipment
Union Pacific Houston Wood Preserving Works

Houston, Texas

Nomenclature	Function	Photo
Lufft WS500	Weather Station	
TSI DustTrak™ DRX Desktop Aerosol Monitor, Model 8533	Direct Reading Air Monitoring – $PM_{2.5}$ & PM_{10}	
SKC Airchek 52 Sampling Pump	Area Air Monitoring – Lead, Arsenic, PAH	

Table 2 – Equipment Union Pacific Houston Wood Preserving Works Houston, Texas		
Nomenclature	**Function**	**Photo**
TSI Primary Calibrator Model 4146	Air Sampling Pump Primary Calibrator	

SECTION 2 ONSITE METEOROLOGY AND AIR MONITORING RESULTS

2.1 National Ambient Air Quality Standards

The USEPA's 2012 National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$ and PM_{10} were used to develop the Action Levels for this project. The 24-hour NAAQS are presented below:

- $PM_{2.5}$ (24-hour average): 35 µg/m3
- PM_{10} (24-hour average): 150 µg/m3

Action levels have been established for this project to ensure that excavation activities conducted at the Site do not contribute significantly to airborne particulate concentrations off property. Background particulate concentrations vary throughout the Houston area and can exceed the NAAQS for $PM_{2.5}$. Control levels were chosen to minimize the contribution of fugitive dust emissions from the excavation activities to the overall $PM_{2.5}$ and PM_{10} concentrations. The established control levels are presented below:

Table 3 – Established Control Levels
Union Pacific Houston Wood Preserving Works, Houston, Texas

	$PM_{2.5}$ 30-minute Average	PM_{10} 30-minute Average
Notice Level	>30 µg/m^3	>75 µg/m^3
	The Notice Level is intended as an early warning of potential elevations in airborne dust levels. When the notice level is exceeded the onsite IH will investigate the area(s) where the initial elevations in dust levels are indicated, and inform the Remediation Manager, Environmental Manager and other designated personnel of the known or most likely source(s) of the elevated levels, and advise what actions, if any, appear warranted to limit airborne dust generation. The Remediation Manager and Environmental Manager will determine how to best implement the recommendations of the IH.	
Action Level	>55 µg/m^3	>150 µg/m^3
	The Action Level is intended as an indication that control measures should be implemented in a timely manner to mitigate generation of airborne dusts. When the Action Level is exceeded, the IH will investigate the area(s) where the elevations in dust levels are indicated, and inform the Remediation Manager, Environmental Manager and other designated personnel of the known or most likely source(s) of the elevated levels, and advise what actions, if any, appear warranted to limit airborne dust generation. The Remediation Manager and Environmental Manager will determine how to best implement the recommendations of the IH.	
Stop-Work Level	>85 µg/m^3	>300 µg/m^3
	The Stop-Work Level is intended as an indication that continued generation of airborne dusts at or above the specified levels are likely to result in overall daily averages or short-term elevations in airborne dust levels that could be greater than the parameters established for the project. When the Stop-Work Level is exceeded, work in the affected area(s) should be stopped until additional controls are implemented. The IH will investigate the area(s) where the elevations in dust levels are indicated, reporting his findings and recommendations to the Remediation Manager, Environmental Manager and other designated personnel. This team will work together to determine what control measures will be effective in reducing dust levels and how to best implement those measures and resume remediation activities. If stop-work levels are reached more than twice per day, the dust-generating activity will be stopped for the remainder of the workday and UPRR will design and implement a more effective dust control program prior to resuming work the following workday.	

Acronyms:
IH – Industrial Hygienist

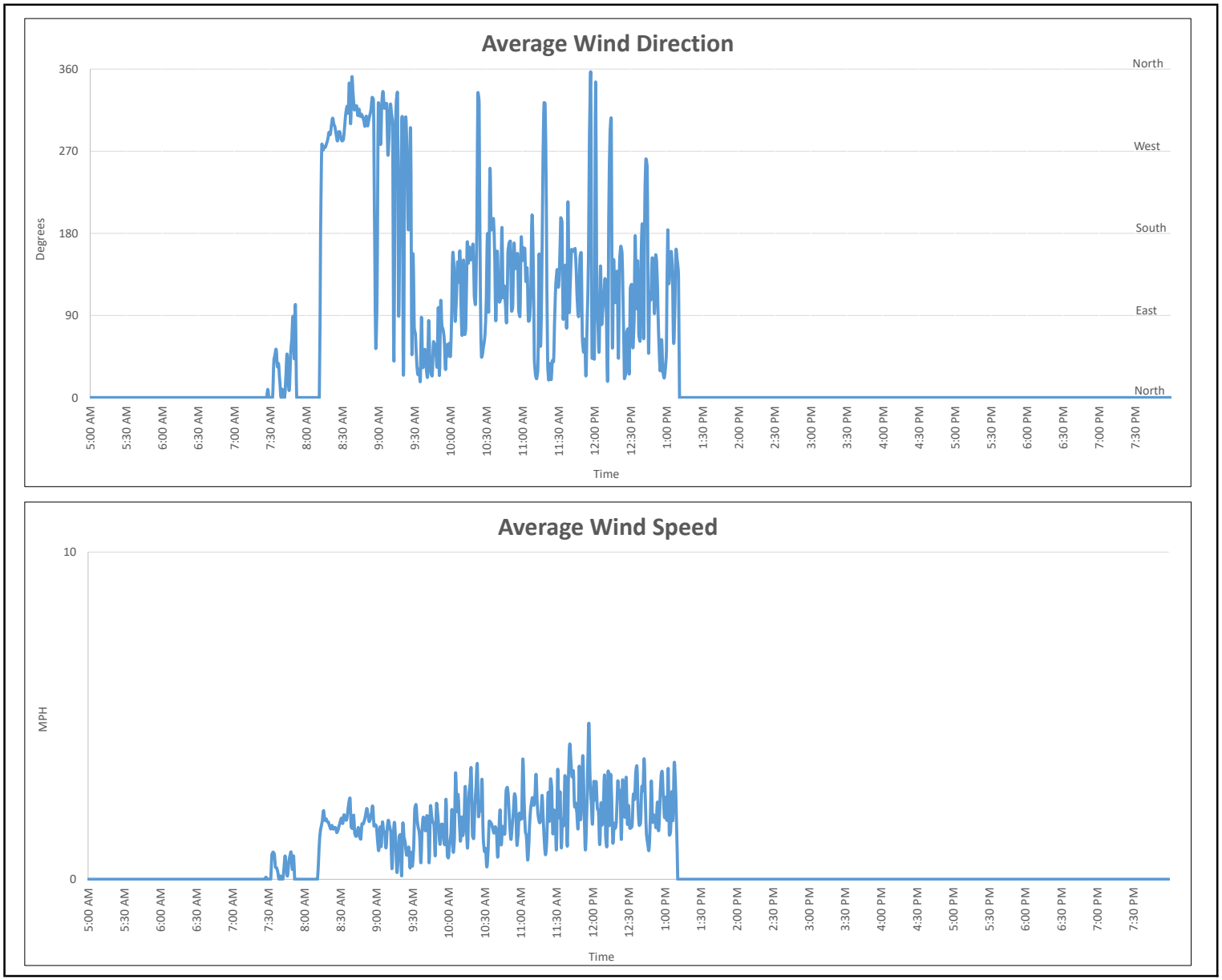
Rolling 30 minute averages of $PM_{2.5}$ and PM_{10} are calculated by each monitor on each sampling day during the excavation activities. Both $PM_{2.5}$ and PM_{10} are measured by the monitor every two

(2) minutes during the sampling period. The concentration shown on the graphs below represent the average $PM_{2.5}$ and PM_{10} concentration at the end of the 30 minute period.

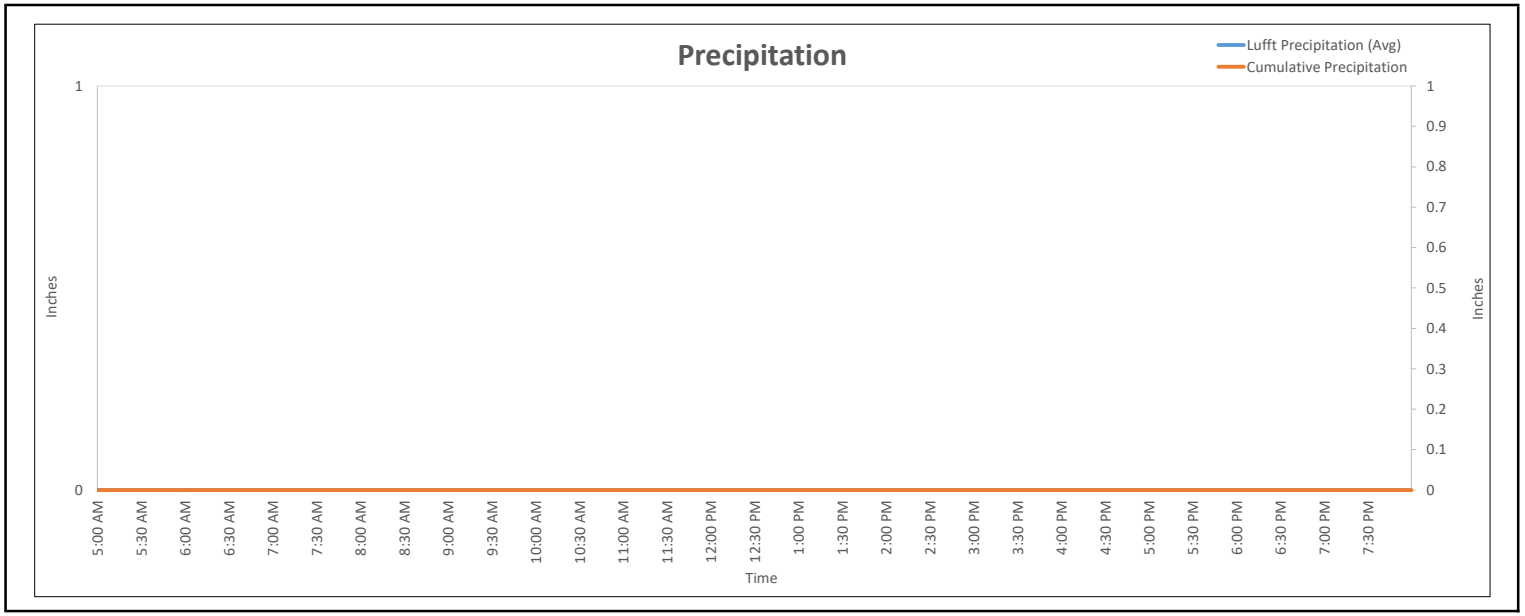
The maximum, minimum and average monitored value per day for each air monitor is presented in Table 5.

Monitoring levels did reached the Stop Work threshold on the morning of October 24, 2024. However, work had not begun at the site when the Stop Work threshold was reached. Monitor levels were below the Stop Work threshold when work started at the site. Regional haze throughout the city of Houston was responsible for the elevated monitor levels.

Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Thursday, October 24, 2024

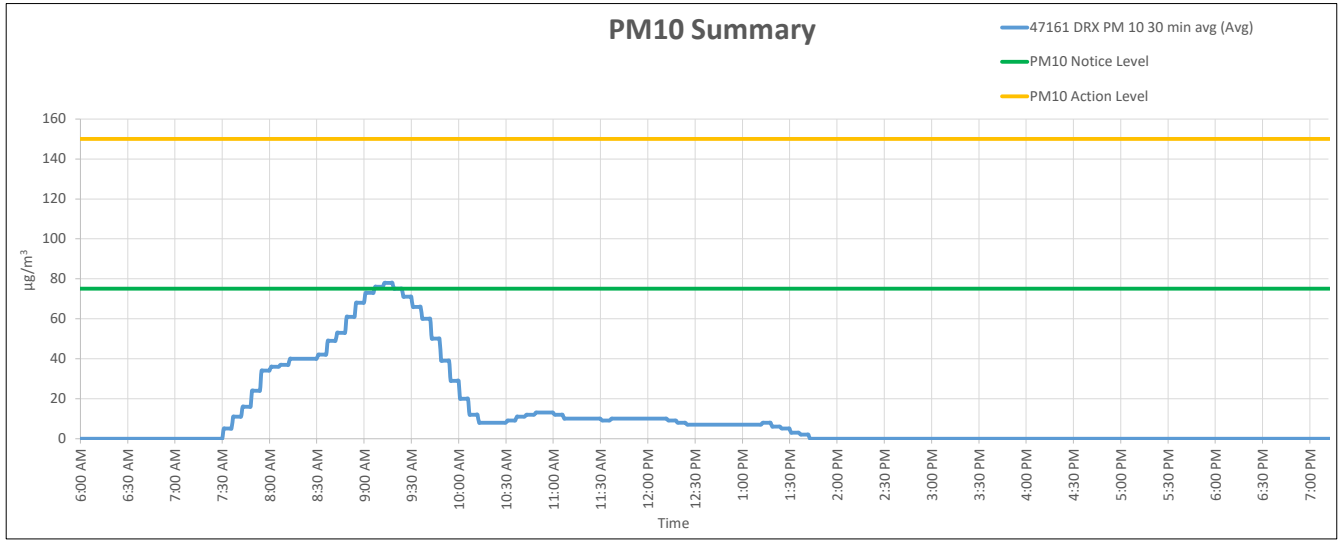


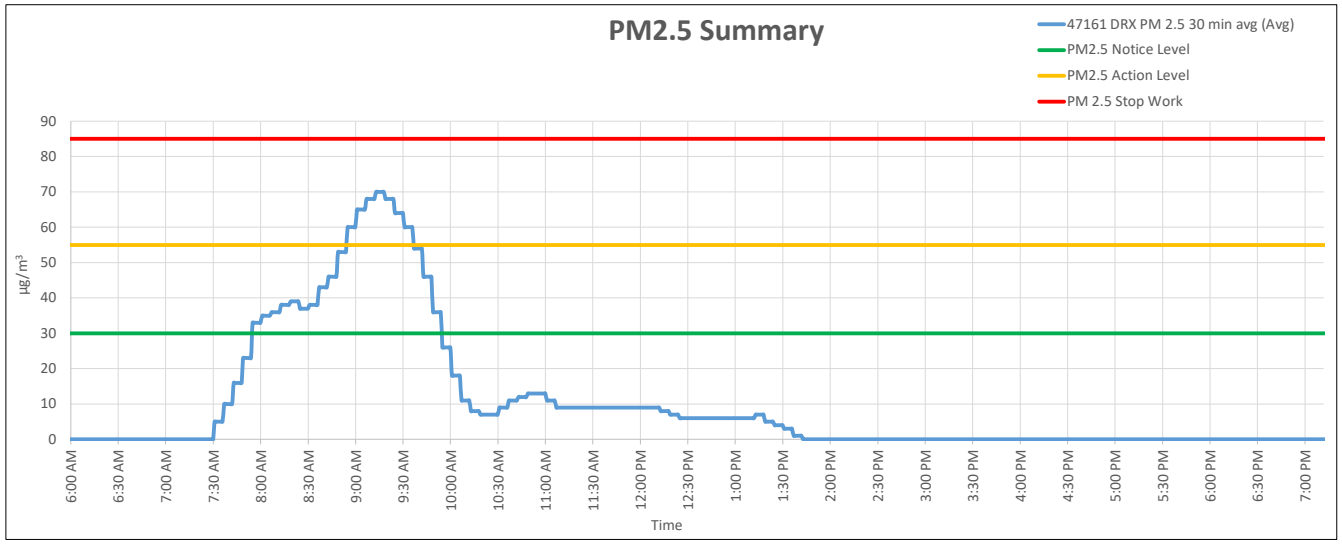
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Thursday, October 24, 2024



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, October 24, 2024

Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
47161	7:31 AM	1:42 PM	24.27	78.00	22.11	70.00





Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, October 24, 2024

Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
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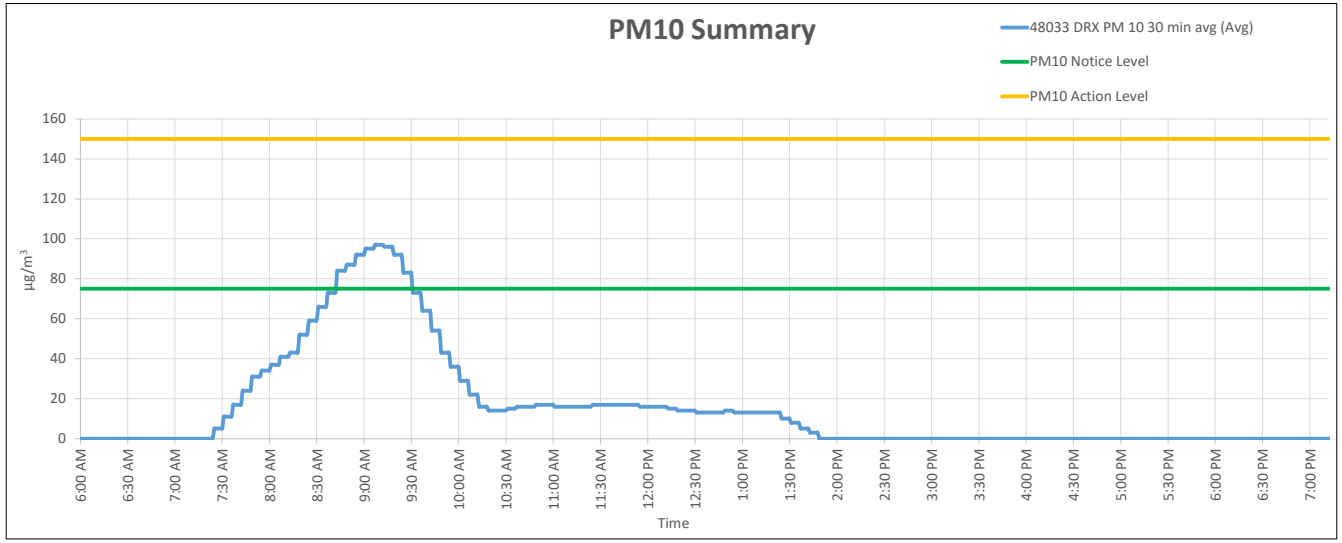
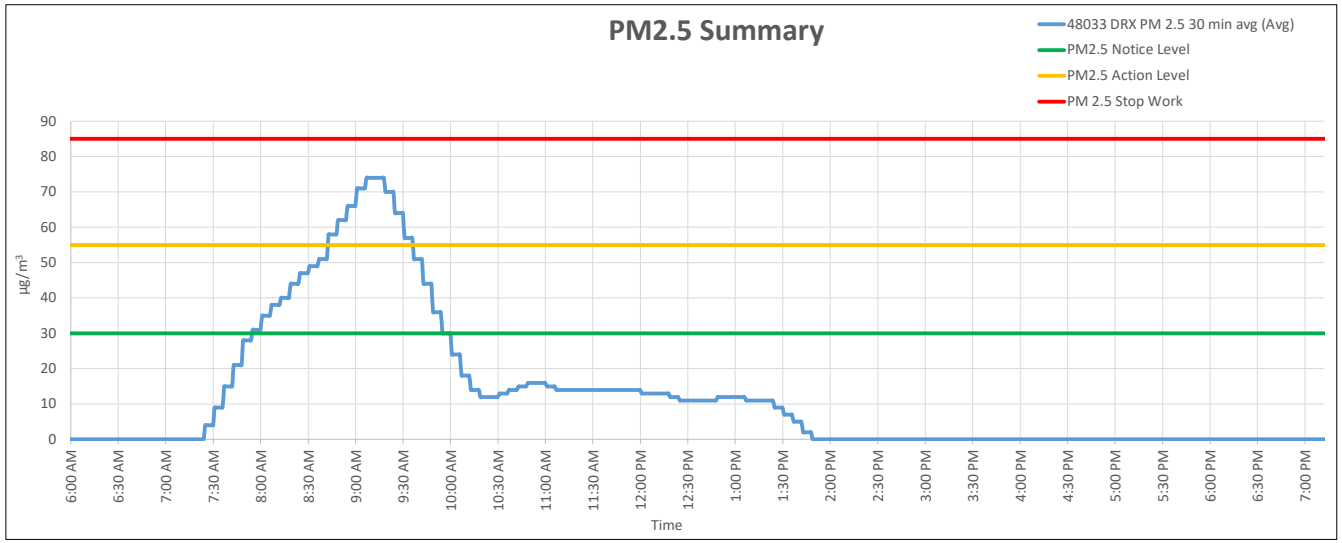
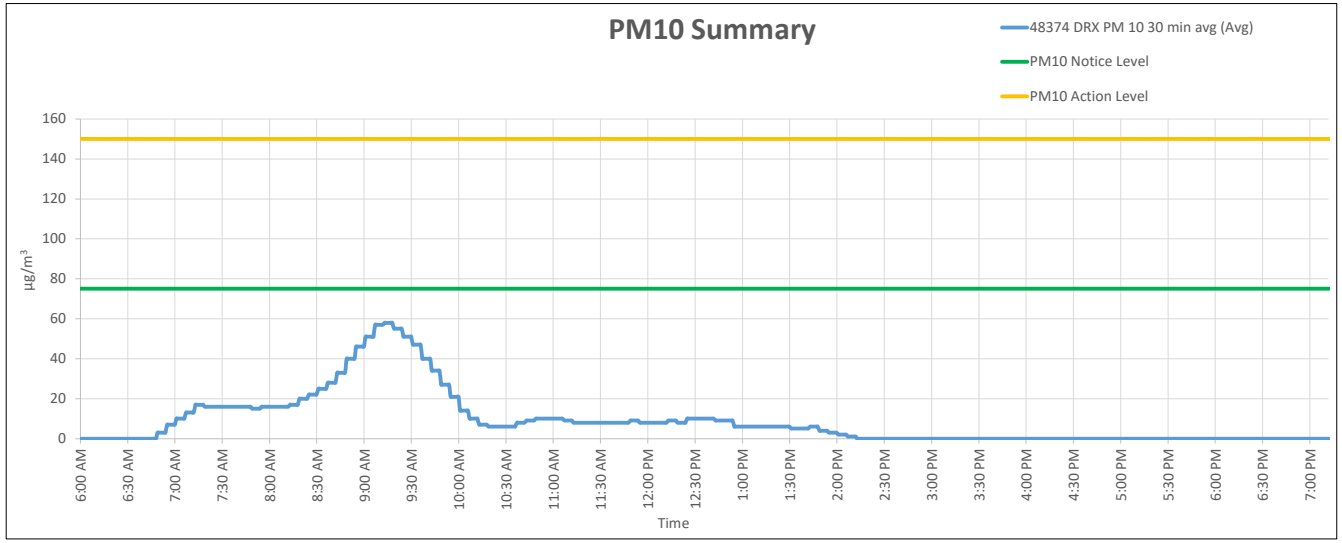
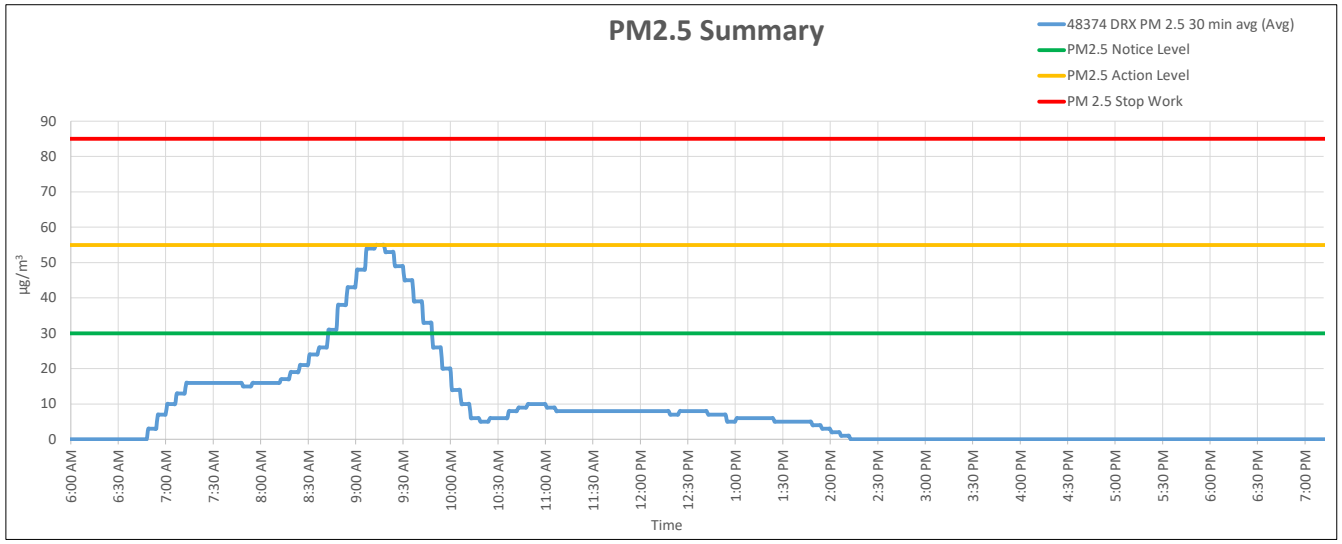




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, October 24, 2024

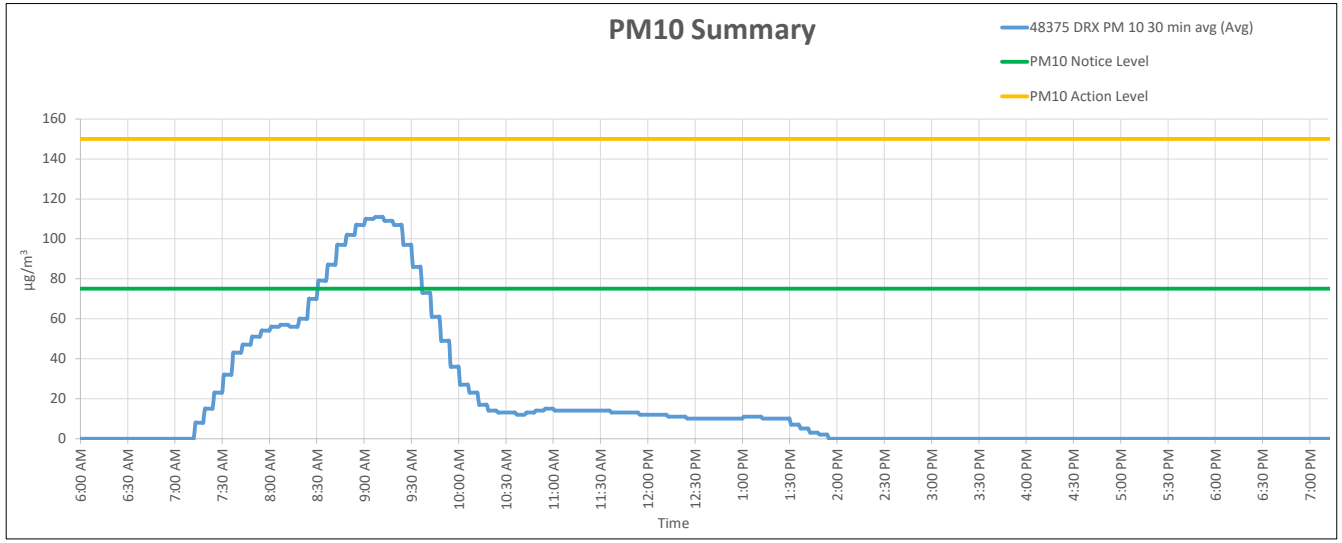
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
48374	6:49 AM	2:06 PM	15.92	58.00	15.22	55.00

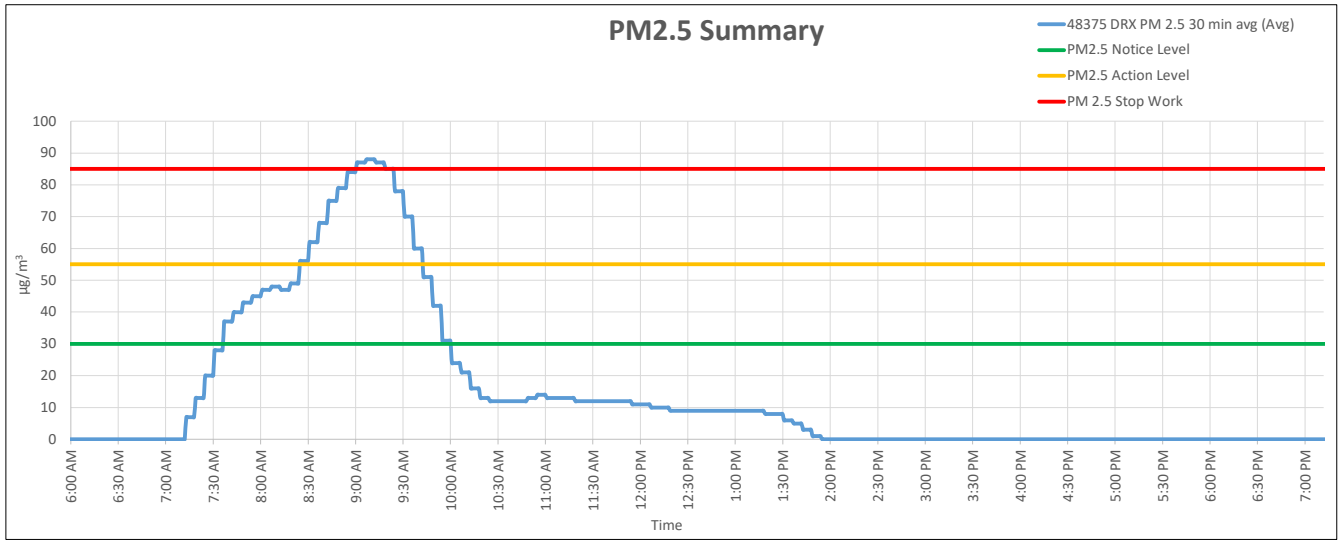




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, October 24, 2024

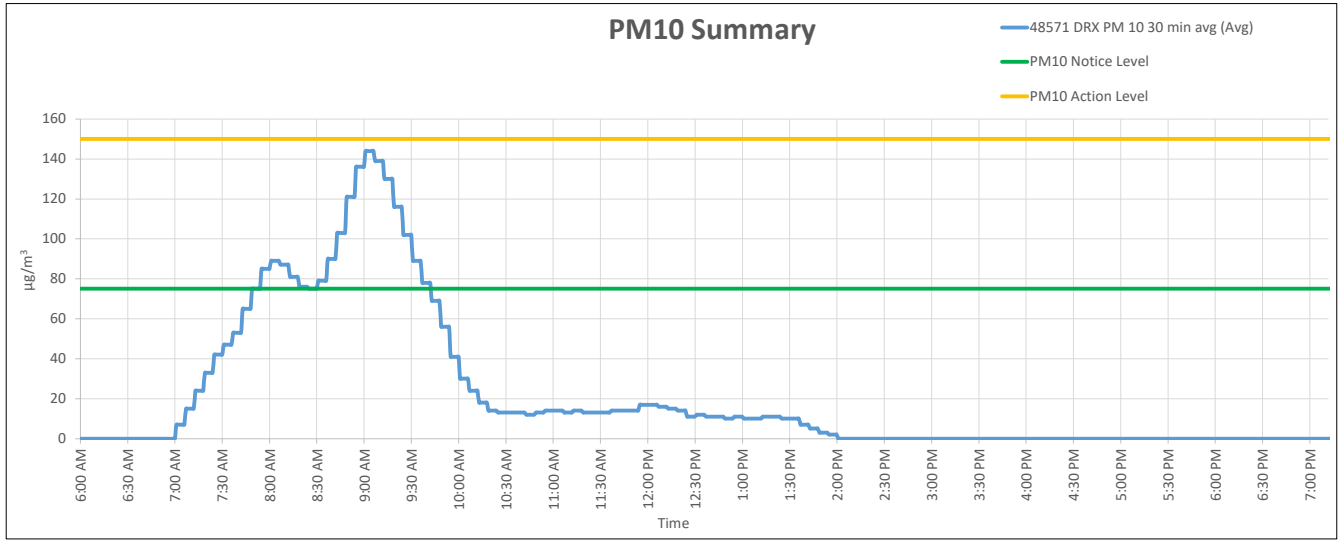
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
48375	7:13 AM	1:54 PM	35.13	111.00	29.10	88.00

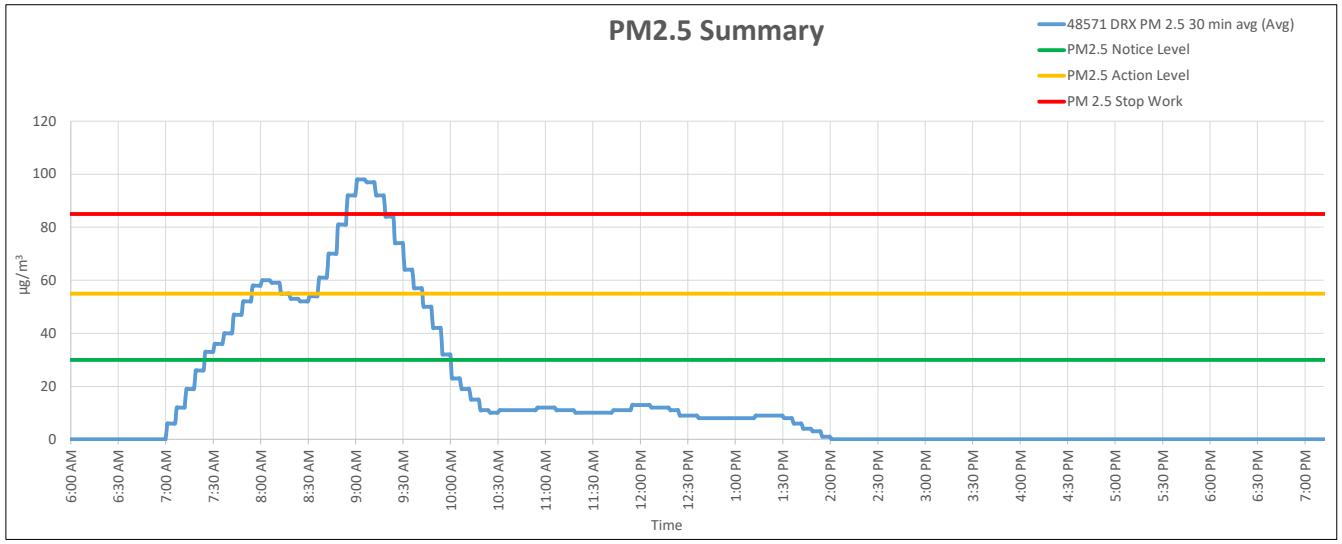




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, October 24, 2024

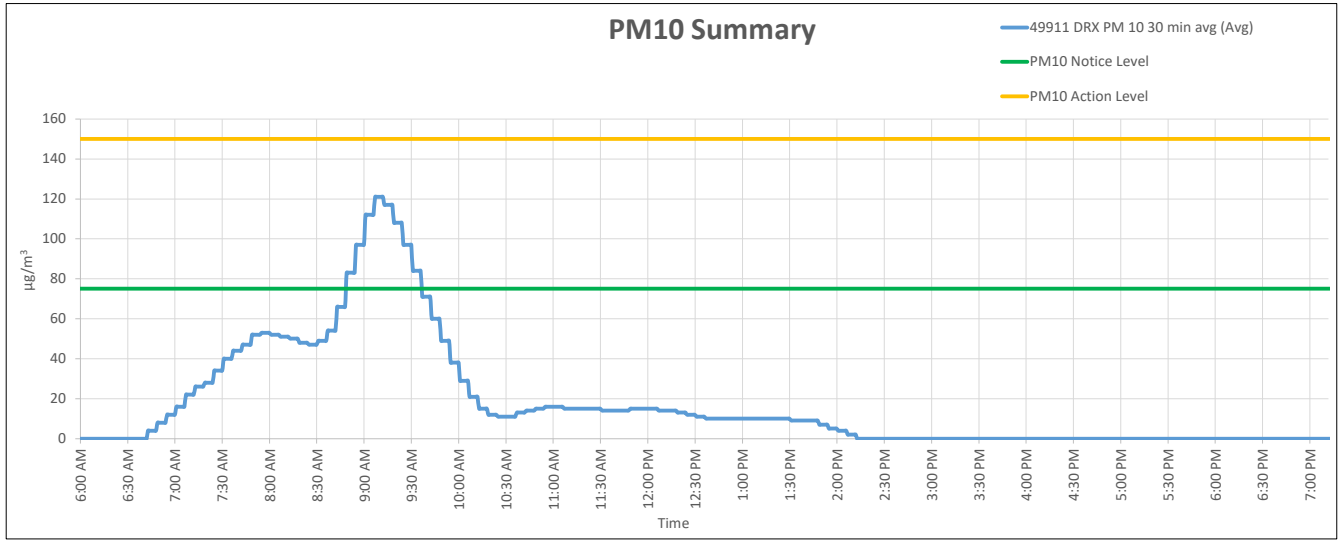
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
48571	7:01 AM	2:00 PM	40.81	144.00	29.46	98.00

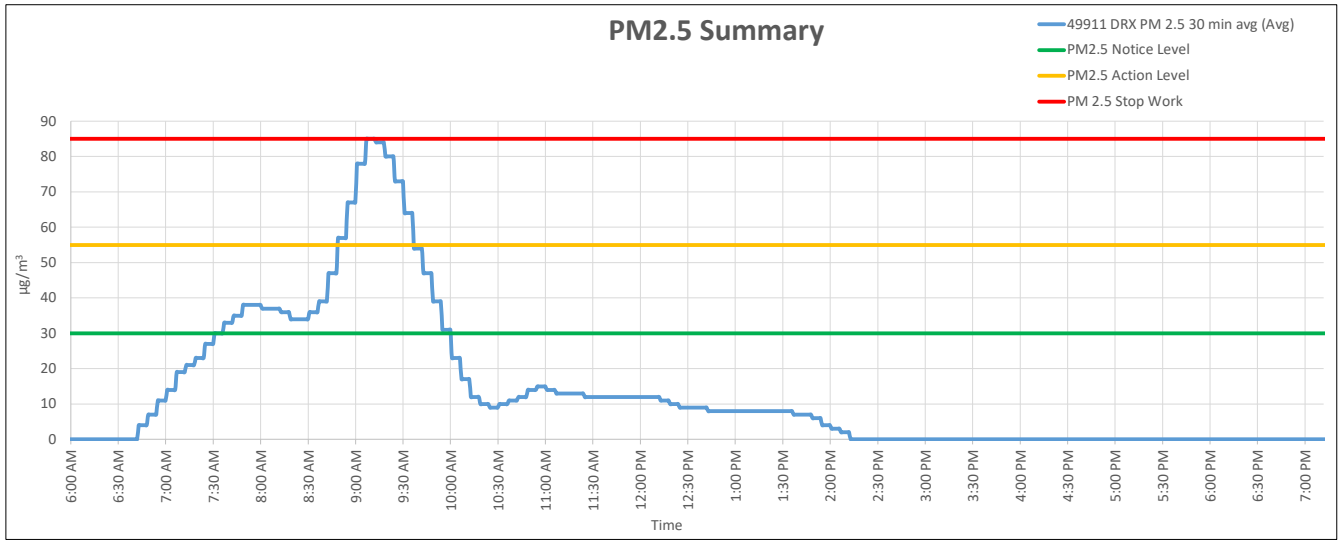




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, October 24, 2024

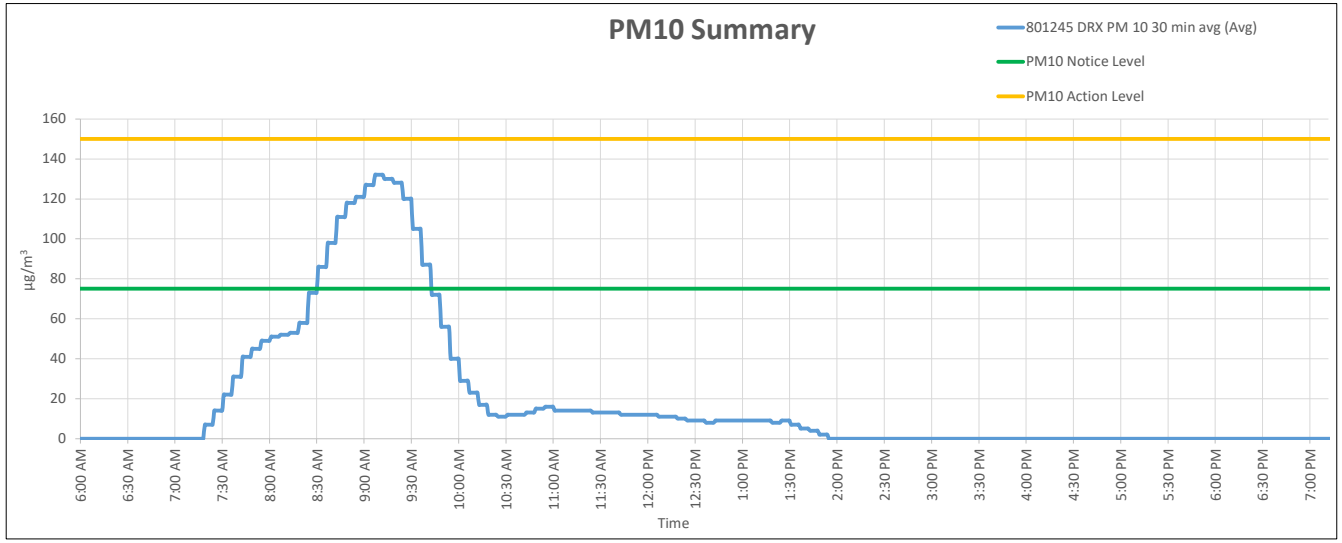
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
49911	6:43 AM	2:12 PM	31.45	121.00	23.87	85.00

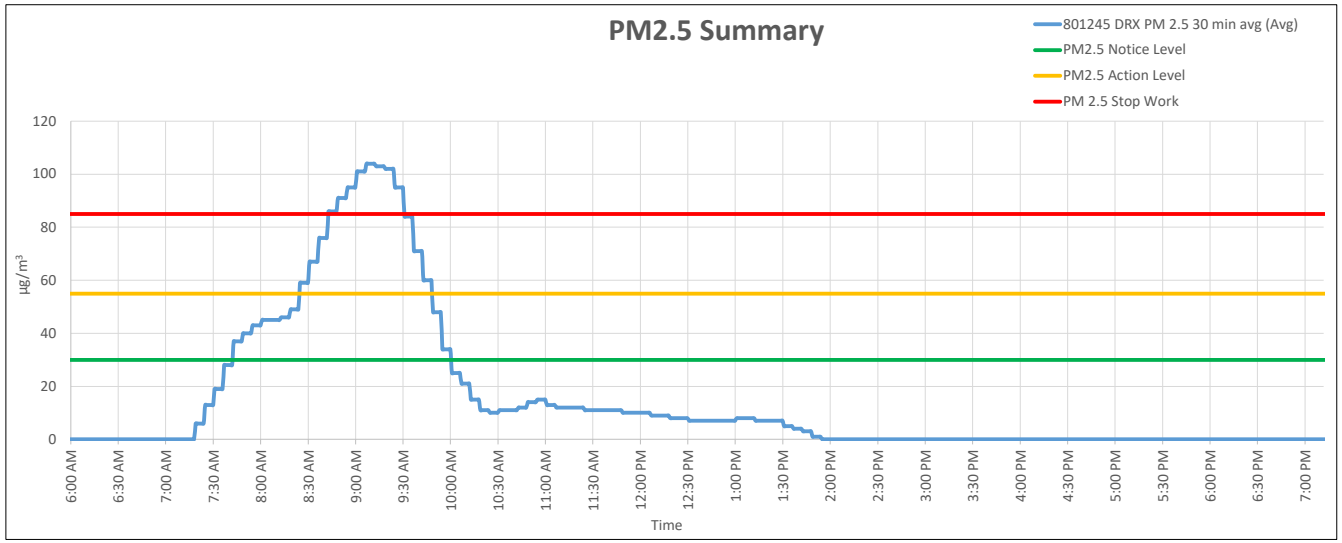




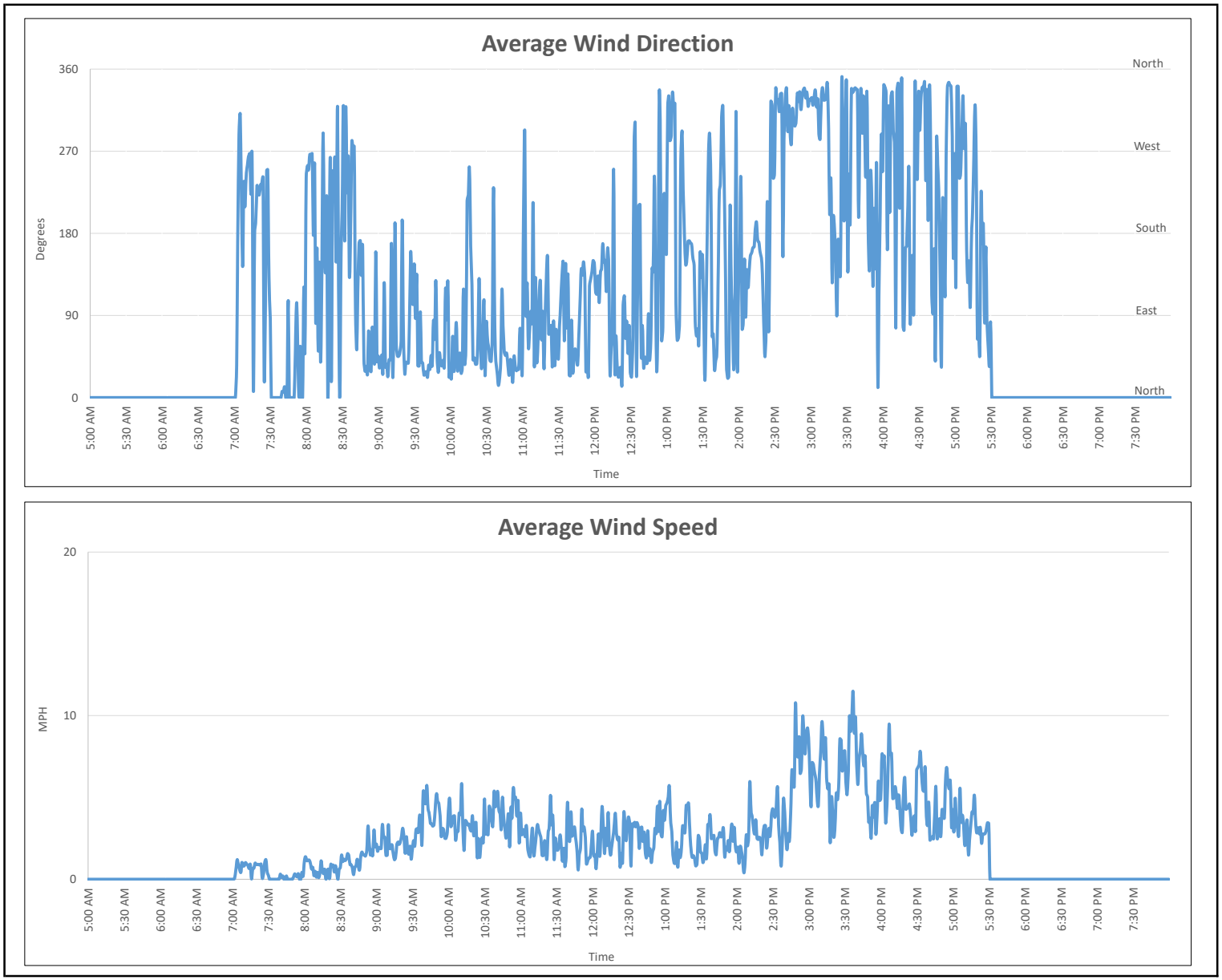
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, October 24, 2024

Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
801245	7:19 AM	1:54 PM	37.53	132.00	30.82	104.00

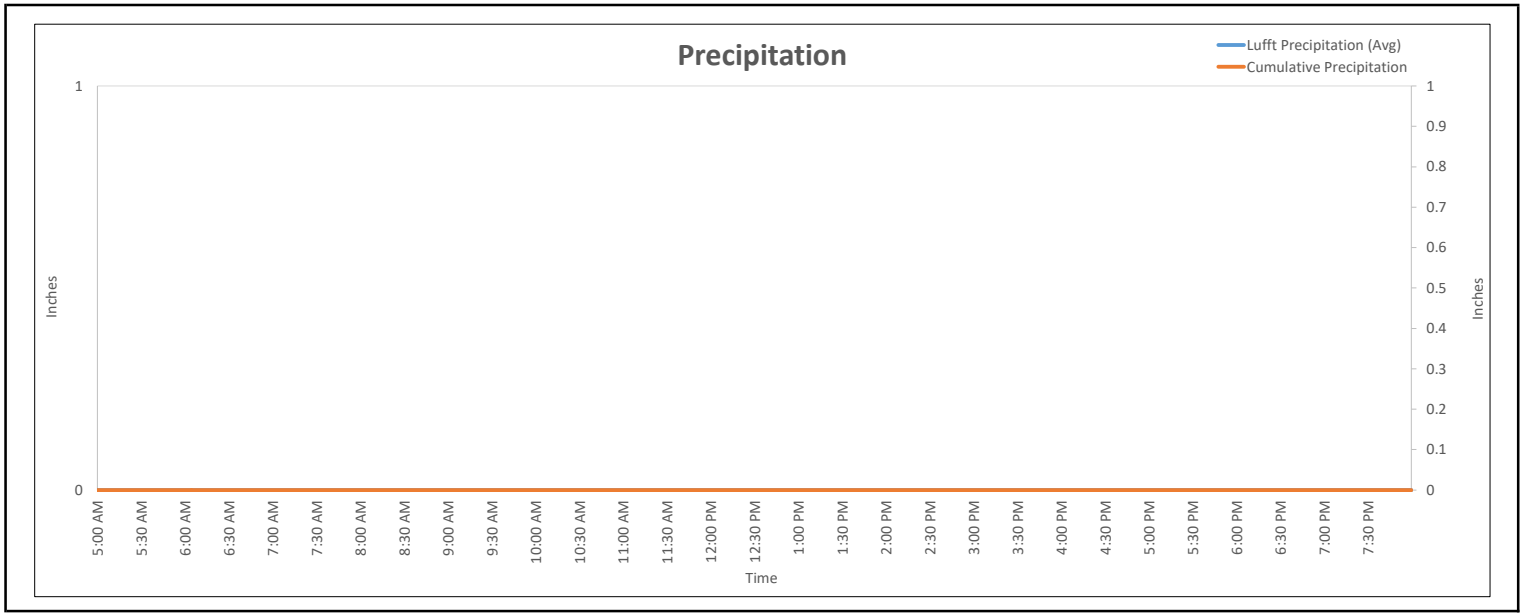




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Friday, October 25, 2024

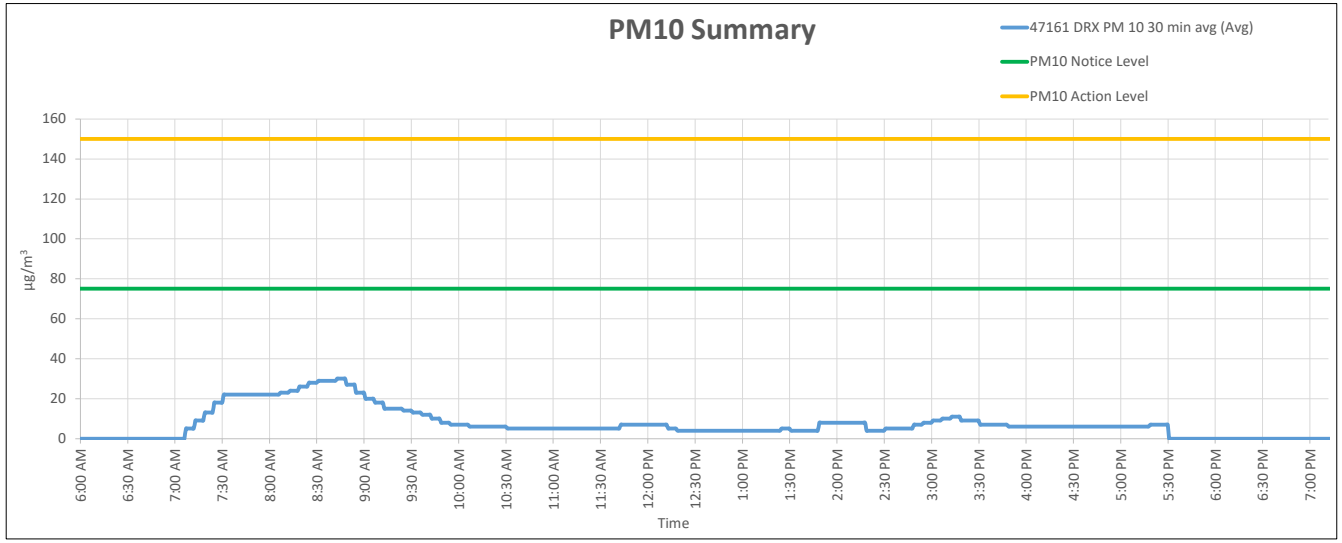


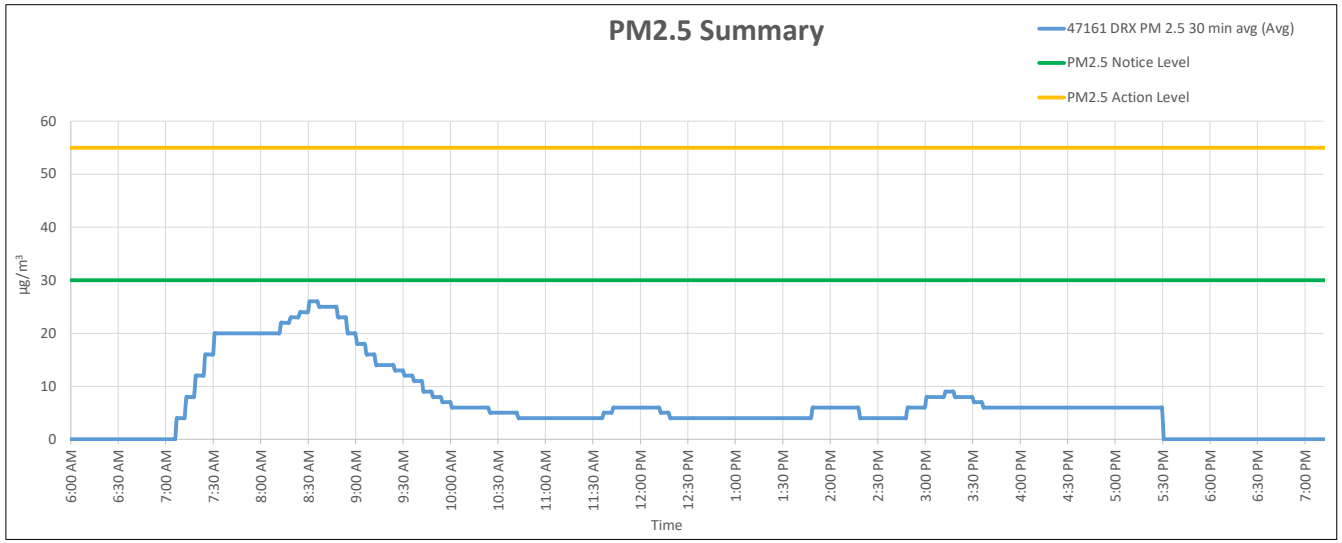
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Friday, October 25, 2024



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, October 25, 2024

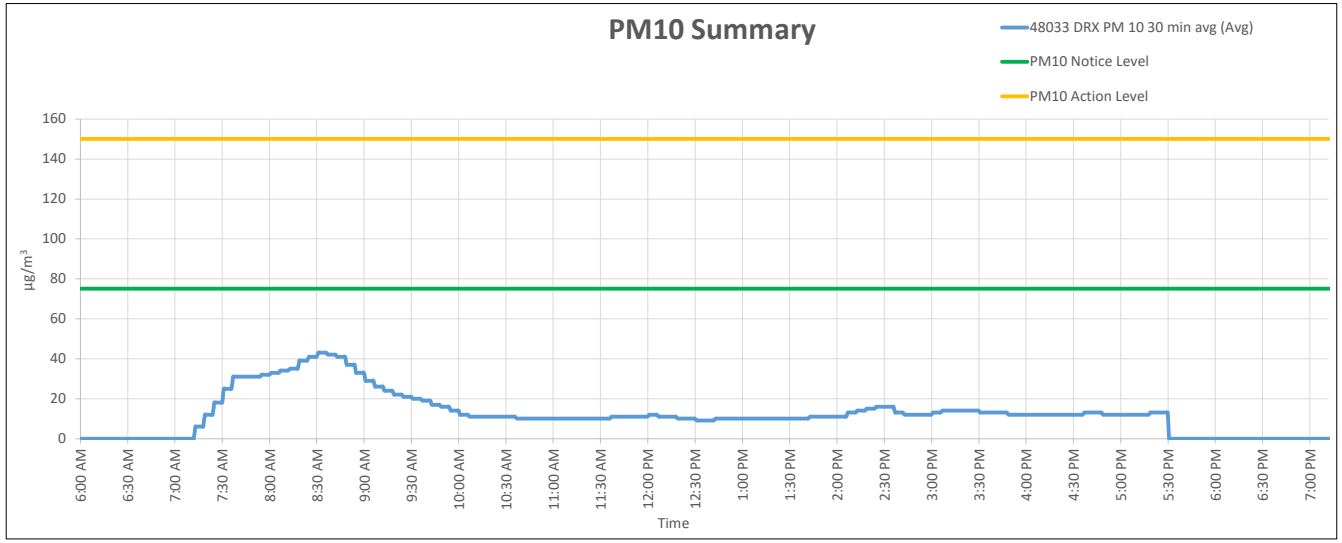
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
47161	7:07 AM	5:30 PM	9.53	30.00	8.55	26.00

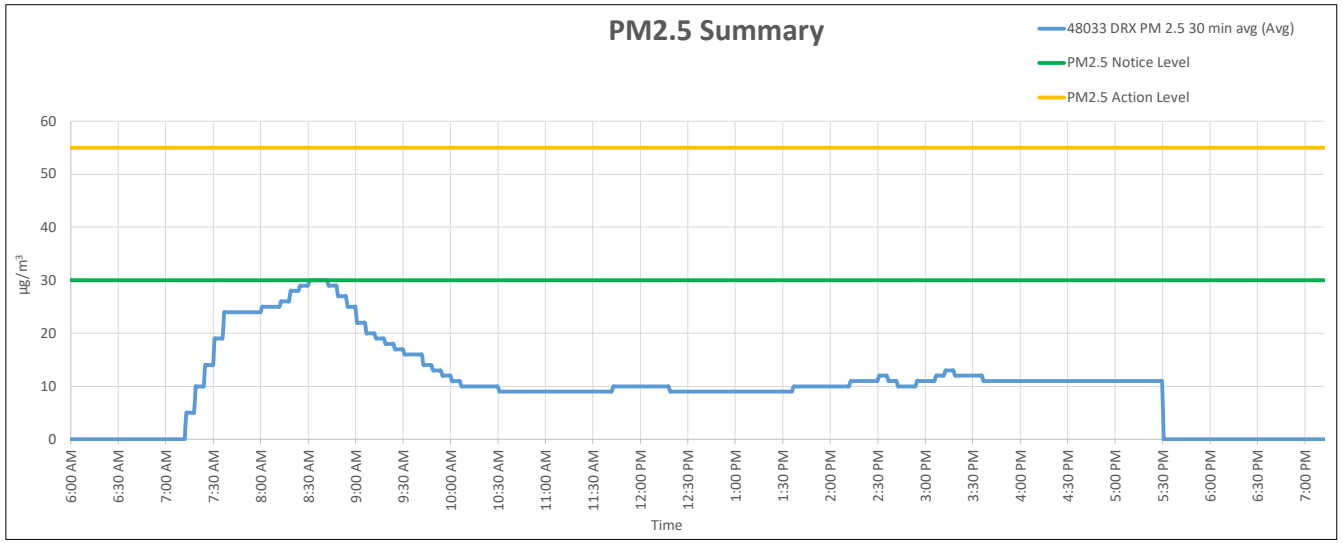




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, October 25, 2024

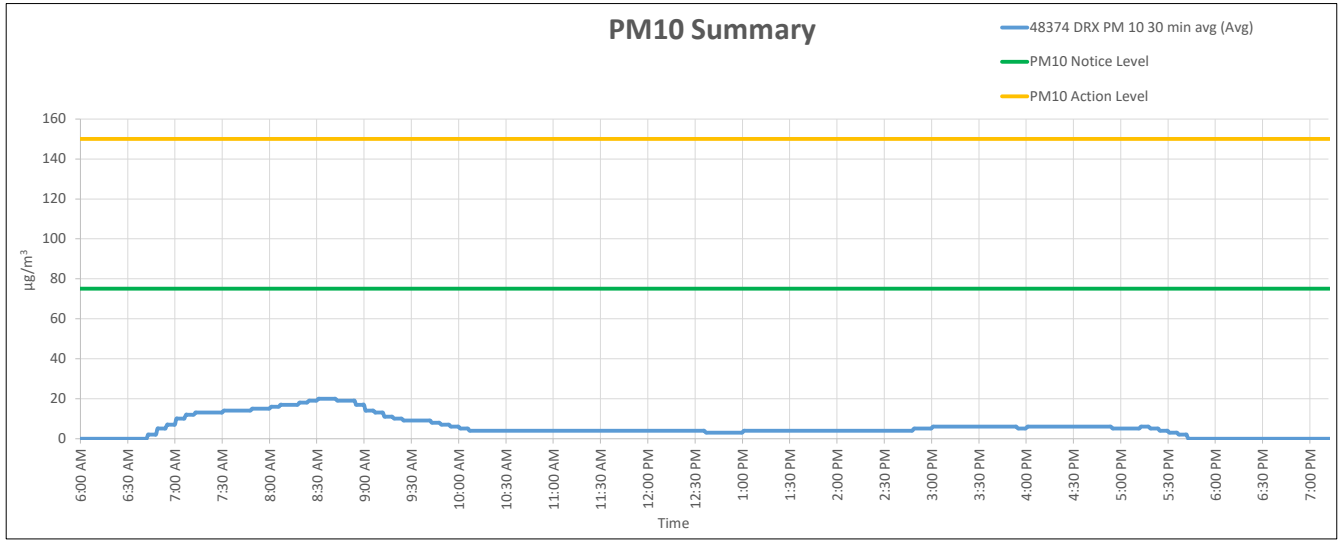
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
48033	7:13 AM	5:30 PM	15.90	43.00	13.10	30.00

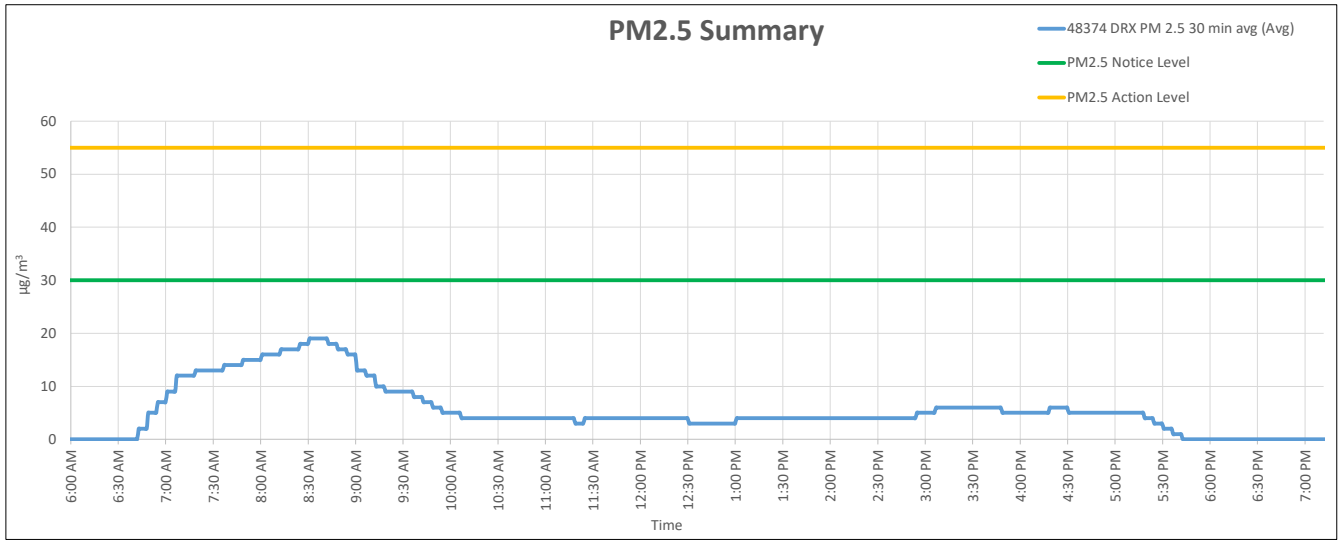




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, October 25, 2024

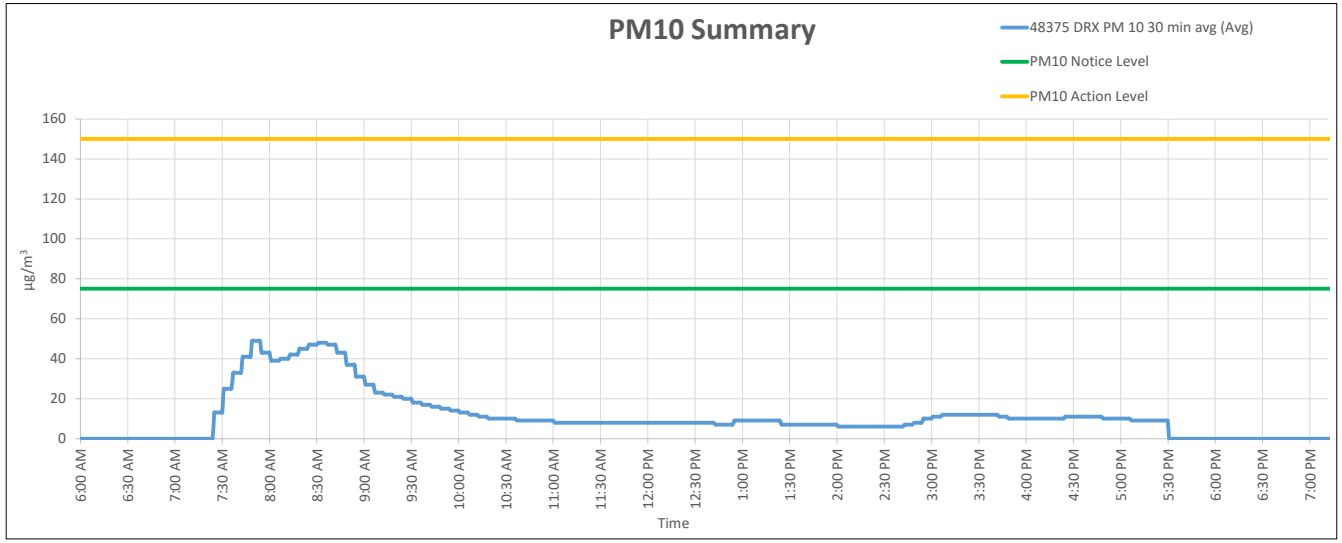
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
48374	6:43 AM	5:42 PM	7.02	20.00	6.68	19.00

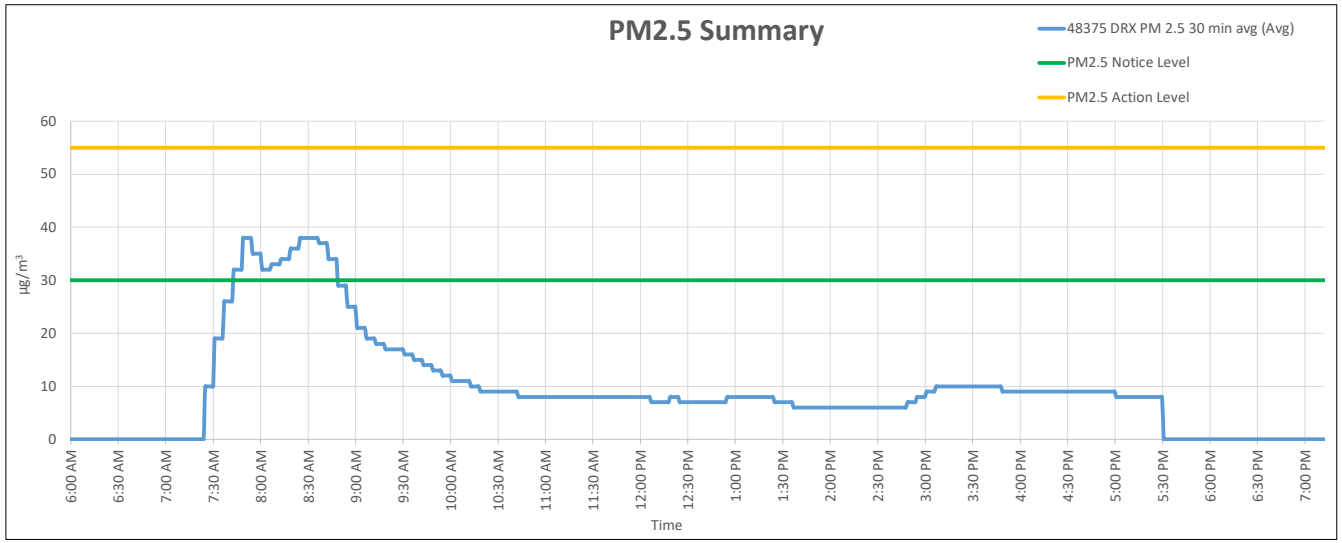




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, October 25, 2024

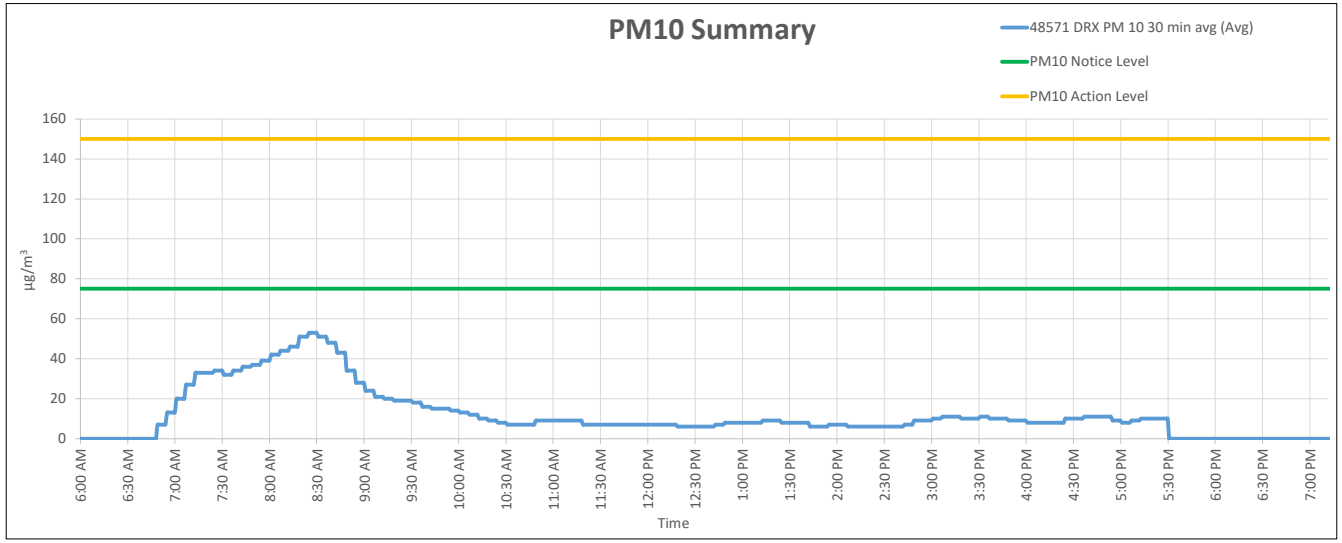
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
48375	7:25 AM	5:30 PM	14.71	49.00	12.50	38.00

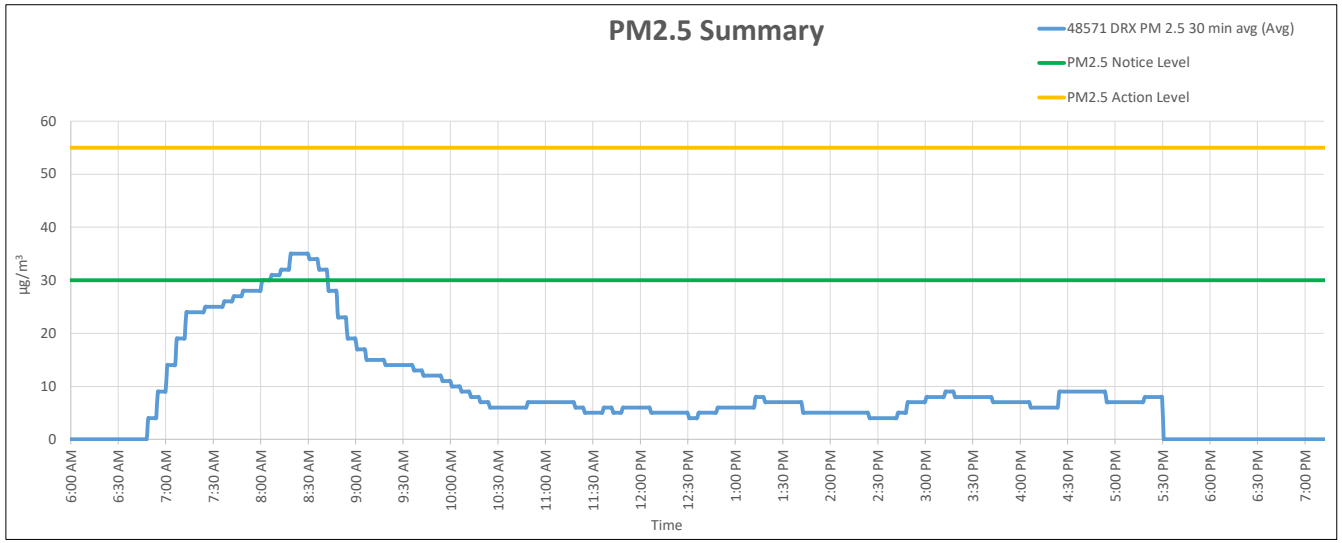




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, October 25, 2024

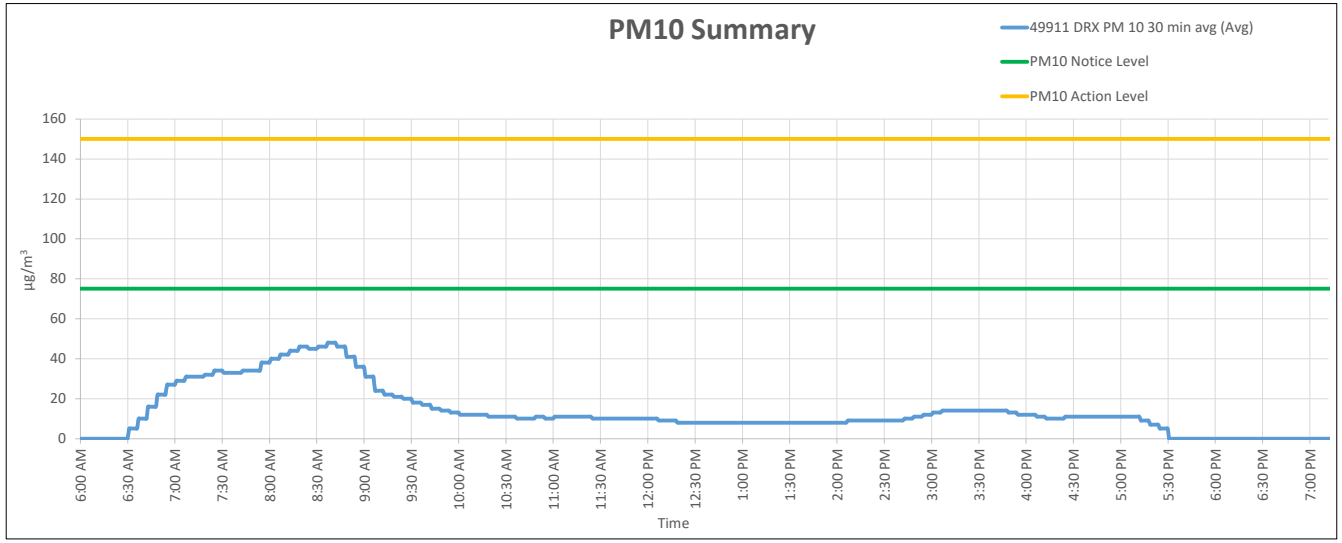
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
48571	6:49 AM	5:30 PM	14.84	53.00	11.02	35.00

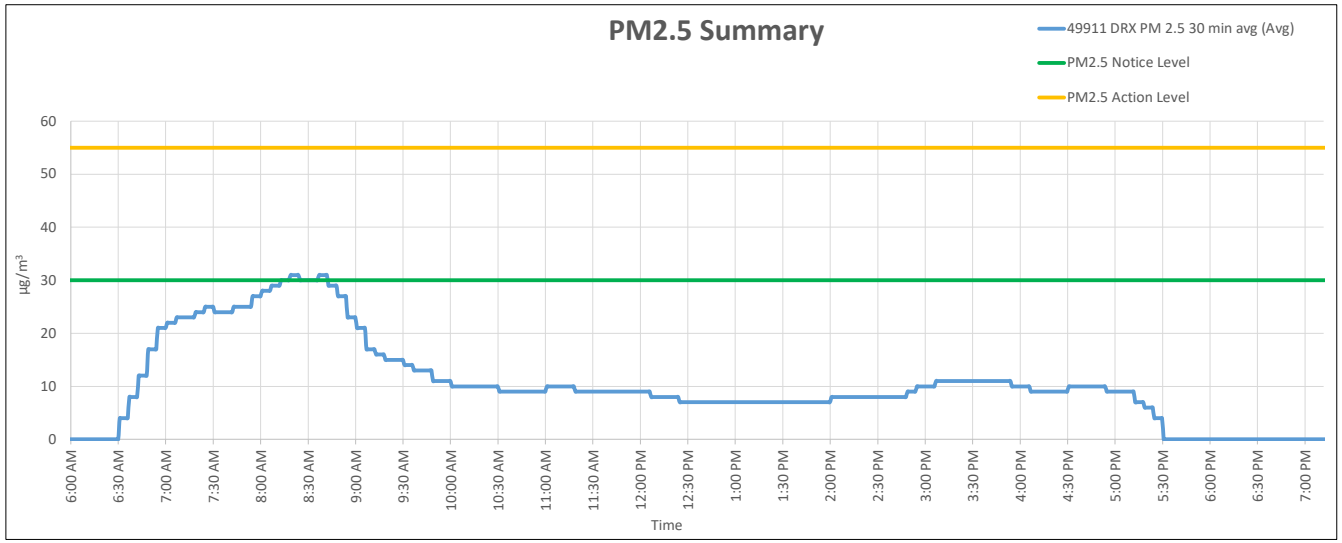




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, October 25, 2024

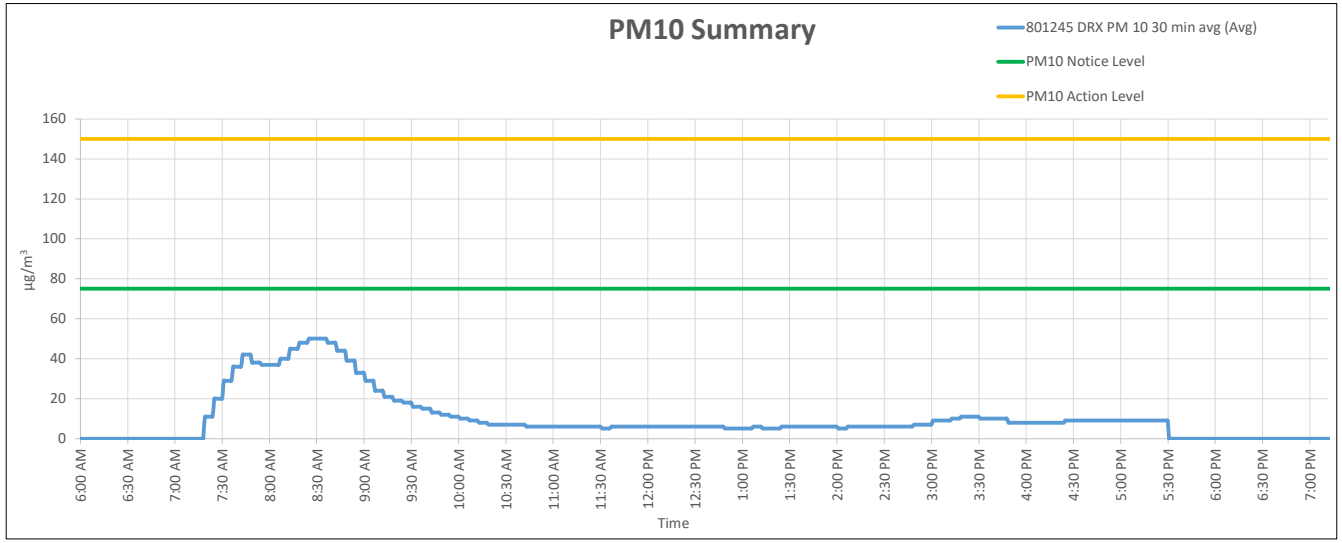
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
49911	6:31 AM	5:30 PM	16.35	48.00	12.65	31.00

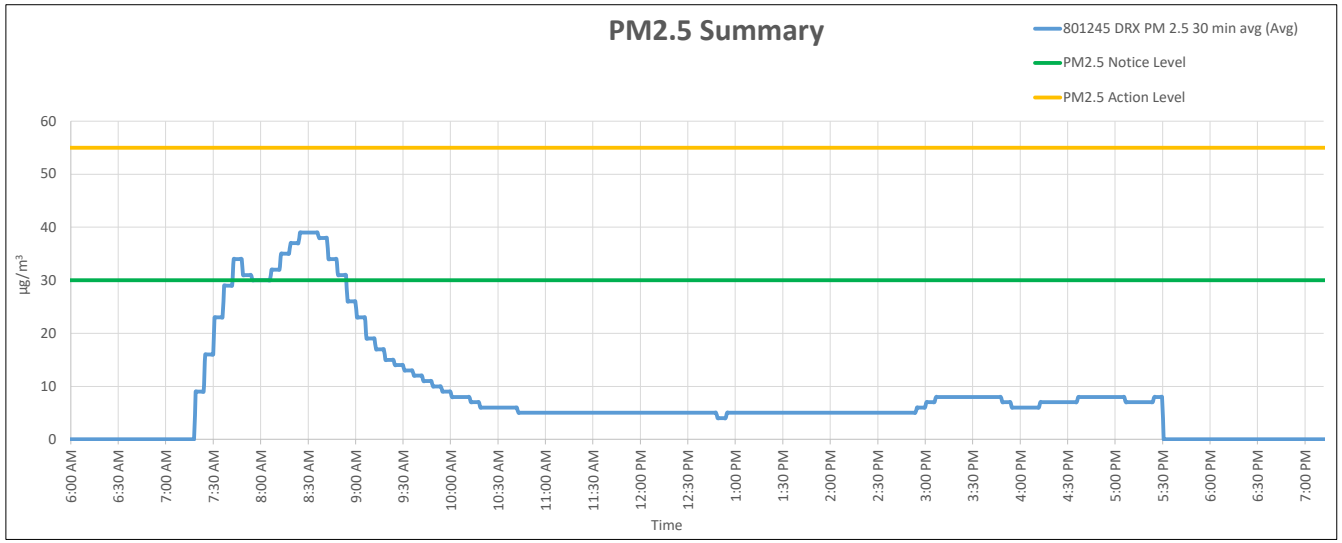




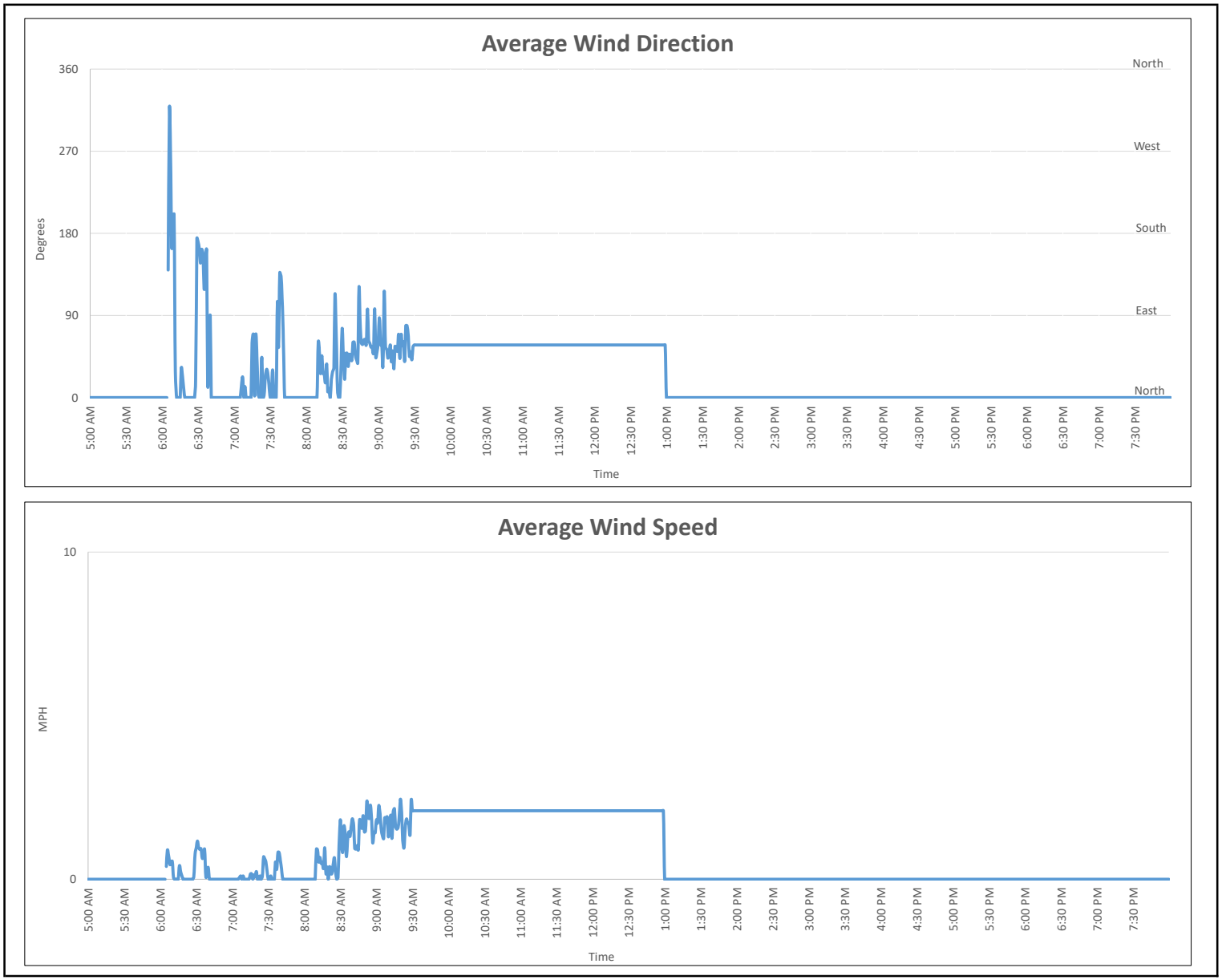
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, October 25, 2024

Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
801245	7:19 AM	5:30 PM	13.33	50.00	10.81	39.00

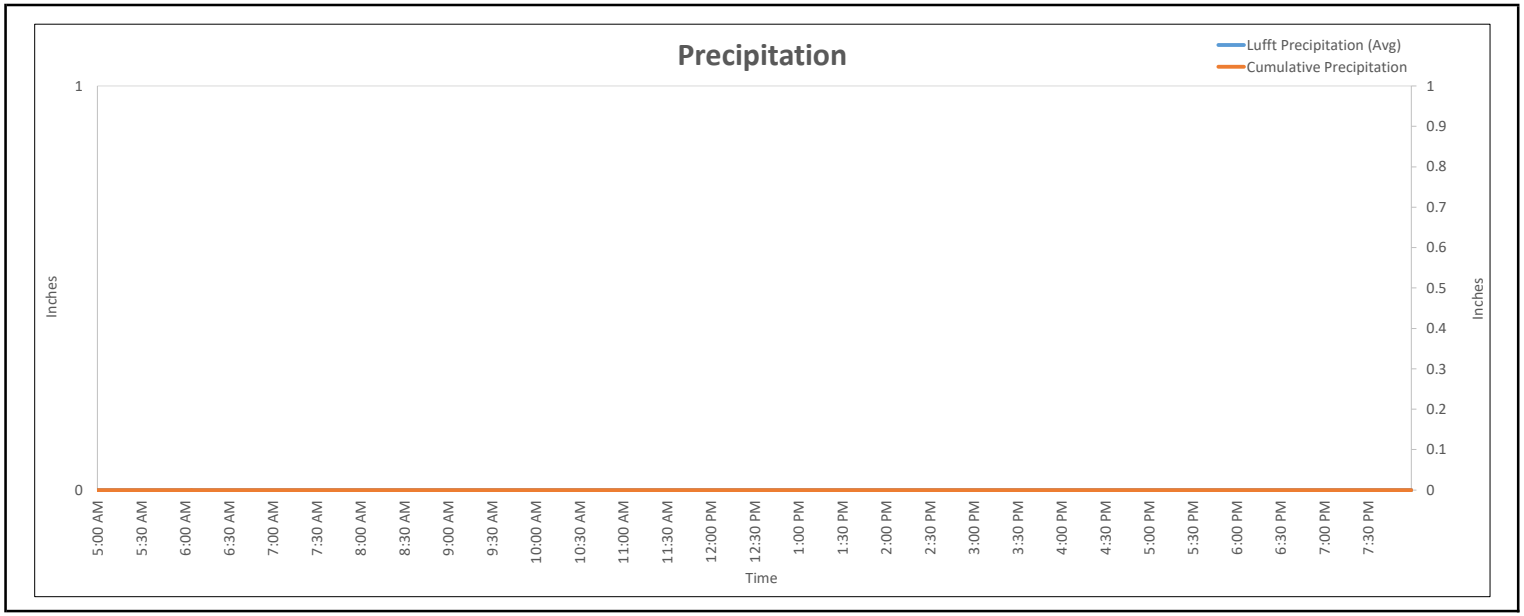




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Saturday, October 26, 2024

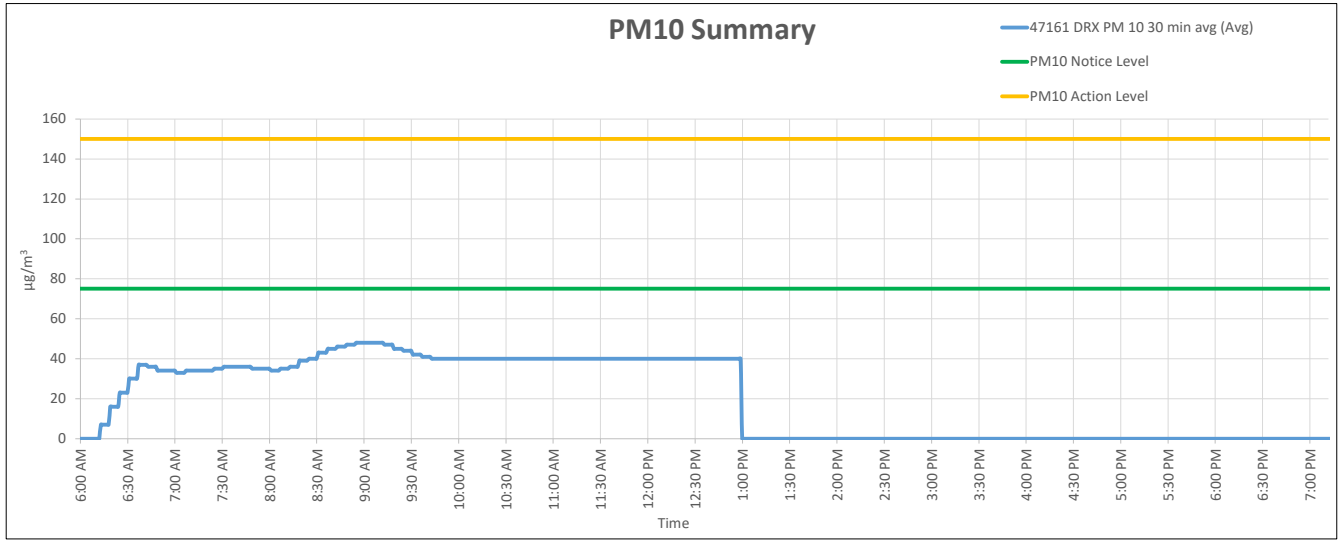


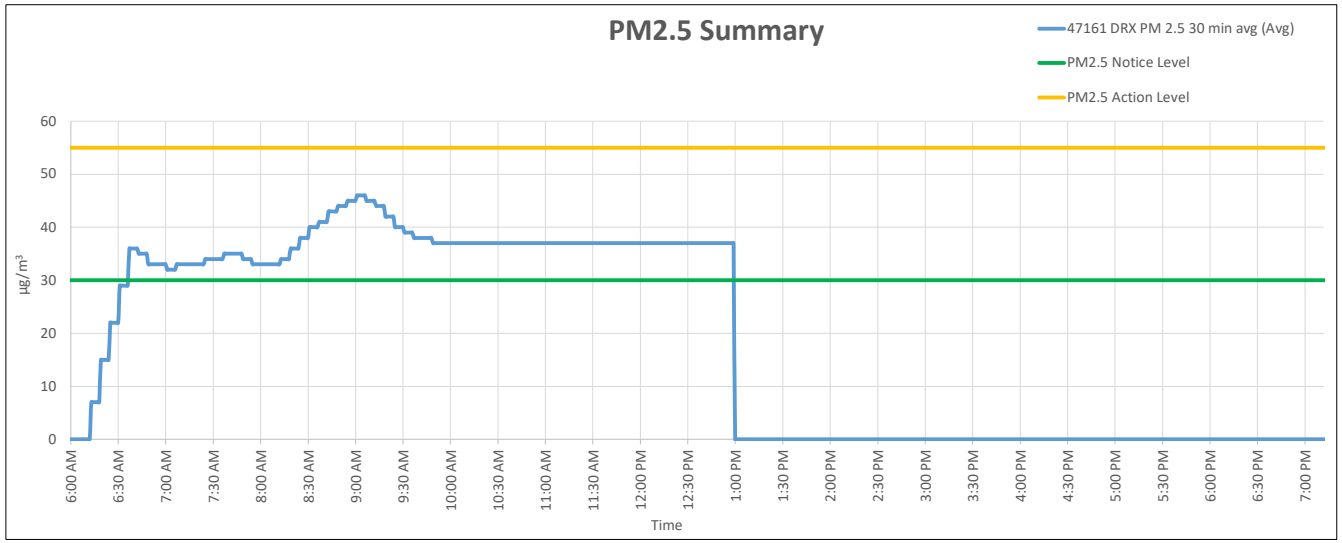
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Saturday, October 26, 2024



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Saturday, October 26, 2024

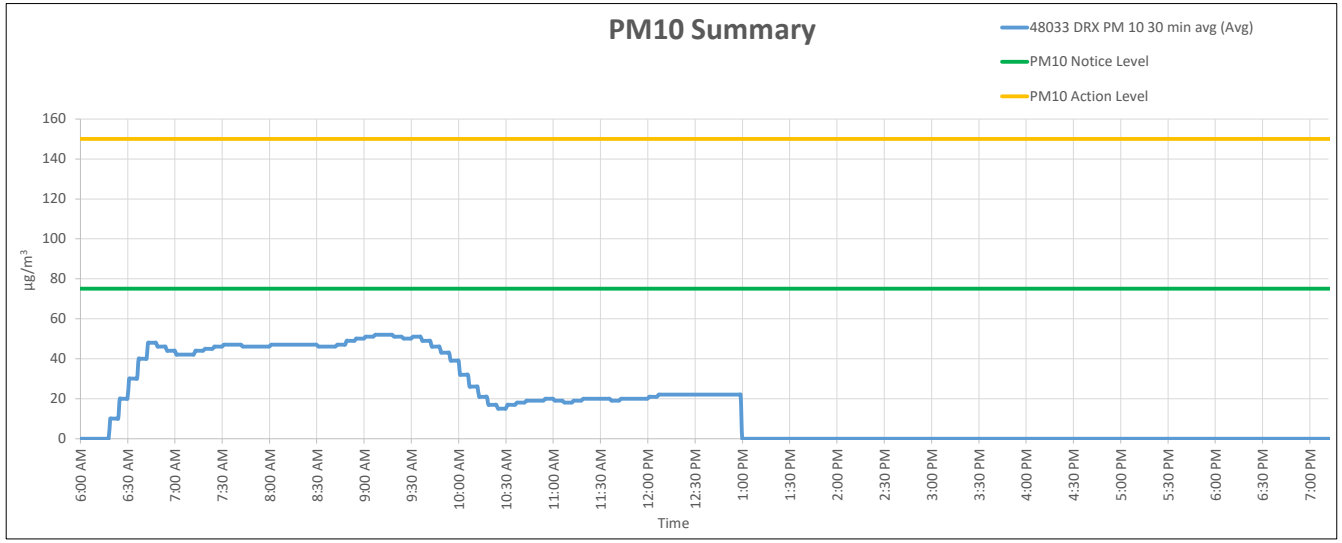
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
47161	6:13 AM	12:59 PM	38.42	48.00	36.01	46.00

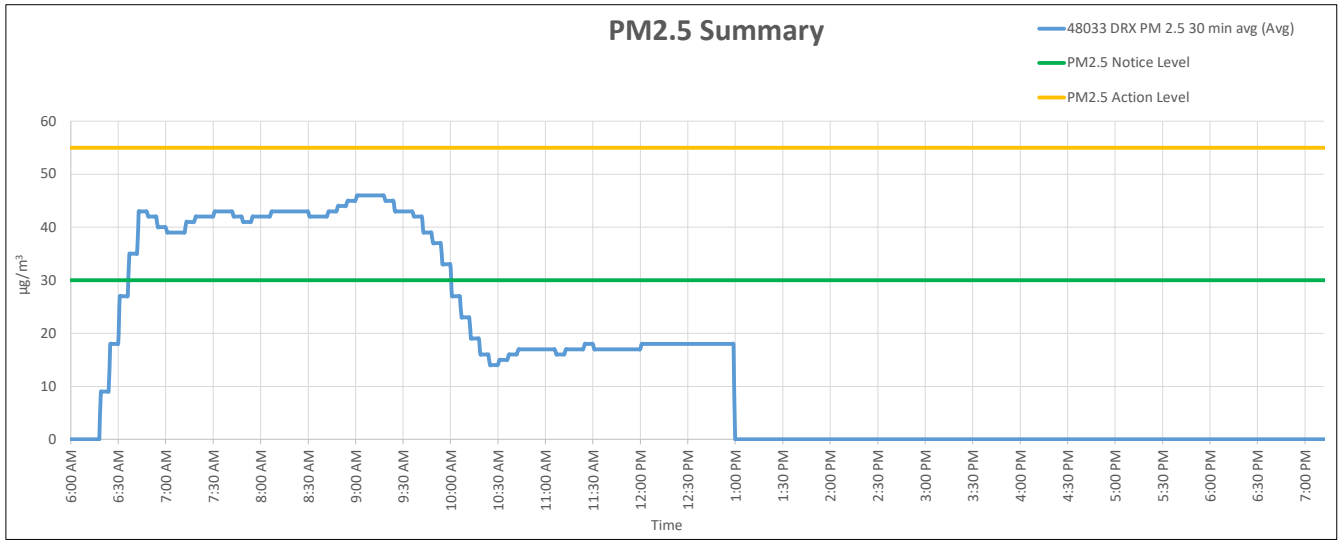




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Saturday, October 26, 2024

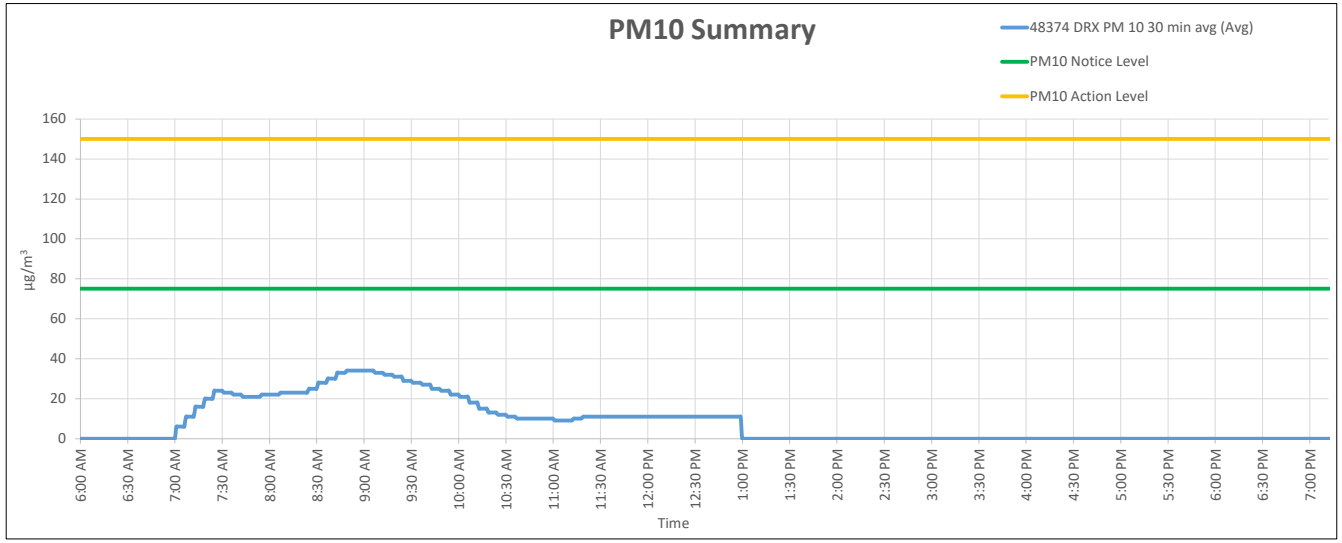
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
48033	6:19 AM	12:59 PM	33.82	52.00	30.01	46.00

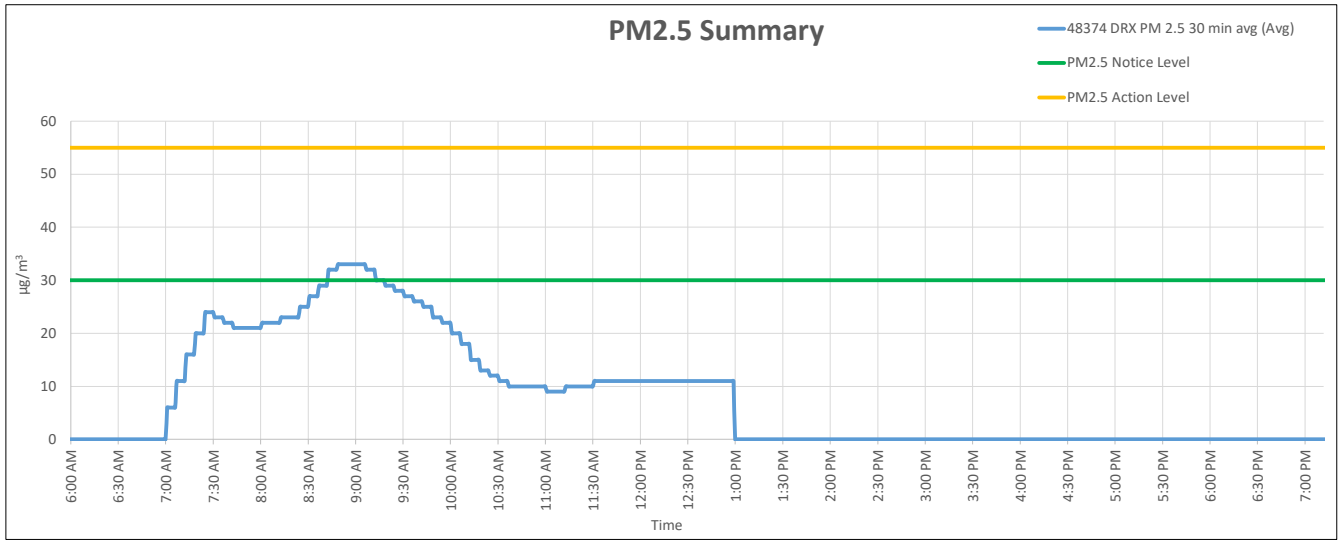




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Saturday, October 26, 2024

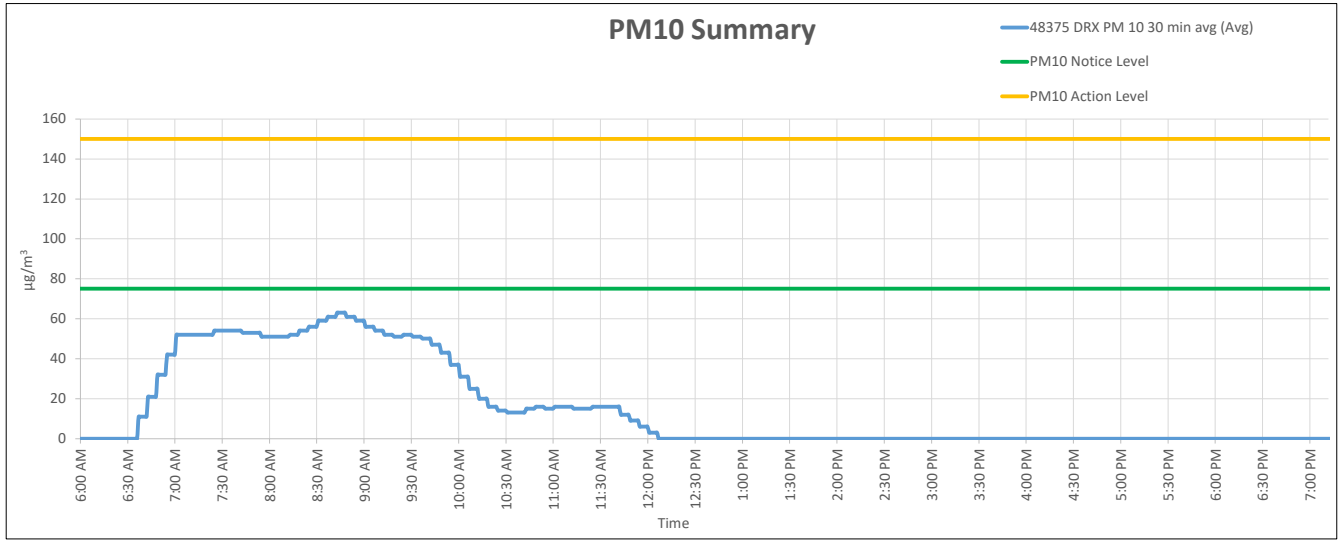
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
48374	7:01 AM	12:59 PM	18.20	34.00	17.87	33.00

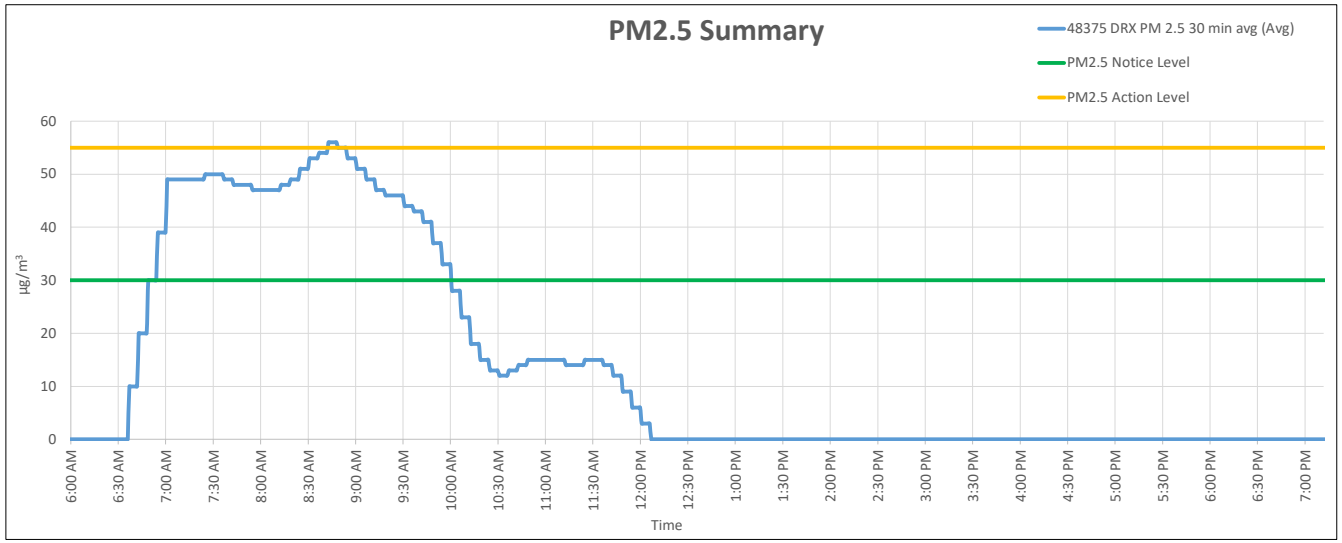




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Saturday, October 26, 2024

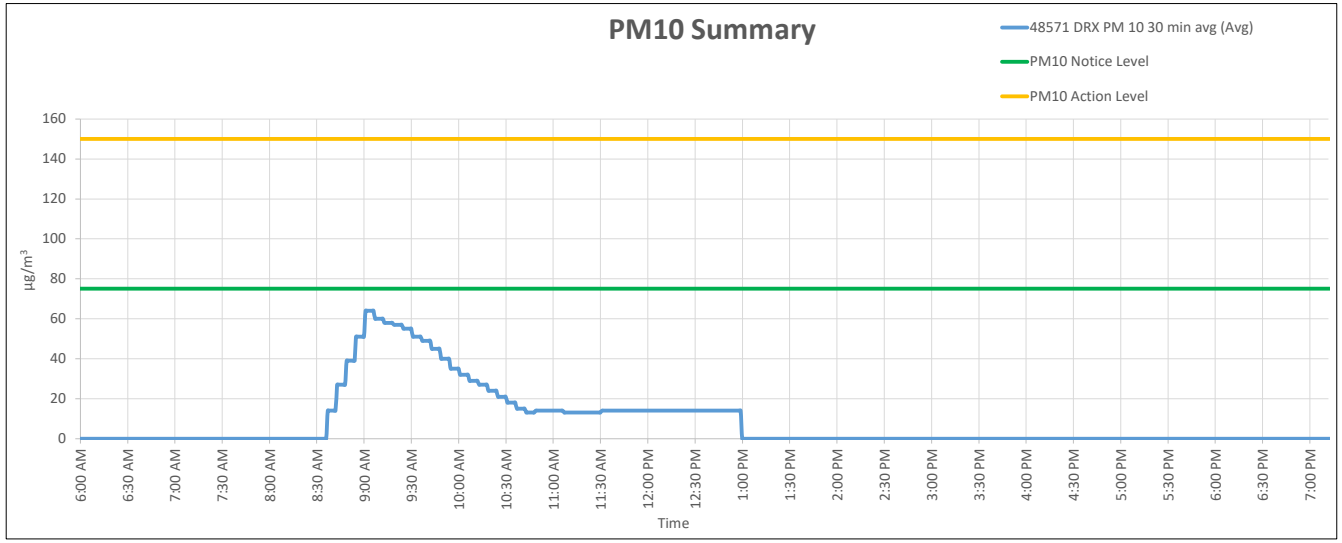
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
48375	6:37 AM	12:06 PM	36.56	63.00	33.36	56.00

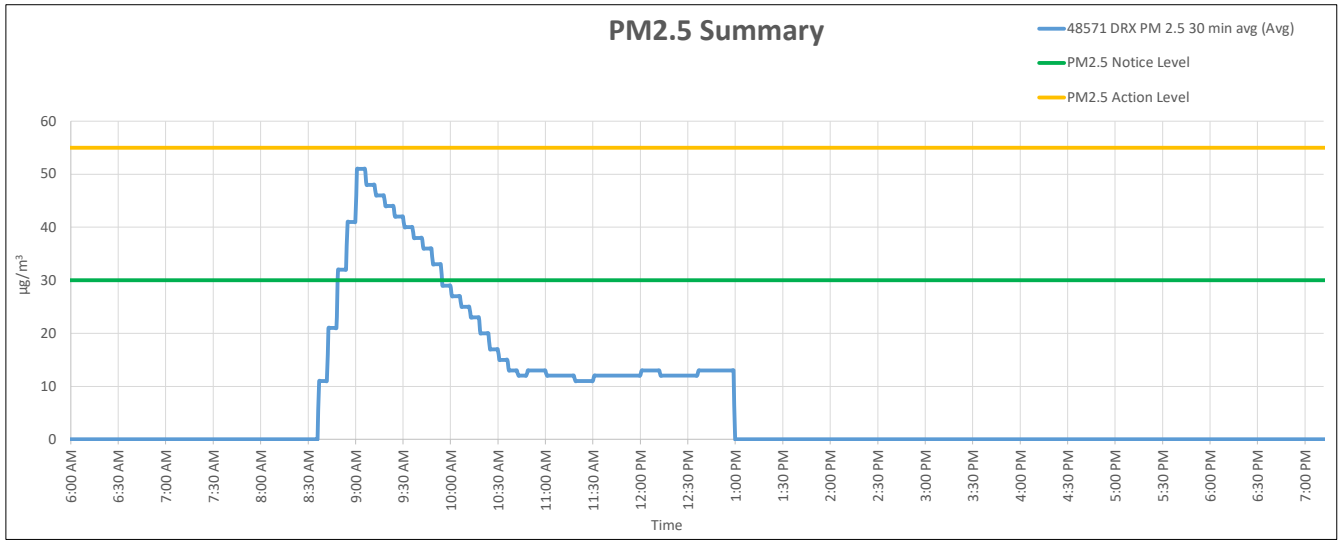




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Saturday, October 26, 2024

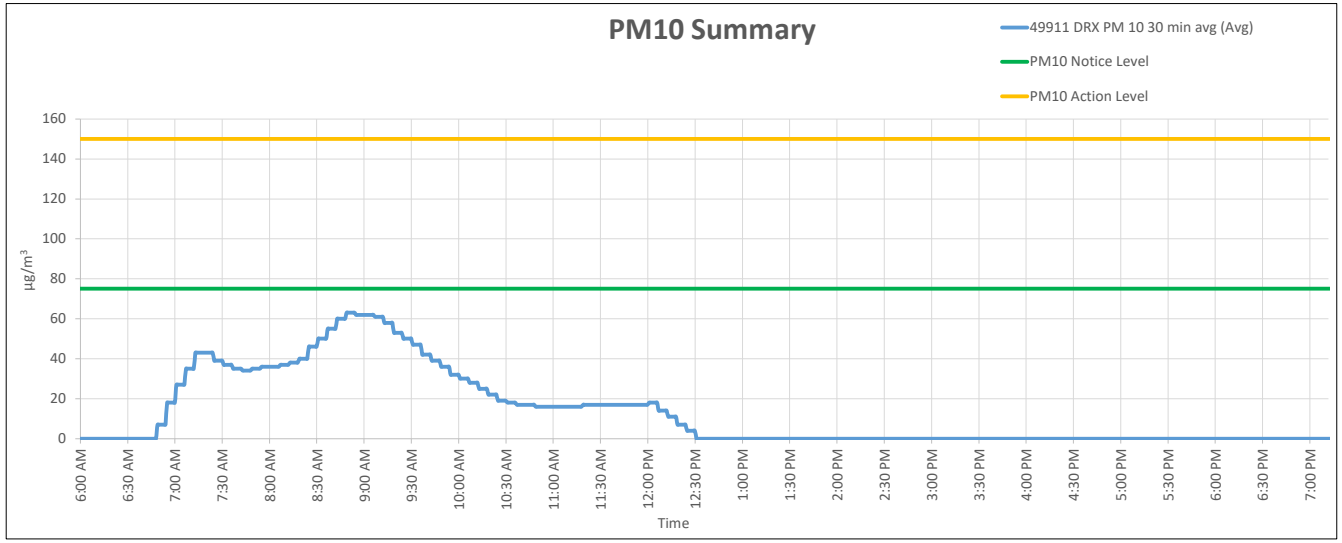
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
48571	8:37 AM	12:59 PM	25.68	64.00	21.26	51.00

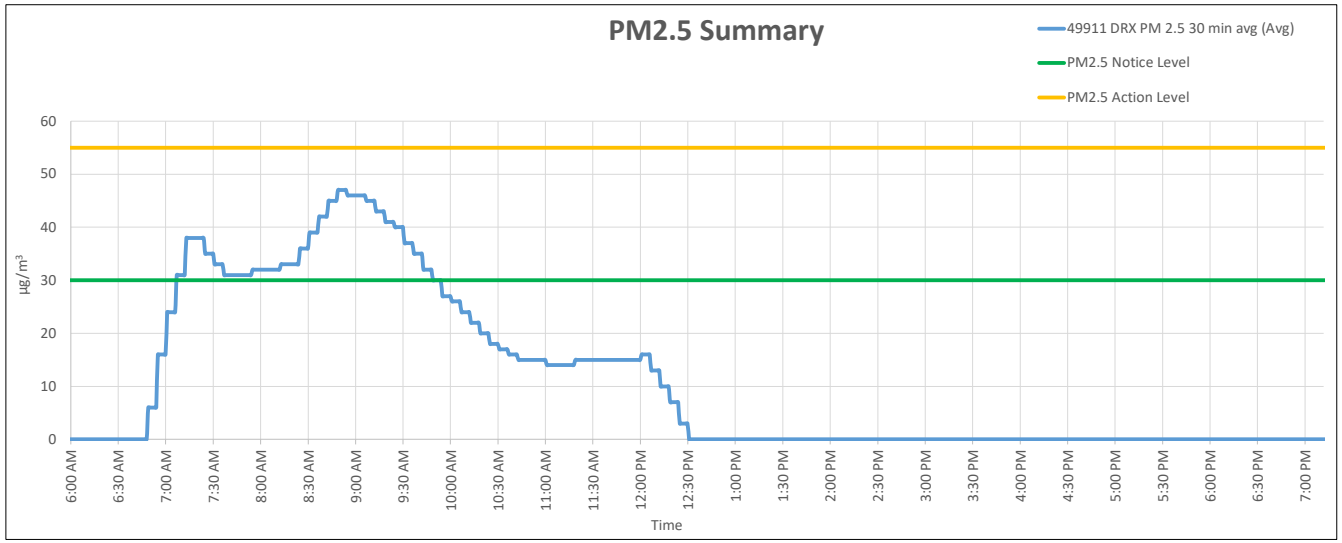




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Saturday, October 26, 2024

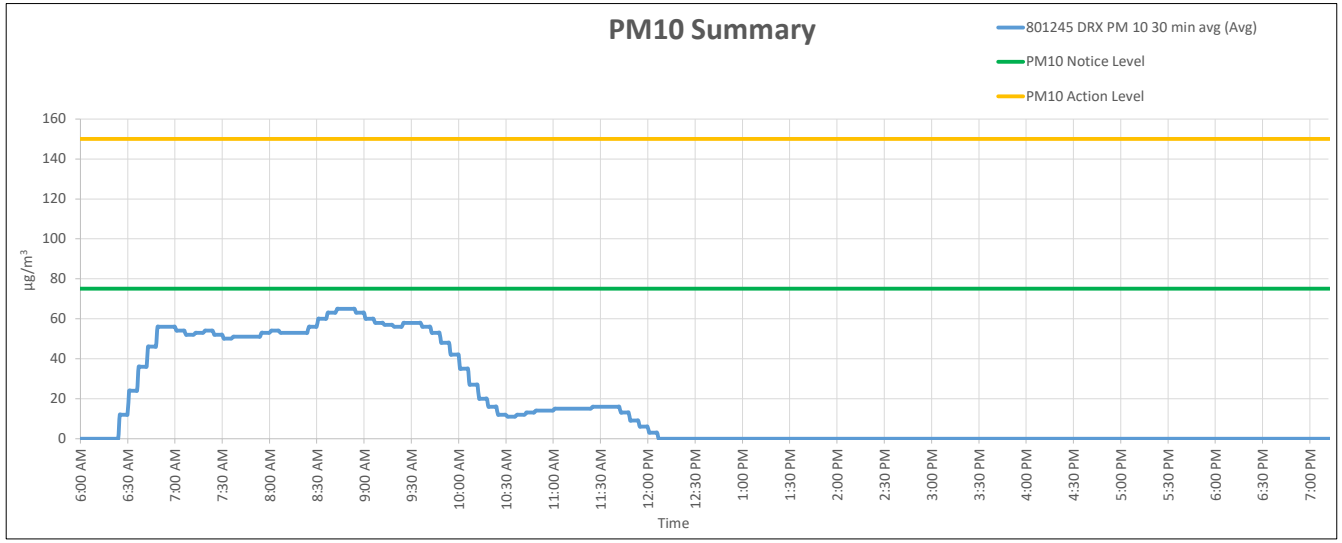
Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
49911	6:49 AM	12:30 PM	31.32	63.00	26.16	47.00

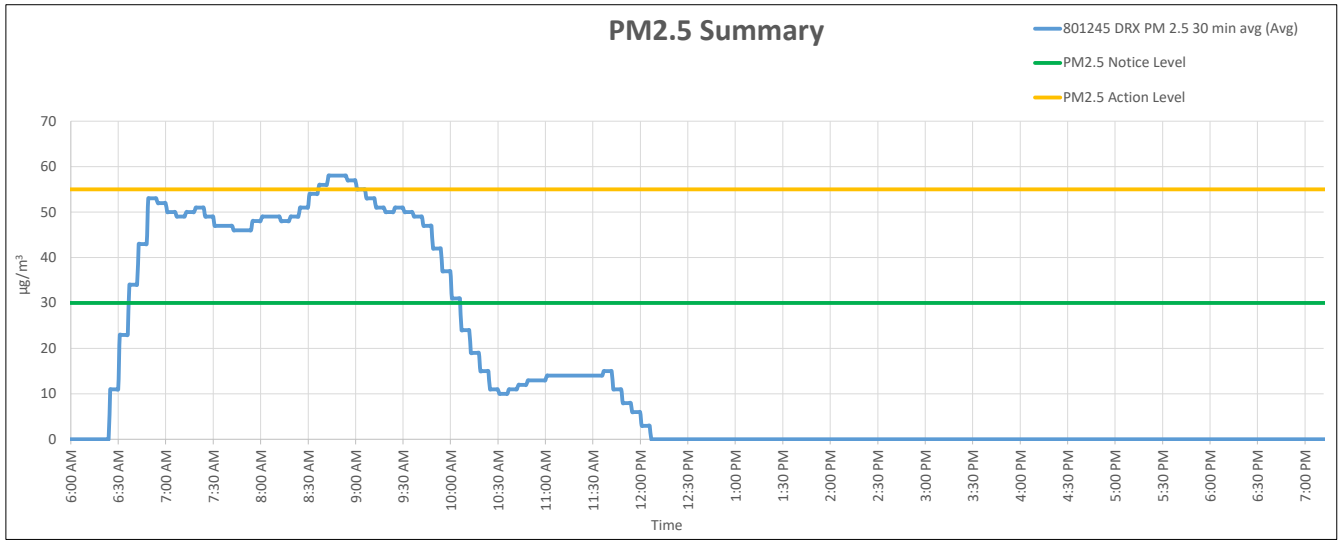




Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Saturday, October 26, 2024

Monitor Number	Start	Stop	Daily PM_{10} Average ($\mu g/m^3$)	Daily PM_{10} Maximum ($\mu g/m^3$)	Daily $PM_{2.5}$ Average ($\mu g/m^3$)	Daily $PM_{2.5}$ Maximum ($\mu g/m^3$)
801245	6:25 AM	12:06 PM	38.51	65.00	35.07	58.00





SECTION 3RESULTS OF INTEGRATED AIR SAMPLING

3.1 Integrated Air Sampling

UPRR is collecting integrated air samples for polynuclear aromatic hydrocarbons (PAHs), lead and arsenic during the excavation activities. Integrated air sampling is a method of sampling that is collected by drawing a known volume of air through filters or media and sent to a laboratory for analysis. Due to the analysis required, integrated air sample results are not real time. The results provided herein are the most recent lab results available. Up to two (2) air samples are taken per week per pollutant. Lab results are compared to TCEQ short-term and long-term Air Monitoring Comparison Values (AMCV). AMCV values are chemical specific and are intended to be protective of human health and welfare.

- Short-Term AMCV: The short-term AMCV, based on acute exposure health and welfare data, is compared to monitored concentrations that can be 30 minutes to 1-hour, which represent a point in time for a specific location.

- Long-Term AMCV: The long-term AMCV, based on chronic health and welfare data, is used to evaluate annual averaged monitored concentrations or annual concentrations averaged over multiple years (if available), which represent multiple points in time for specific locations.

Health-based AMCVs are safe levels at which exposure is unlikely to result in adverse health effects. Airborne levels of these contaminants are considered acceptable if the 12-hour average airborne concentrations were below the applicable AMCV values presented below in Table 4.

Table 5 – TCEQ AMCV for Arsenic and PAH
Union Pacific Houston Wood Preserving Works

Houston, Texas

Analyte	Short-Term AMCV (µg/m³)	Long-Term AMCV (µg/m³)
Arsenic	3	0.067
Acenaphthene	100	10
Acenaphthylene	100	10
Anthracene	1	0.067
Benzo(a)anthracene	0.5	0.05
Benzo(a)pyrene	NE	0.017
Benzo(b)fluoranthene	0.5	0.05
Benzo(c)pyrene	NE	NE
Benzo(g,h,i)perylene	0.5	0.05
Benzo(k)fluoranthene	0.5	0.05
Chrysene	0.5	0.05
Dibenzo(a,h)anthracene	0.5	0.05
Fluoranthene	0.5	0.05
Fluorene	10	1
Indeno(1,2,3-cd)pyrene	0.5	0.05
1-Methylnaphthalene	NE	NE
2-Methylnaphthalene	NE	NE
Naphthalene	500	50
Perylene	NE	NE
Phenanthrene	8	0.8

Table 5 – TCEQ AMCV for Arsenic and PAH Union Pacific Houston Wood Preserving Works Houston, Texas		
Analyte	**Short-Term AMCV ($\mu g/m^3$)**	**Long-Term AMCV ($\mu g/m^3$)**
Pyrene	0.5	0.05
Acronyms: NE – None Established		

The Texas Commission on Environmental Quality (TCEQ) has adopted the USEPA NAAQS for lead. Airborne levels of lead were considered to be acceptable if concentrations measured were below 0.15 μg/m3 as a 3-month average concentration.

Integrated air samples were not taken during the month of October since there only three days of work at the site. None of the days were full 8 hour days, as required to perform the air samples.

ATTACHMENT C

Dust Control and Air Monitoring Plan Addendum

June 15, 2024

Kevin Peterburs
Senior Manager
Union Pacific Railroad
4823 N 119th Street
Milwaukee, WI 53225

Via Email: kjpeterb@up.com

SUBJECT: Ambient Air Monitoring at the Houston Wood Preserving Works – Englewood Intermodal Yard – Focused Excavations
United Pacific Railroad Company–Houston Wood Preserving Works Site
4910 Liberty Road
Houston, Texas
Atlas Project No.: NPUP0003, Phase 2

Dear Mr. Peterburs:

Atlas Technical Consultants, LLC (Atlas) is proposing to amend the Dust Control and Air Monitoring Plan for the Houston Wood Preserving Works – Englewood Intermodal Yard – Focused Excavations to include revised Target Dust Control Levels. The revised levels would take action only during regional poor air quality days where onsite air monitoring levels are near or exceed the Stop Work threshold without additional excavation activities. Poor air quality days due to particulate matter are common in the Houston metroplex. The revised levels would ensure Union Pacific Railroad (UPRR) could continue excavation activities despite regional poor air quality.

The current Dust Control and Air Monitoring Plan dated October 20, 2023, anticipated the potential need to revise certain monitoring criteria due to environmental conditions. The plan states “If IHST identifies other sites or environmental conditions that clearly may confound particulate level measurements for control purposes, IHST may apply additional reasonable corrections or exclusions to monitoring station data. Any such corrections will be documented and communicated to UPRR managers and the project Environmental Manager. Together with UPRR, Atlas has determined poor regional air quality is an environmental condition that needs to be addressed. With this addendum, UPRR is proposing to exclude background monitor concentrations from the onsite monitor concentrations during regional poor air quality days to compare to the established control level thresholds.

Air quality concentrations from the TCEQ air monitoring station Houston North Wayside C405/C1033 would be used as a baseline to determine the regional air quality. The Houston North Wayside monitor is approximately 3.5 miles from the Houston Wood Preserving Works site. Revised thresholds would be implemented if the onsite monitor value minus the TCEQ monitor values exceeded the respective Notice Level, Action Level or Stop Work level.

The revised threshold levels are presented in Table 1.

Table 1 – Revised Established Control Levels Union Pacific Houston Wood Preserving Works Houston, Texas		
	$PM_{2.5}$ 30-minute Average	**PM_{10} 30-minute Average**
Notice Level on Poor Air Quality Days	Onsite Monitor - TCEQ Monitor >30 µg/m^3	Onsite Monitor - TCEQ Monitor >75 µg/m^3
	The Notice Level is intended as an early warning of potential elevations in airborne dust levels. When the notice level is exceeded the onsite IH will investigate the area(s) where the initial elevations in dust levels are indicated, and inform the Remediation Manager, Environmental Manager and other designated personnel of the known or most likely source(s) of the elevated levels, and advise what actions, if any, appear warranted to limit airborne dust generation. The Remediation Manager and Environmental Manager will determine how to best implement the recommendations of the IH.	
Action Level on Poor Air Quality Days	Onsite Monitor - TCEQ Monitor >55 µg/m^3	Onsite Monitor - TCEQ Monitor >150 µg/m^3
	The Action Level is intended as an indication that control measures should be implemented in a timely manner to mitigate generation of airborne dusts. When the Action Level is exceeded, the IH will investigate the area(s) where the elevations in dust levels are indicated, and inform the Remediation Manager, Environmental Manager and other designated personnel of the known or most likely source(s) of the elevated levels, and advise what actions, if any, appear warranted to limit airborne dust generation. The Remediation Manager and Environmental Manager will determine how to best implement the recommendations of the IH.	
Stop-Work Level on Poor Air Quality Days	Onsite Monitor - TCEQ Monitor >85 µg/m^3	Onsite Monitor - TCEQ Monitor >300 µg/m^3
	The Stop-Work Level is intended as an indication that continued generation of airborne dusts at or above the specified levels are likely to result in overall daily averages or short-term elevations in airborne dust levels that could be greater than the parameters established for the project. When the Stop-Work Level is exceeded, work in the affected area(s) should be stopped until additional controls are implemented. The IH will investigate the area(s) where the elevations in dust levels are indicated, reporting his findings and recommendations to the Remediation Manager, Environmental Manager and other designated personnel. This team will work together to determine what control measures will be effective in reducing dust levels and how to best implement those measures and resume remediation activities. If stop-work levels are reached more than twice per day, the dust-generating activity will be stopped for the remainder of the workday and UPRR will design and implement a more effective dust control program prior to resuming work the following workday.	
Acronyms: IH – Industrial Hygienist		

TCEQ real-time air monitoring data can be delayed by two to three hours. The onsite Industrial Hygienist would note the most recent available value from the North North Wayside C405/C1033 monitor and calculate the difference between the two monitors. If the difference is below the respective Notice Level, Action Level or Stop Work level excavation activities can continue. If the difference between the two monitors exceed the respective Notice Level, Action Level or Stop Work level then appropriate action by UPRR personnel will be taken.