



July 11, 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 June 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 June 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 June 2024:

Week Period June 3 through June 7, 2024:

- **Remediation Activities:**
 - E3 conducted the following activities during this week:

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- Continued and completed initial excavation at FE-11. Began and completed floor extension at FE-11 (Photo 1).
 - Began and completed North, North-East, and North-West extensions at FE-4 (Photo 2).
 - Began and completed initial excavation at FE-9 (Photo 3).
 - Began and completed initial excavation at FE-5 (Photo 4).
 - Began and completed initial excavation and North and East extensions at FE-8 (Photo 5).
 - Scraped tar seeps from the floor of FE-2 and FE-7.
- **Dust Control and Air Monitoring:**
 - Atlas Technical Consultants (Atlas) conducted real time air and dust monitoring at the Site on behalf of UPRR in accordance with the Dust Control and Air Monitoring (DCAM) Plan provided in the Revised IMWP. No Target Dust Control Levels were exceeded during the remediation activities on June 3rd through 7th (Appendix B).
 - Atlas collected two integrated air samples on June 6, 2024, and two integrated air samples on June 7, 2024, in accordance with the DCAM Plan. Samples were submitted to the laboratory for lead, arsenic, and PAHs analyses. Arsenic and lead concentrations were not detected above laboratory method detection limits (MDLs). Results of the integrated air samples for PAHs indicated that there were no exceedances of TCEQ AMCVs. Laboratory analytical results are included in Atlas' monthly summary provided in Appendix B.
 - On June 3rd & 4th, a stop work was called prior to excavation activities starting for both days due to elevated ambient air levels. The TCEQ monitor confirmed that elevated levels were due to an atmospheric event not related to excavation activities (Appendix B).
 - **Soil/Waste Management**
 - The excavated material (asphalt pavement, concrete and soil) was containerized in roll-offs staged on site. Five-point composite samples were collected from each roll-off container for waste characterization. Forty roll-off containers were filled this week. The roll-offs were covered when not actively being loaded.
 - Roll-off container # RT953, which was previously used to store drums recovered from FE-11, was used to store additional refuse recovered from FE-11 and steel pipes recovered from FE-5 (Photo 6).
 - Drum 4 was used to store DEF fluid and absorbent.
 - Drum 5 was used to store hydraulic fluid and absorbent collected from a leaking roll-off truck.
 - Drum 6 was used to store NAPL scraped from FE-11.
 - **Stormwater Management**
 - Approximately 7500 gallons of stormwater was removed from FE-4, FE-8, FE-11 and secondary containments.
 - As of Friday 6/7: Approximately 17,905 gallons stored in large frac tank (ALG6420), approximately 7,029 gallons stored in mini frac tank (AL7378), approximately 8,000 gallons stored in mini frac tank (AL6420). Total of 32,934 gallons stored onsite.

Week Period June 10 through June 14, 2024:

- **Remediation Activities:**
 - E3 conducted the following activities during this week:
 - Began and completed initial excavation at FE-06 (Photo 7).

- Began and completed excavation at FE-10, FE-12, and FE-05 south and east extensions (Photo 8, 9, and 10).
- Began excavation at FE-13 (Photo 11).
- **Dust Control and Air Monitoring:**
 - Atlas Technical Consultants (Atlas) conducted real time air and dust monitoring at the Site on behalf of UPRR in accordance with the Dust Control and Air Monitoring (DCAM) Plan provided in the Revised IMWP. No Target Dust Control Levels were exceeded during the remediation activities on June 10th through 14th (Appendix B).
 - Atlas collected two integrated air samples on June 13, 2024, in accordance with the DCAM Plan. Samples were submitted to the laboratory for lead, arsenic, and PAHs analyses. Arsenic and lead concentrations were not detected above laboratory method detection limits (MDLs). Results of the integrated air samples for PAHs indicated that there were no exceedances of TCEQ AMCVs. Laboratory analytical results are included in Atlas' monthly summary provided in Appendix B.
 - On June 14th, a stop work was called prior to excavation activities starting for the day due to elevated ambient air levels. The TCEQ monitor confirmed that elevated levels were due to an atmospheric event not related to excavation activities (Appendix B).
- **Soil/Waste Management**
 - Excavated concrete/asphalt and soil generated this week were placed in thirty-seven roll-off containers, staged on Site. Five-point composite samples were collected from each roll-off container for waste characterization. The roll-off containers were covered when not actively being loaded.
- **Stormwater Management**
 - Stormwater prevention measures were used for FE-05 extensions, and berms and excavations were cleaned prior to storm.
 - After the storm several inches of water was pumped from all excavations. A large, shallow tar seep appeared on the SE corner of FE-05.
 - Stormwater management measures escalated by building up soil berms and wattles around the entire perimeter of all FEs to reduce impact.

Week Period June 17 through June 21, 2024:

- **Remediation Activities:**
 - E3 conducted the following activities during this week:
 - Resumed and completed excavation at FE-13 (Photo 12).
 - Began and completed excavation at FE-05 SW and FE-06 NE extensions (Photo 13 and 14).
- **Dust Control and Air Monitoring:**
 - Atlas Technical Consultants (Atlas) conducted real time air and dust monitoring at the Site on behalf of UPRR in accordance with the Dust Control and Air Monitoring (DCAM) Plan provided in the Revised IMWP. No Target Dust Control Levels were exceeded during the remediation activities on June 17th through 21th (Appendix B).
 - Integrated air samples were not collected due to consistent rain events.

- **Soil/Waste Management**
 - Excavated asphalt/concrete pavement and soil were placed in sixteen roll-off containers and staged on the Site. Five-point composite samples were collected from each roll-off container for waste characterization. Roll-off containers were covered when not actively being loaded.
- **Stormwater Management**
 - E3 prepared for consistent rain events all week by placing berms and wattles around all open excavations and surface drains, covering all roll-offs, and fixing secondary containments blown over by high wind.
 - Following rain events, stormwater was recovered from FE-06 using vacuum trucks and containerized in mini frac tanks located on Site pending characterization and disposal. BMPs were checked before and after the rain events.
 - Stormwater mitigation tools were prepared, checked on, and repaired during days where work was called off due to weather.

Week Period June 24 through June 28, 2024:

- **Remediation Activities:**
 - E3 completed the following excavation activities this week:
 - Began and completed excavation of FE-04 extension, FE-06 to 5', and FE-05 to 5' (Photo 15).
 - Began and completed excavation of fill material previously placed in FE-01 and FE-03 (Photo 16).
 - Began and completed backfill of new material into FE-01, FE-02, FE-03, and FE-07 (Photo 17).
 - FE-02 passed compaction test.
 - Began and completed removal of tar and backfill of FE-04 (Photo 18).
 - UPRR decided to make no more extensions to FE locations.
- **Dust Control and Air Monitoring:**
 - Atlas Technical Consultants (Atlas) conducted real time air and dust monitoring at the Site on behalf of UPRR in accordance with the Dust Control and Air Monitoring (DCAM) Plan provided in the Revised IMWP. No Target Dust Control Levels were exceeded during the remediation activities on June 24th through 28th (Appendix B).
 - Integrated air samples were collected on June 24th and June 26th.
 - On June 24th, it was determined that exhaust fumes from a truck caused elevated ambient air level readings. Work was continued since excavation activities were not the cause of elevated ambient air level readings (Appendix B).
- **Soil/Waste Management**
 - Excavated asphalt/concrete pavement and soil were placed in eighteen roll-off containers and staged on the Site. Five-point composite samples were collected from each roll-off container for waste characterization. Roll-off containers were covered when not actively being loaded.
 - Tar removed from the floor of FE-04 was placed in a drum.
- **Stormwater Management**

- Stormwater was removed from all excavations between storms. E3 pumped the water into mini frac tanks located on Site pending characterization and disposal. A large seep developed in the NE corner of the excavation prior to completion.
- E3 installed stormwater berms and waddles around excavations in preparation for forecasted storms.

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 June 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 DNAPL using an interface probe. No measurable NAPL has been detected within the sumps using the interface probe through June 2024. A hoe has continued to be used to recover DNAPL, if present, from the bottom of each of the sumps during the weekly inspections. No DNAPL was encountered or recovered from the Sumps during June 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 June 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:
 - June 5th – B099/B100 and B103/B104 were not able to be measured due to the ongoing focused excavations. B107/B108 was measured at 13 inches (Photo 19, 20, and 21).
 - June 12th – at 0, 13 and 13 inches (Photo 22, 23, and 24).
 - June 19th – at 0, 13, and 13 inches (Photo 25, 26, and 27).
 - June 26th – at 2.5, 10.5, and 10 inches (Photo 28, 29, and 30).
- During the June 2024 inspections, the water in Sump 1 was observed to be cloudy or dark brown in color, and the water in Sump 2 and Sump 3 were observed to be cloudy or clear. A sheen was observed at Sump 1 and Sump 3 during the June 19, 2024 inspection and Sump 1 during the June 26, 2024 inspection (Photo 25, 27, and 28). No odors were reported during the June inspections.

Areas Outside NAPL Collection System Inspections

For areas outside the NAPL Collection System, a small amount of tar-like material was observed on the concrete or asphalt surface at the following locations during the June 2024 weekly inspections. The tar-like material was recovered from these locations when observed:

Seep Observations Outside the NAPL Collection System Area	
Stall Number	Observation Date(s)
A011	June 5 th (Photo 31 and 32)
A022	June 5 th (Photo 33 and 34)
B107	June 5 th (Photo 35), June 12 th (Photo 36), June 26 th (Photo 37)
Track 802	June 12 th (Photo 38), June 26 th (Photo 39)
RD-14	June 5 th (Photo 40), June 12 th (Photo 41)

- Tar-like material observed during the weekly inspection events was removed and recovered using a hand tool to scrap up the material. The number of tar-like material seeps observed, and total volume of material recovered during the month of June was significantly less than during the May inspections. The collection volume reduced from 0.19 gallons to 0.08 gallons 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 June 2024 inspections, no NAPL seeps were observed at the seven July 2020 test pit locations (stalls A010, A021, A098, B013, B057, B096 and B108) or three other stall numbers B042, B056, and B102 Joint.
- As of the end of June 2024, seeps A010, A022, B042, B056, B057, B096, B100, B102, B105, and RD-14 have been excavated.

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	

TABLE 1
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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
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	

TABLE 1
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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	

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
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 B103/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/B100 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 measureable	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 measureable	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 measureable	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 measureable	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 measureable	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 measureable	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 measureable	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 measureable	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 measureable	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.

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

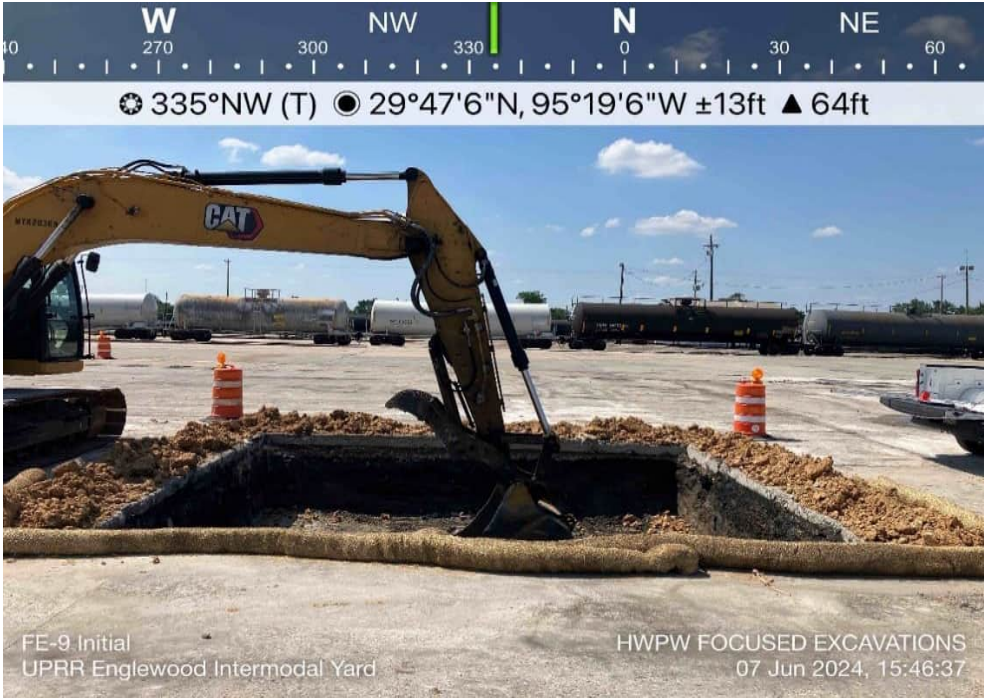
1. Freeboard not measured on 5/22/2024 due to the ongoing excavations as part of the Interim Measures Work Plan Construction Activities



ATTACHMENT A

Weekly Inspection Photolog

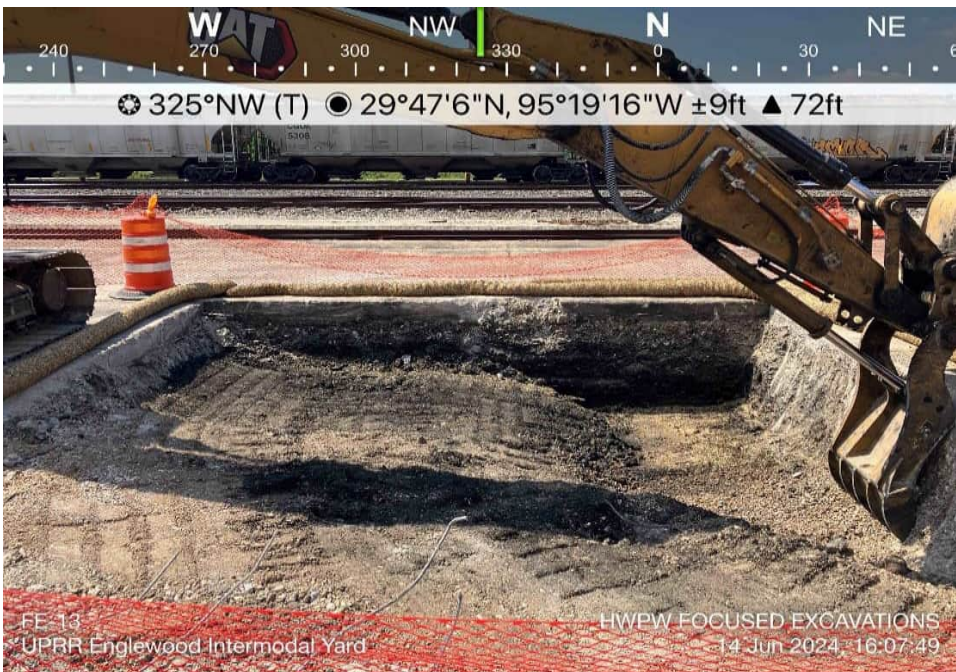
		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 1	Inspection Date: 6/3/2024	E 90 SE 120 S 150 SW 180 210 240 166°S (T) 29°47'3"N, 95°19'10"W ±13ft ▲ 58ft  FE-11 End of Day UPRR Englewood Intermodal Yard HWPW FOCUSED EXCAVATIONS 03 Jun 2024, 16:58:07	
Description: The end of day excavation progress of FE-11. Lat: 29.784167 Long: -95.319444			
Photo No. 2	Inspection Date: 6/3/2024	W 240 NW 270 N 300 NE 30 0 60 328°NW (T) 29°47'5"N, 95°19'10"W ±13ft ▲ 56ft  FE-4 End of Day UPRR Englewood Intermodal Yard HWPW FOCUSED EXCAVATIONS 03 Jun 2024, 16:57:25	
Description: The end of day excavation progress of FE-4 Lat: 29.784722 Long: -95.319444			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	
Project No. 31406585.016			
Photo No. 3	Inspection Date: 6/7/2024		
Description: The initial excavation of FE-9. Lat: 29.785000 Long: -95.318333		 FE-9 Initial UPRR Englewood Intermodal Yard HWPW FOCUSED EXCAVATIONS 07 Jun 2024, 15:46:37	
Photo No. 4	Inspection Date: 6/7/2024		
Description: The initial excavation of FE-5. Lat: 29.785278 Long: - 95.318611		 FE-5 Initial excavation UPRR Englewood Intermodal Yard HWPW FOCUSED EXCAVATIONS 07 Jun 2024, 10:32:42	

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 5	Inspection Date: 6/7/2024		
Description: The extension of the excavation at FE-8. Lat: 29.784722 Long: -95.318889			
Photo No. 6	Inspection Date: 6/5/2024		
Description: 3.5' perforated, threaded steel pipes recovered from FE-5. Lat: 29.785278 Long: -95.318611			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 7	Inspection Date: 6/12/2024		
Description: The completed expansion of the FE-06. Lat: 29.785509 Long: - 95.318291			
Photo No. 8	Inspection Date: 6/11/2024		
Description: The completed excavation of FE-10. Lat: 29.784921 Long: - 95.31766			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 9	Inspection Date: 6/13/2024	 FE-12 Daily progress UPRR Englewood Intermodal Yard HWPW FOCUSED EXCAVATIONS 13 Jun 2024, 16:57:27	
Description: The process of the excavation at FE-12. Lat: 29.785556 Long: -95.318611			
Photo No. 10	Inspection Date: 6/12/2024	 FE-05 Expansions complete UPRR Englewood Intermodal Yard HWPW FOCUSED EXCAVATIONS 12 Jun 2024, 3:06:02 PM	
Description: The completed expansion of the FE-05. Lat: 29.785348 Long: - 95.318555			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 11	Inspection Date: 6/14/2024		
Description: The start of the excavation at FE-13. Lat: 29.785000 Long: -95.321111			
Photo No. 12	Inspection Date: 6/17/2024		
Description: The completed initial excavation at FE-13. Lat: 29.785082 Long: -95.321161			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 13	Inspection Date: 6/17/2024	 2665 Harlem St, Houston, TX 77020, USA ☉ 233°SW (T) • 29.785297, -95.31869 ±3m ▲ -13m FE-05 SW Extension Excavation UPRR Englewood Intermodal Yard HWPW FOCUSED EXCAVATIONS 17 Jun 2024, 2:31:23 PM	
Description: The SW extension excavation of FE-05. Lat: 29.785297 Long: -95.31869			
Photo No. 14	Inspection Date: 6/18/2024	 2665 Harlem St, Houston, TX 77020, USA ☉ 25°N (T) • 29.785277, -95.318717 ±6m ▲ -10m FE-05 NE Extension Excavation Complete UPRR Englewood Intermodal Yard HWPW FOCUSED EXCAVATIONS 18 Jun 2024, 8:07:28 AM	
Description: The completed extension excavation at FE-05. Lat: 29.785277 Long: -95.318717			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 15	Inspection Date: 6/24/2024	W 270 NW 300 N 330 NE 0 30 60 353°N (T) 29°47'5"N, 95°19'10"W ±13ft ▲ 56ft  FE-4 UPRR Englewood Intermodal Yard HWPW Focused Excavations 24 Jun 2024, 16:48:13	
Description: The completed excavation of FE-4. Lat: 29.784722 Long: -95.319444			
Photo No. 16	Inspection Date: 6/25/2024	SE 120 S 150 SW 180 W 210 240 270 202°S (T) 29°47'3"N, 95°19'14"W ±13ft ▲ 51ft  FE-1&3 6" of backfill UPRR Englewood Intermodal Yard HWPW Focused Excavations 25 Jun 2024, 17:06:00	
Description: The backfill process of FE-1/3. Lat: 29.784167 Long: -95.320556			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 17	Inspection Date: 6/25/2024		
Description: The backfill process of FE7. Lat: 29.784167 Long: -95.320278			
Photo No. 18	Inspection Date: 6/26/2024		
Description: The backfill process of FE-4. Lat: 29.784722 Long: - 95.319167			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 19	Inspection Date: 6/7/2024		
Description: Sump 1 (B099/B100), not accessible due to excavations. Lat: 29.784236 Long: -95.320786			
Photo No. 20	Inspection Date: 6/7/2024		
Description: Sump 3 (B107/B108), 13 inches of freeboard in sump, no sheen observed, water color noted as cloudy to clear. Lat: 29.7844000 Long: -95.3205861			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 21	Inspection Date: 6/7/2024		
Description: Sump 3 (B107/B108), 13 inches of freeboard in sump, no sheen observed, water color noted as cloudy to clear. Lat: 29.7844000 Long: -95.3205861			
Photo No. 22	Inspection Date: 6/12/2024		
Description: Sump 1 (B090/B100), 0 inches of freeboard in sump, no sheen observed, water color noted as brown to cloudy. Lat: 29.7844000 Long: -95.3205861			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 23	Inspection Date: 6/12/2024		
Description: Sump 2 (B103/B104), 13 inches of freeboard in sump. No odor or sheen observed, color noted as clear to cloudy. Lat: 29.7842861 Long: -95.3208611			
Photo No. 24	Inspection Date: 6/12/2024		
Description: Sump 3 (B107/B108), 13 inches of freeboard in sump, no sheen observed, water color noted as clear. Lat: 29.7844000 Long: -95.3205861			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 25	Inspection Date: 6/19/2024		
Description: Sump 1 (B090/B100), 0 inches of freeboard in sump, sheen observed, water color noted as dark brown. Lat: 29.7844000 Long: -95.3205861			
Photo No. 26	Inspection Date: 6/19/2024		
Description: Sump 2 (B103/B104), 13 inches of freeboard in sump. No odor or sheen observed, color noted as clear. Lat: 29.7842861 Long: -95.3208611			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 27	Inspection Date: 6/19/2024		
Description: Sump 3 (B107/B108), 13 inches of freeboard in sump, sheen observed, water color noted as clear. Lat: 29.7844000 Long: -95.3205861			
Photo No. 28	Inspection Date: 6/26/2024		
Description: Sump 1 (B009/B100), 2.5 inches of freeboard in sump, sheen observed, water color noted as brown to cloudy. Lat: 29.7844000 Long: -95.3205861			



PHOTOGRAPHIC LOG

Client Name:
Union Pacific Railroad

Site Location:
Englewood Intermodal Yard, Houston, Texas

Project No.
31406585.016

Photo No.
29

Inspection Date:
6/26/2024

Description:

Sump 2 (B103/B104), 10.5 inches of freeboard in sump. No odor or sheen observed, color noted as clear.

Lat: 29.7842861
Long: -95.3208611



Photo No.
30

Inspection Date:
6/26/2024

Description:

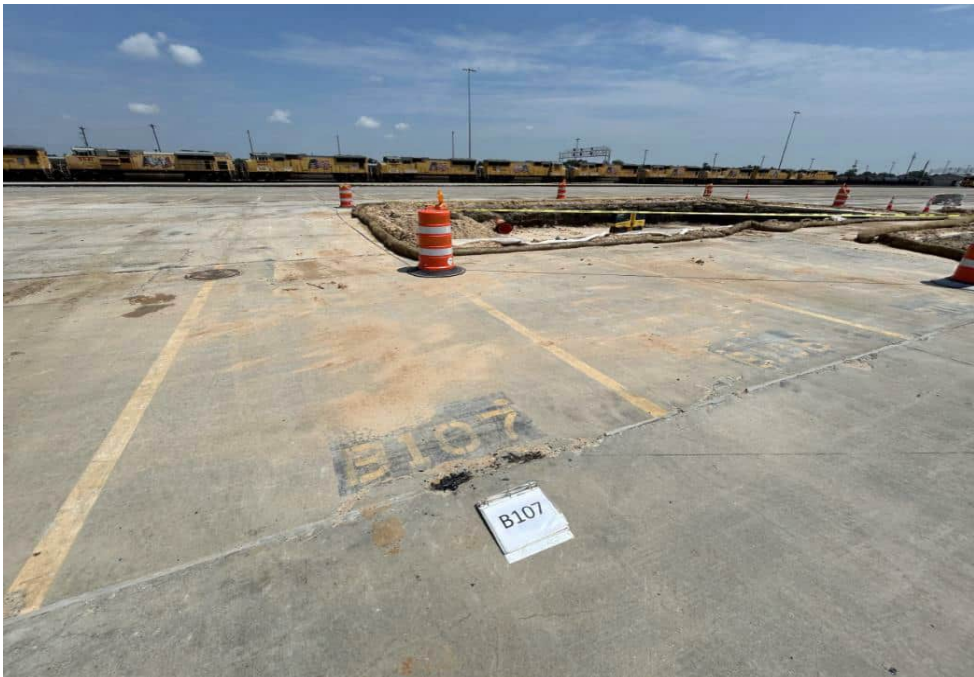
Sump 3 (B107/B108), 10 inches of freeboard in sump, no sheen observed, water color noted as clear.

Lat: 29.7844000
Long: -95.3205861



		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 31	Inspection Date: 6/5/2024		
Description: 4 cubic inches of NAPL found at A011. Lat: 29.785467 Long: -95.318341			
Photo No. 32	Inspection Date: 6/5/2024		
Description: 4 cubic inches of NAPL found at A011. Lat: 29.785467 Long: -95.318341			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 33	Inspection Date: 6/5/2024		
Description: 2 cubic inches of NAPL found at A022. Lat: 29.785378 Long: -95.318694			
Photo No. 34	Inspection Date: 6/5/2024		
Description: 2 cubic inches of NAPL found at A022. Lat: 29.785378 Long: -95.318694			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 35	Inspection Date: 6/5/2024		
Description: 2.5 cubic inches of NAPL found at B107. Lat: 29.784137 Long: -95.32096			
Photo No. 36	Inspection Date: 6/12/2024		
Description: 3 cubic inches of NAPL found at B107. Lat: 29.784137 Long: -95.32096			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 37	Inspection Date: 6/24/2024		
Description: 2 cubic inches of NAPL found at B107. Lat: 29.784137 Long: -95.32096			
Photo No. 38	Inspection Date: 6/12/2024		
Description: 2 cubic inches of NAPL found at Track 802. Lat: 29.784947 Long: -95.321214			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 39	Inspection Date: 6/26/2024		
Description: 0.5 cubic inches of NAPL found at Track 802. Lat: 29.784947 Long: -95.321214			
Photo No. 40	Inspection Date: 6/5/2024		
Description: 1.5 cubic inches of NAPL found at RD-14. Lat: 29.785064 Long: -95.321219			

		PHOTOGRAPHIC LOG	
Client Name: Union Pacific Railroad		Site Location: Englewood Intermodal Yard, Houston, Texas	Project No. 31406585.016
Photo No. 41	Inspection Date: 6/12/2024		
Description: 1 cubic inches of NAPL found at RD-14. Lat: 29.785064 Long: -95.321219			
Photo No.	Inspection Date:	Description:	



ATTACHMENT B

Air Monitoring Monthly Report – June 2024



**Union Pacific Railroad
Houston Wood Preserving Works Site
Focused Excavation Project**

**Air Monitoring Monthly Report
June 2024**

Houston, Texas

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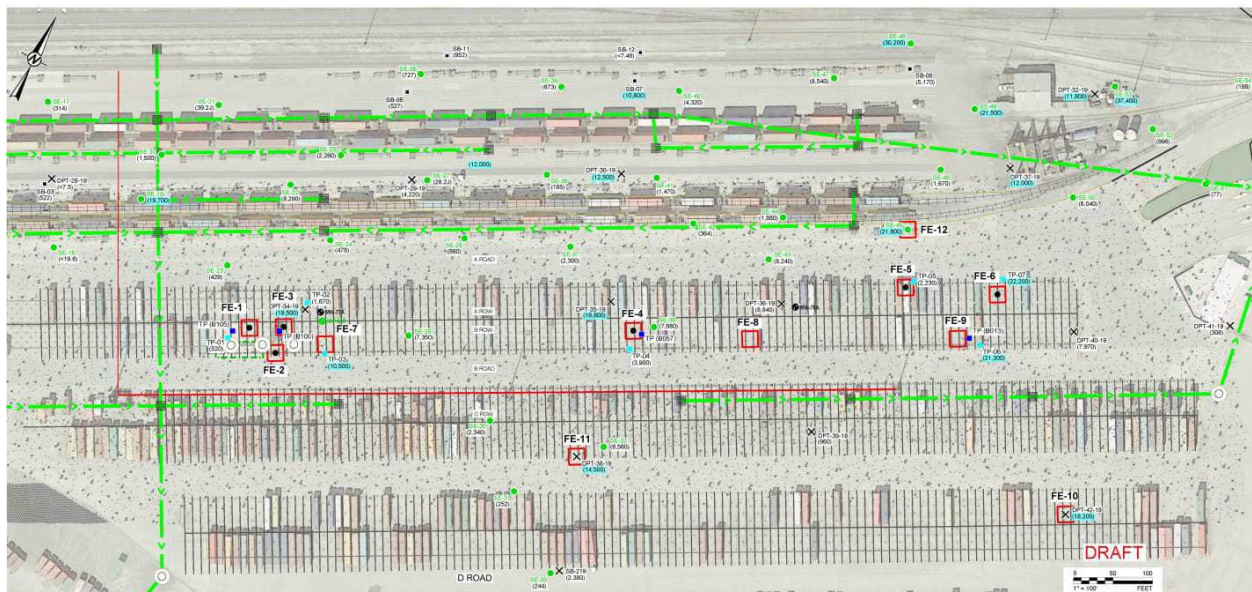
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SECTION 1 INTRODUCTION

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 PM₁₀ 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 PM₁₀ air monitoring. PM_{2.5} and PM₁₀ 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.

SECTION 1

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	

SECTION 1

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 PM₁₀ 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
- PM₁₀ (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 PM₁₀ 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 PM₁₀ are calculated by each monitor on each sampling day during the excavation activities. Both PM_{2.5} and PM₁₀ are measured by the monitor every two

SECTION 2

(2) minutes during the sampling period. The concentration shown on the graphs below represent the average PM_{2.5} and PM₁₀ 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 reach the Stop Work threshold during the month of June. During the Stop Work surrounding TCEQ air monitors were evaluated and it was determined that regional air quality in the Houston area was poor and the high readings were not a result of excavation activities.

On June 3rd, a Stop Work was called prior to excavation activities starting for the day due to elevated ambient air levels. Elevated ambient air levels were due to poor regional air quality. Atlas personnel reviewed regulatory air monitoring data from TCEQ's Houston North Wayside C405/C1033 site. The TCEQ monitor showed elevated readings confirming it was a wide spread atmospheric event and not related to excavation activities.

On June 4th, a Stop Work was called prior to excavation activities starting for the day due to elevated ambient air levels. Elevated ambient air levels were due to poor regional air quality. Atlas personnel reviewed regulatory air monitoring data from TCEQ's Houston North Wayside C405/C1033 site. The TCEQ monitor showed elevated readings confirming it was a wide spread atmospheric event and not related to excavation activities. Monitor levels returned to below Stop Work levels before excavation activities began.

On June 14th, a Stop Work was called prior to excavation activities starting for the day due to elevated ambient air levels. Elevated ambient air levels were due to poor regional air quality. Atlas personnel reviewed regulatory air monitoring data from TCEQ's Houston North Wayside C405/C1033 site. The TCEQ monitor showed elevated readings confirming it was a wide spread atmospheric event and not related to excavation activities.

No excavation work was performed on June 19th due to weather.

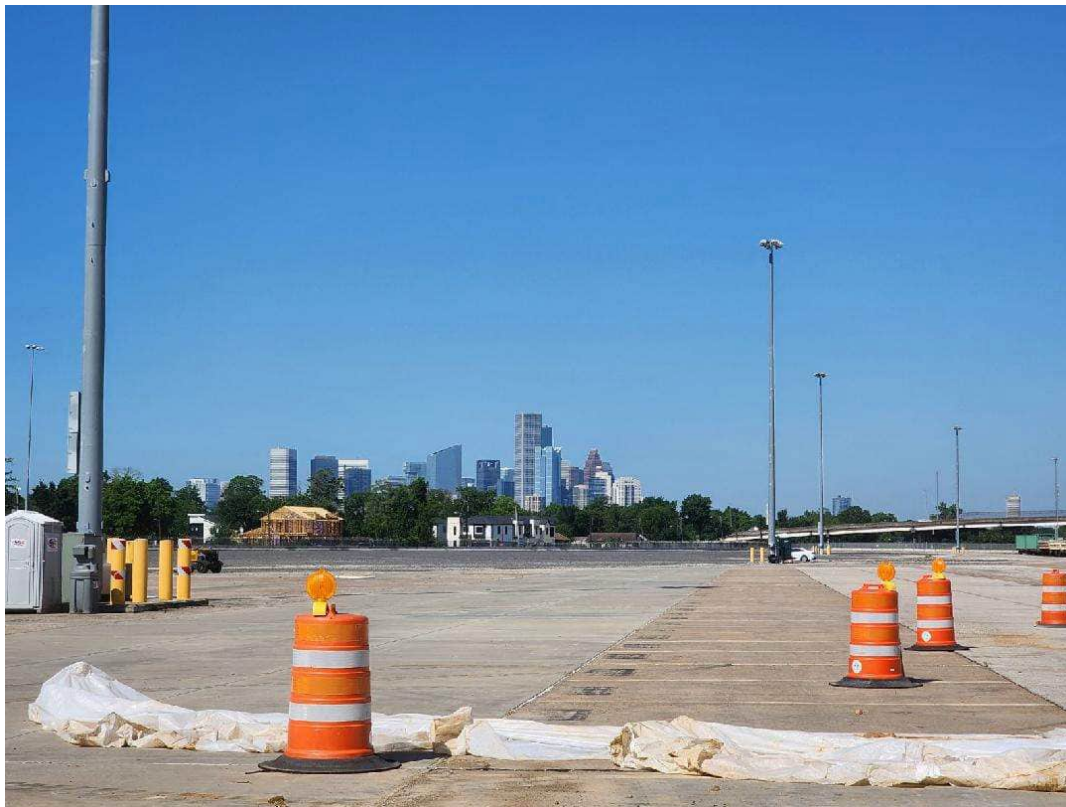
On June 24th truck exhaust, not related to the excavation work, caused elevated reading at Unit 4. Excavation work continued since the excavation work was not causing the elevated monitor readings.

Union Pacific Railroad Houston Wood Preserving Works Site Houston, Texas Air Quality Index Values				
Reporting Area	Date	Daily AQI for Ozone	Daily AQI for PM _{2.5}	Daily AQI for PM ₁₀
Houston-Galveston-Brazoria	6/3/2024	37	67	-
	6/4/2024	43	75	-
	6/14/2024	161	72	-

SECTION 2

On good air quality days in Houston, the Houston skyline is visible from the site as seen in Photo 1.

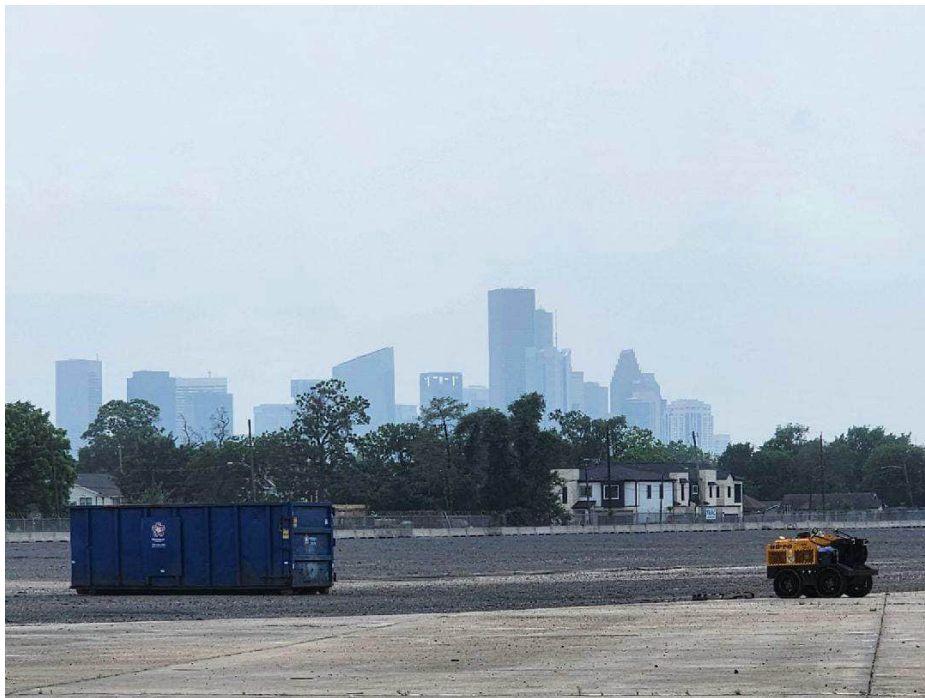
Photo 1: Houston Skyline from the HWPW site



SECTION 2

Poor air quality days in Houston make the skyline far less visible as seen in Photos 2 and 3.

Photos 2 and 3: Houston Skyline from the HWPW site during poor air quality days





Union Pacific Railroad
Houston Wood Preserving Works Site
Focused Excavation Project

Monitor Location Map

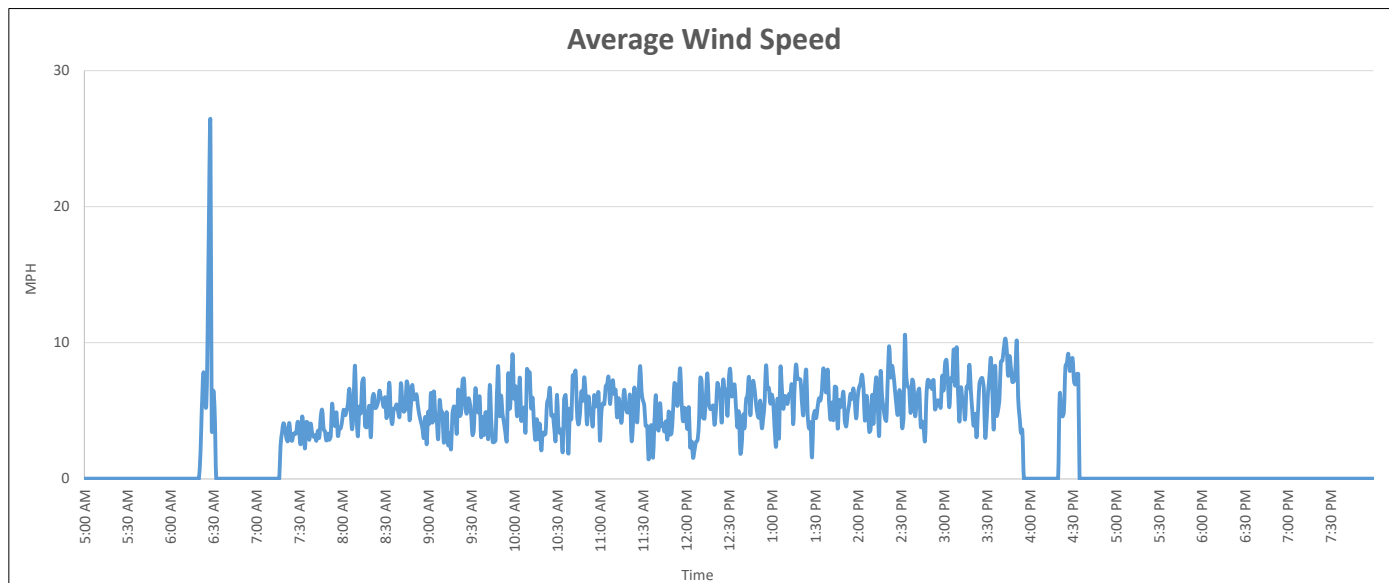
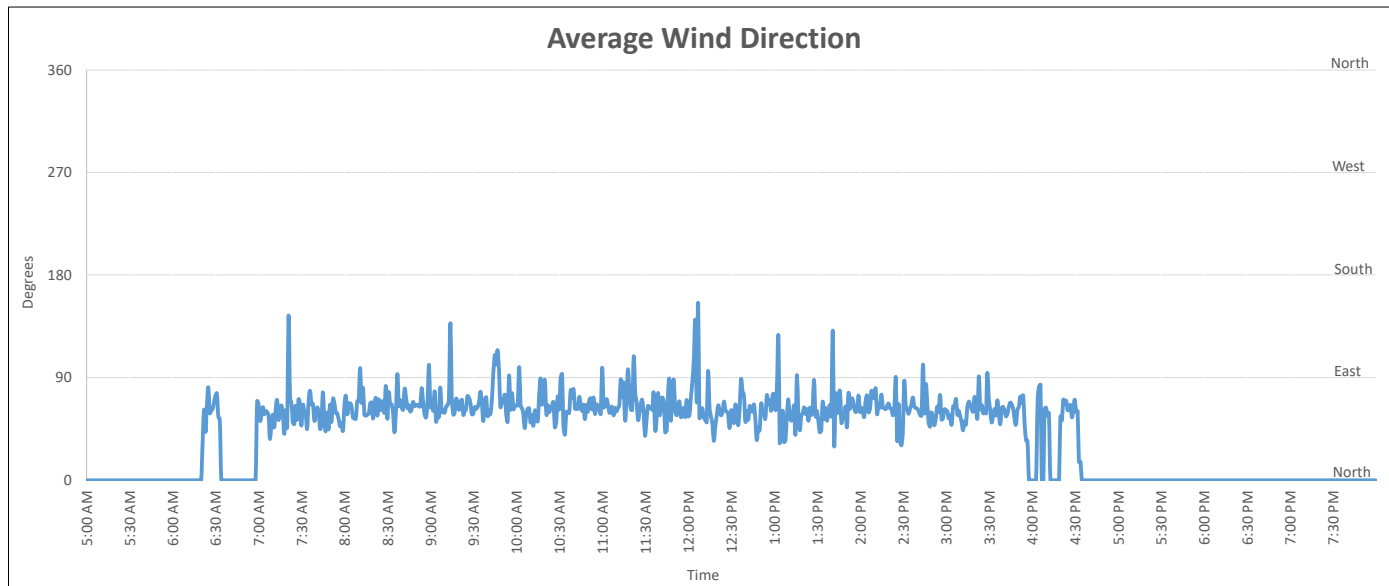
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston, Texas
Sampling Locations

Unit	Modem #	Location	
01	47161	29.78217	-95.32322
02	48033	29.78208	-95.31298
03	801245	29.78423	-95.31761
04	48375	29.78493	-95.31678
05	48374	29.78534	-95.32383
06	44911	29.78742	-95.32151
07	48571	29.78733	-95.31752

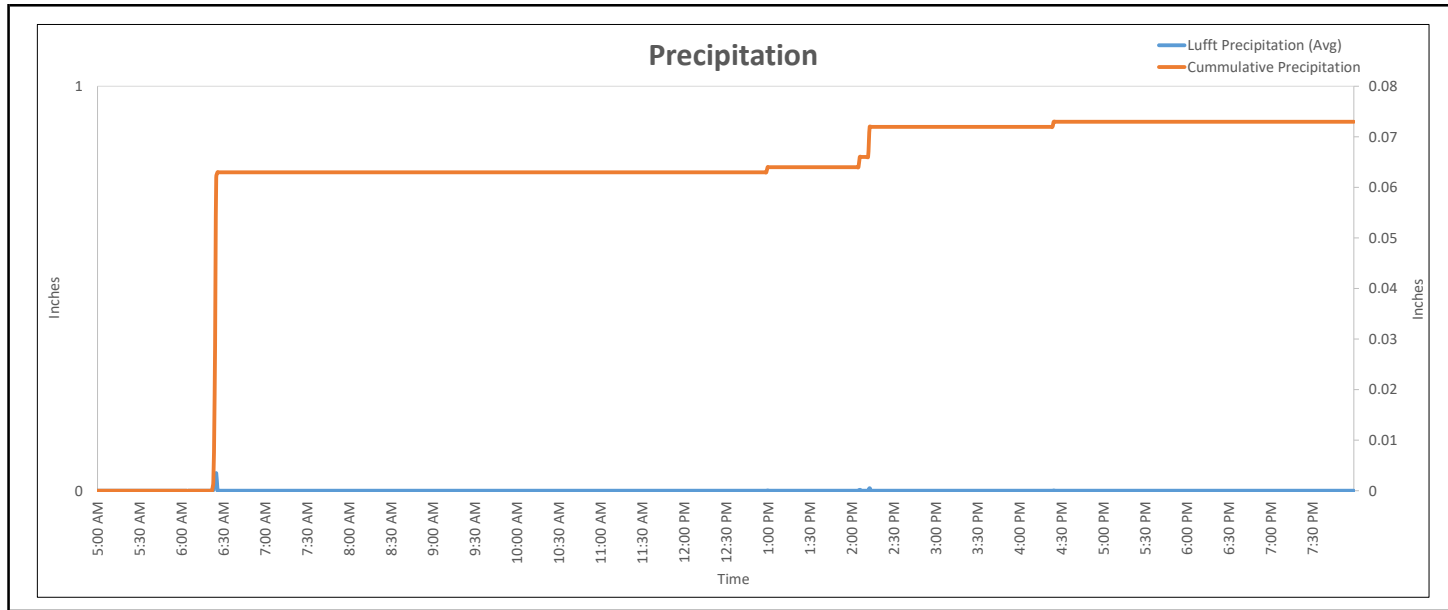
Table 5 – Direct Read Summary
Union Pacific Houston Wood Preserving Works
Houston, Texas

Date	Modem #	PM ₁₀ Concentration (µg/m ³)			PM _{2.5} Concentration (µg/m ³)		
		Min	Max	Average	Min	Max	Average
Week 6							
6/3/2024	48374	2.00	57.00	20.63	2.00	57.00	19.95
	47161	2.00	83.00	24.74	2.00	82.00	24.23
	48033	2.00	206.00	29.00	2.00	205.00	28.10
	48571	2.00	60.00	20.07	1.00	59.00	19.19
	48375	2.00	270.00	34.31	2.00	268.00	33.53
	801245	3.00	443.00	51.85	3.00	442.00	50.72
	49911	2.00	79.00	24.02	2.00	78.00	23.37
6/4/2024	48374	4.00	62.00	37.70	4.00	61.00	36.44
	47161	4.00	68.00	39.99	4.00	67.00	39.25
	48033	4.00	63.00	35.94	3.00	63.00	34.86
	48571	3.00	64.00	34.28	3.00	62.00	33.30
	48375	3.00	62.00	33.75	3.00	61.00	32.79
	801245	4.00	87.00	48.65	4.00	86.00	47.42
	49911	5.00	65.00	36.46	4.00	64.00	35.72
6/5/2024	48374	2.00	65.00	31.20	2.00	63.00	29.97
	47161	1.00	68.00	32.71	1.00	67.00	32.06
	48033	1.00	67.00	31.32	1.00	65.00	30.25
	48571	1.00	67.00	29.36	1.00	65.00	28.07
	48375	1.00	68.00	30.51	1.00	66.00	29.27
	801245	2.00	91.00	42.00	2.00	89.00	40.69
	49911	1.00	65.00	29.32	1.00	62.00	28.10
6/6/2024	48374	2.00	40.00	16.24	1.00	36.00	14.98
	47161	2.00	40.00	19.43	2.00	38.00	18.79
	48033	1.00	38.00	16.50	1.00	35.00	15.53
	48571	1.00	45.00	15.20	1.00	42.00	13.94
	48375	1.00	52.00	14.50	1.00	46.00	12.97
	801245	2.00	60.00	23.92	2.00	55.00	22.27
	49911	2.00	48.00	16.83	2.00	41.00	15.63
6/7/2024	48374	5.00	37.00	26.28	4.00	34.00	25.25
	47161	5.00	39.00	26.80	4.00	38.00	26.32
	48033	3.00	37.00	26.01	3.00	35.00	24.89
	48571	2.00	51.00	25.27	2.00	48.00	23.63
	48375	4.00	45.00	19.21	4.00	42.00	18.37
	801245	3.00	58.00	36.67	3.00	55.00	34.92
	49911	5.00	45.00	34.92	4.00	36.00	28.16
Note:							
1. Values shown in GREEN are above the Notice Level Threshold.							
2. Values shown in ORANGE are above the Action Level Threshold.							
3. Values shown in RED are above the Stop-Work Level Threshold.							

Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Monday, June 3, 2024

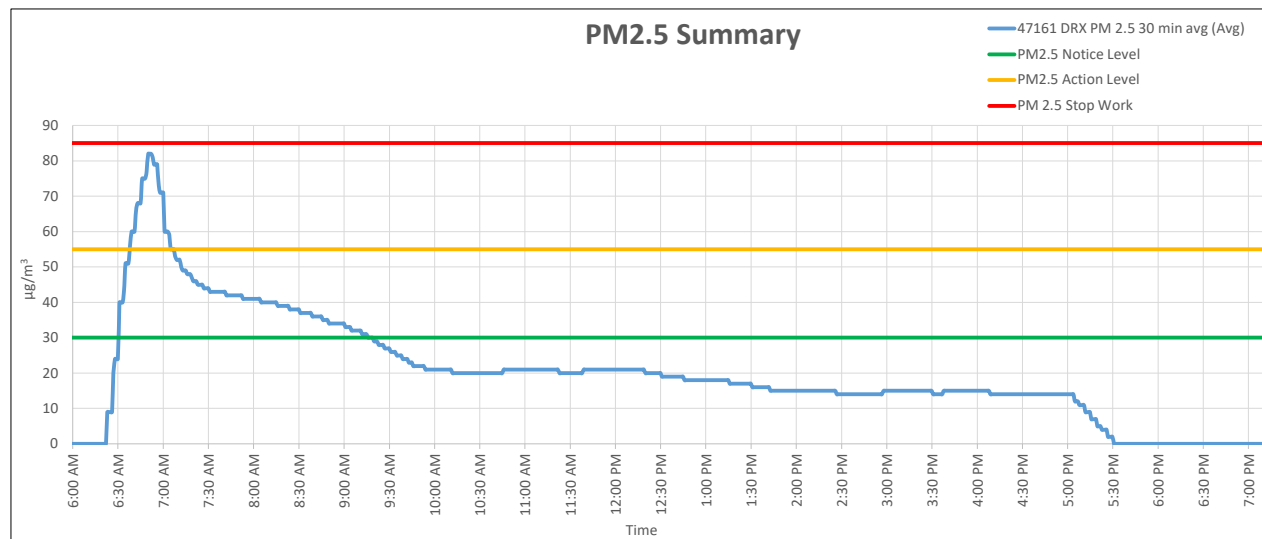
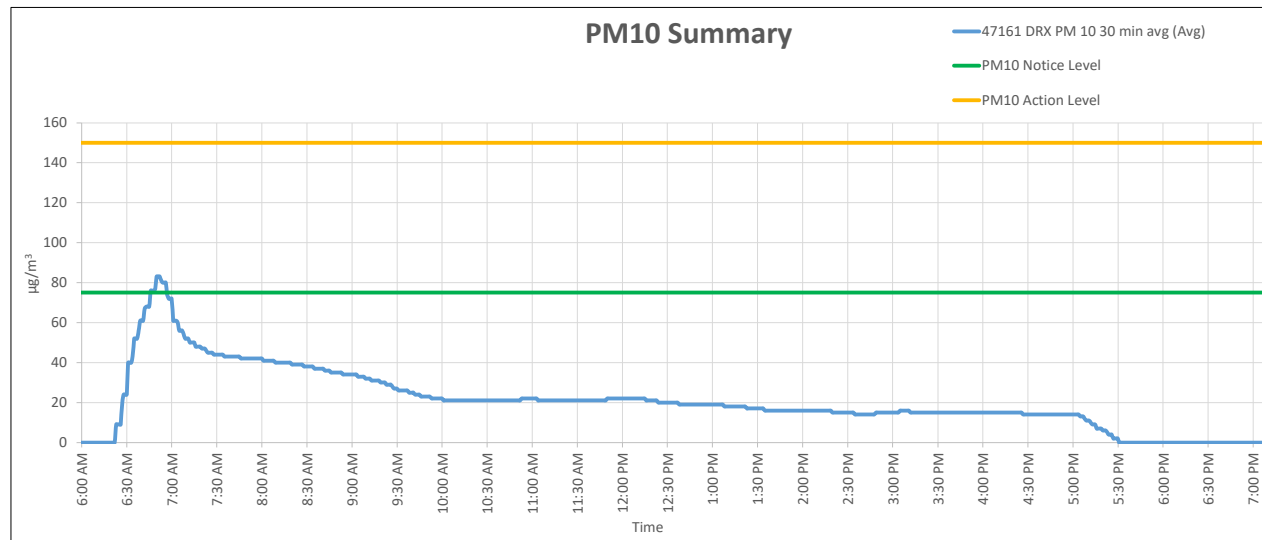


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Monday, June 3, 2024



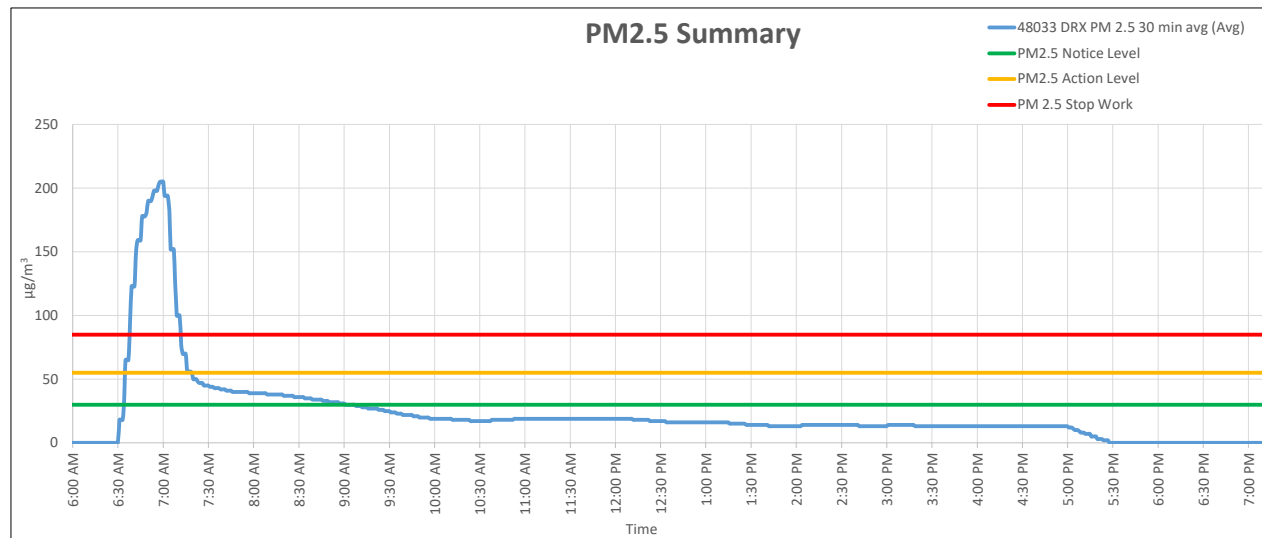
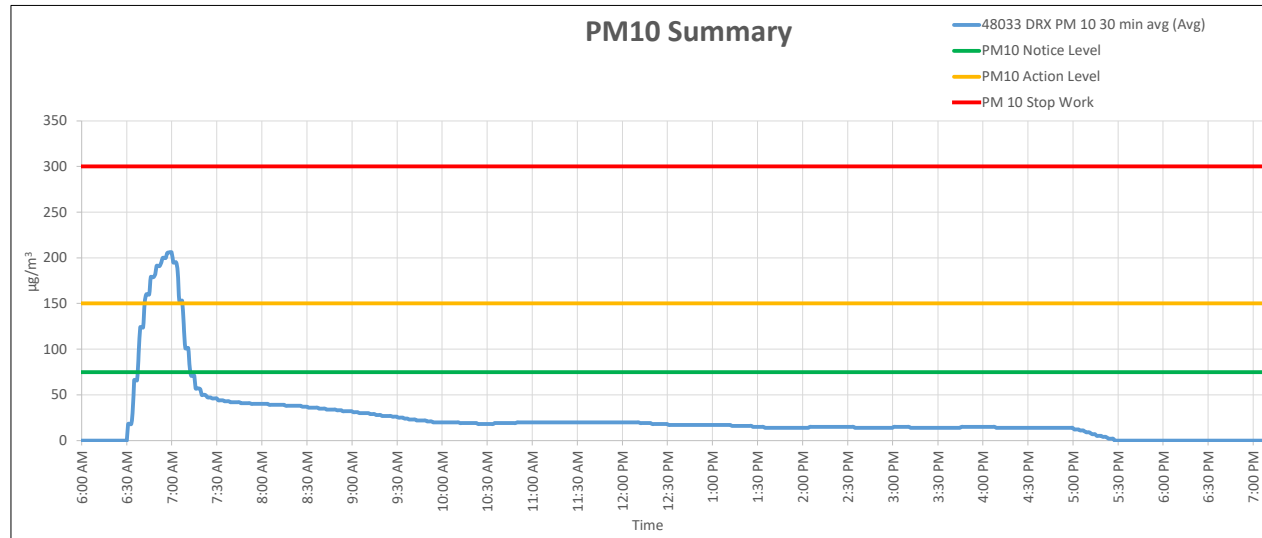
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 3, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:23 AM	5:30 PM	24.74	83.00	24.23	82.00



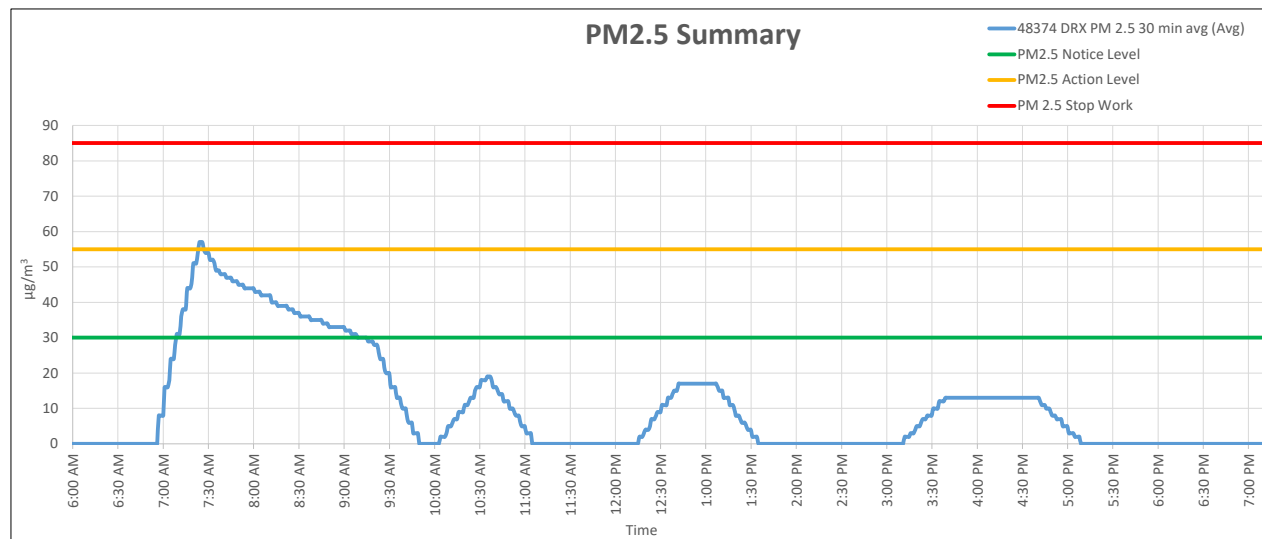
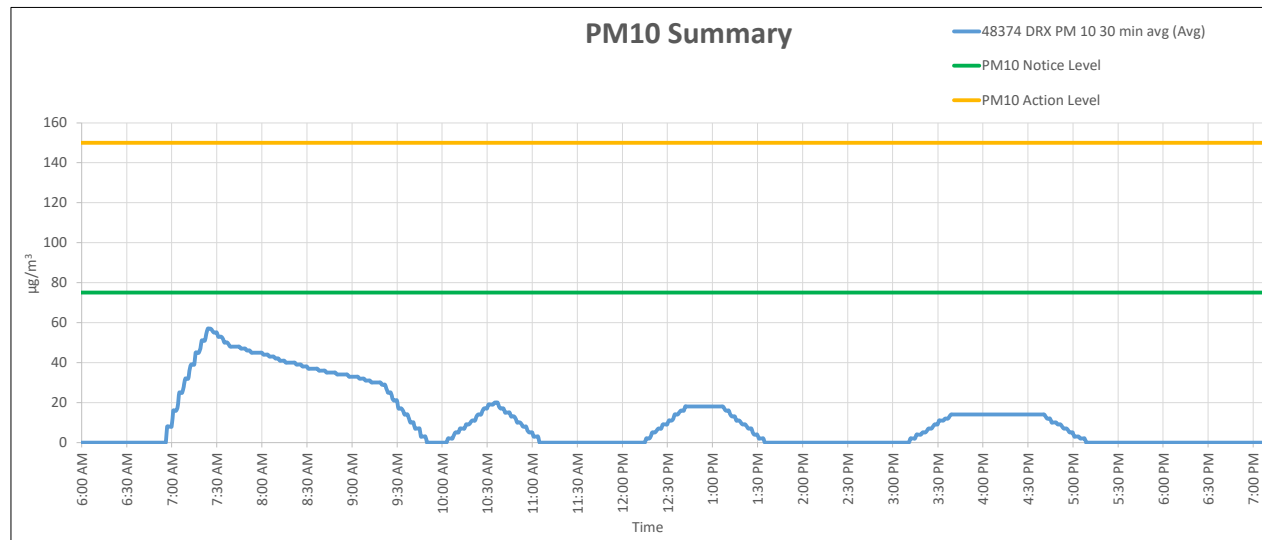
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 3, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:31 AM	5:27 PM	29.00	206.00	28.10	205.00



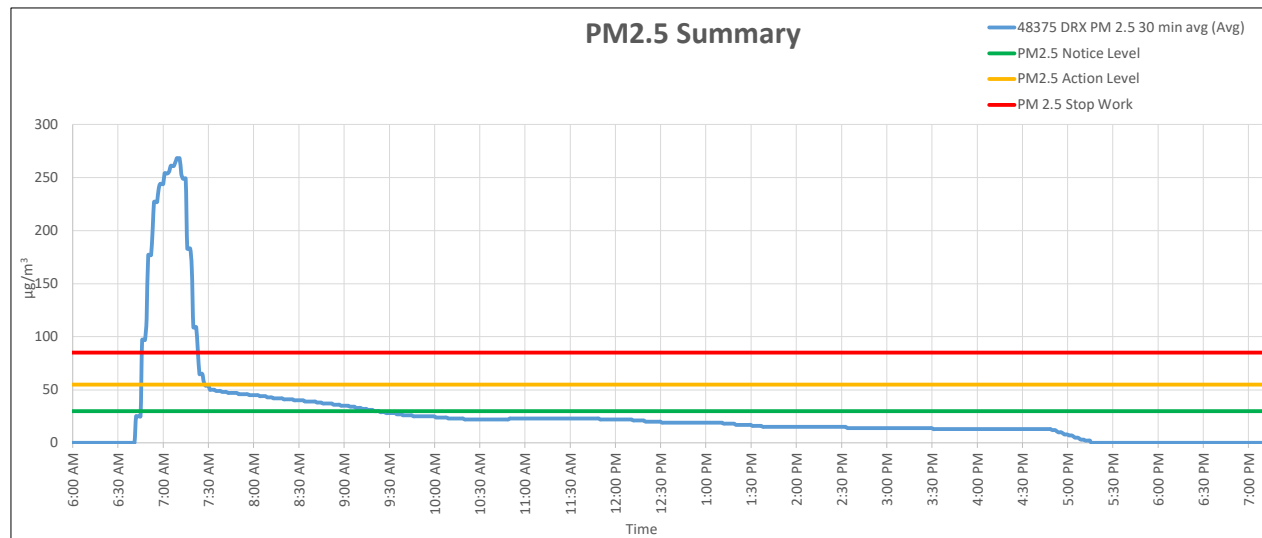
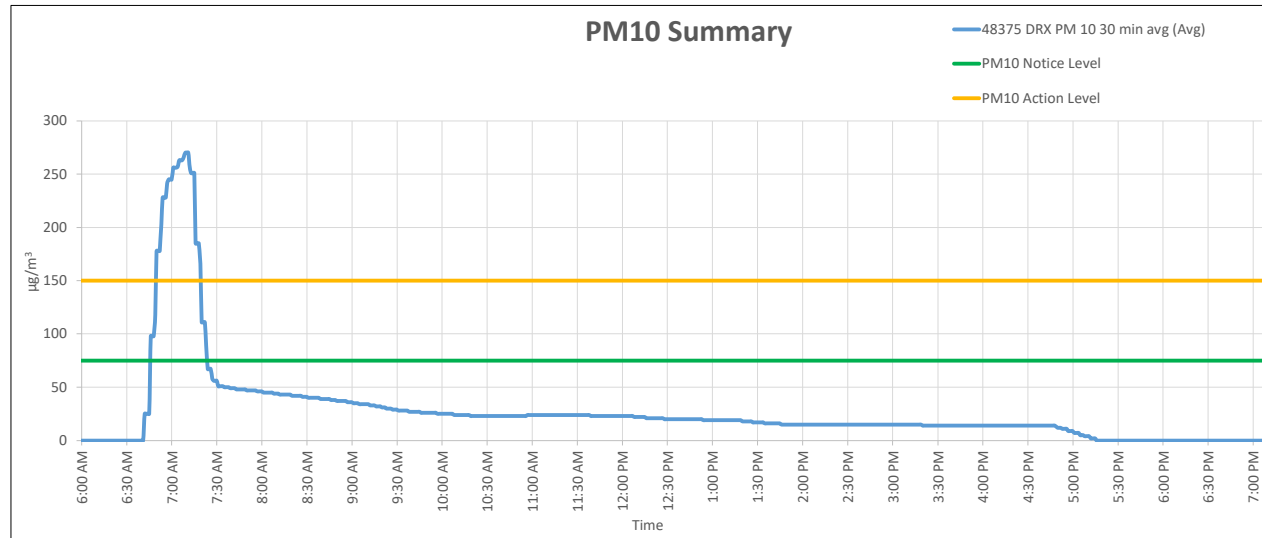
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 3, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	6:57 AM	5:08 PM	20.63	57.00	19.95	57.00



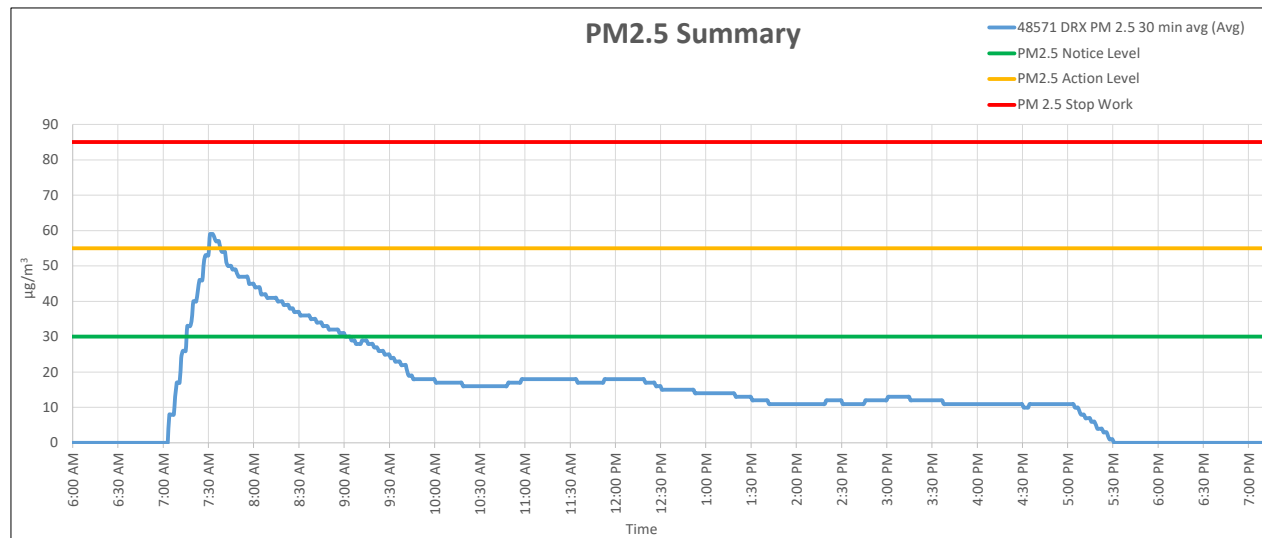
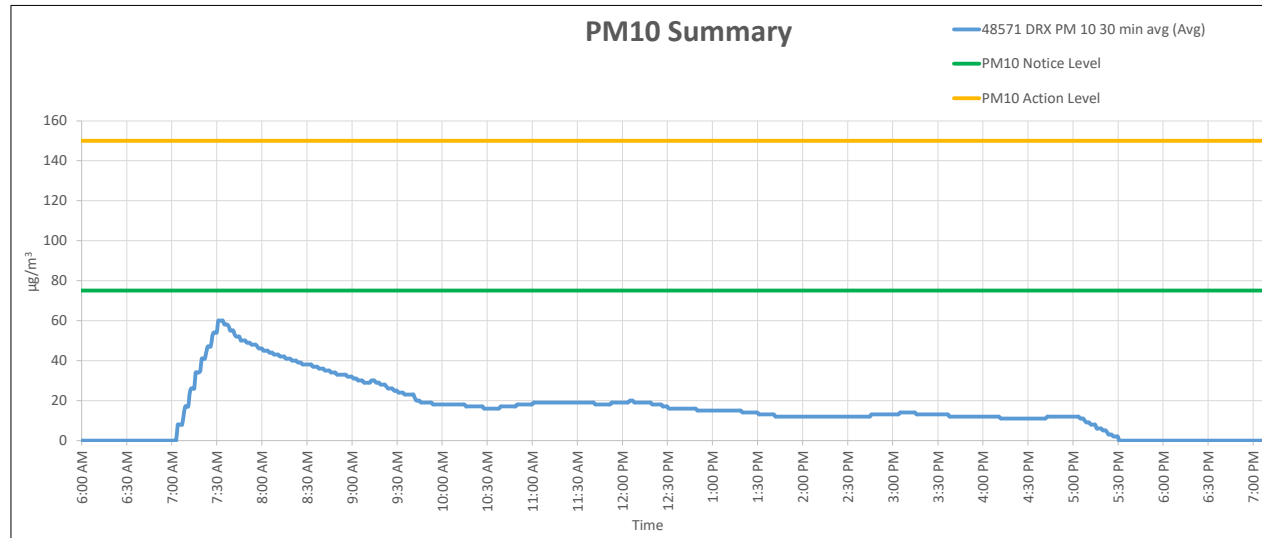
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 3, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:42 AM	5:15 PM	34.31	270.00	33.53	268.00



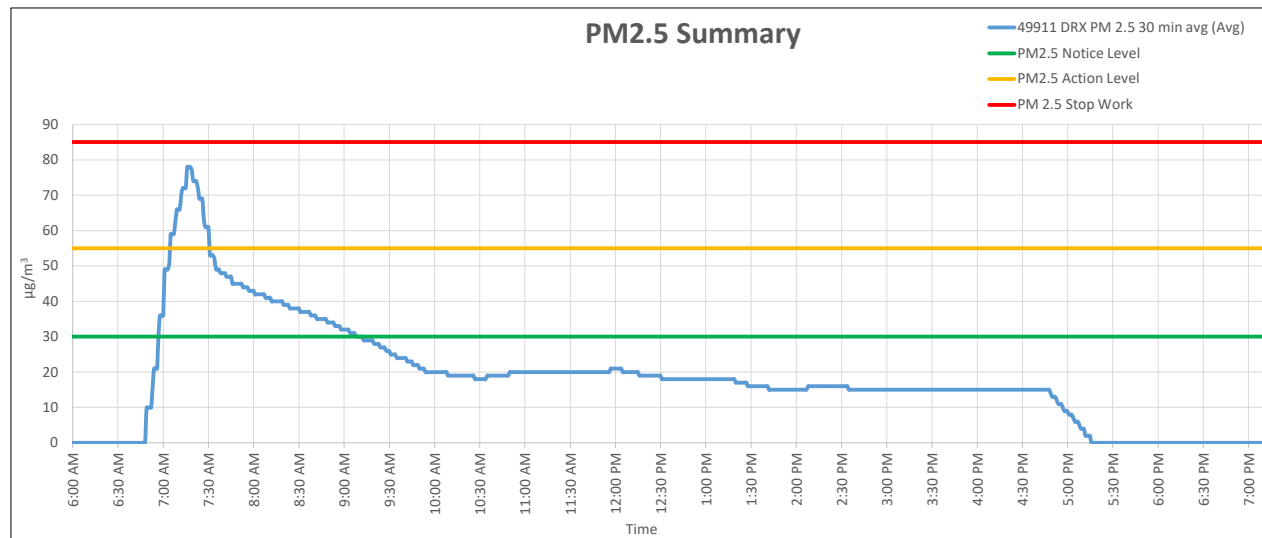
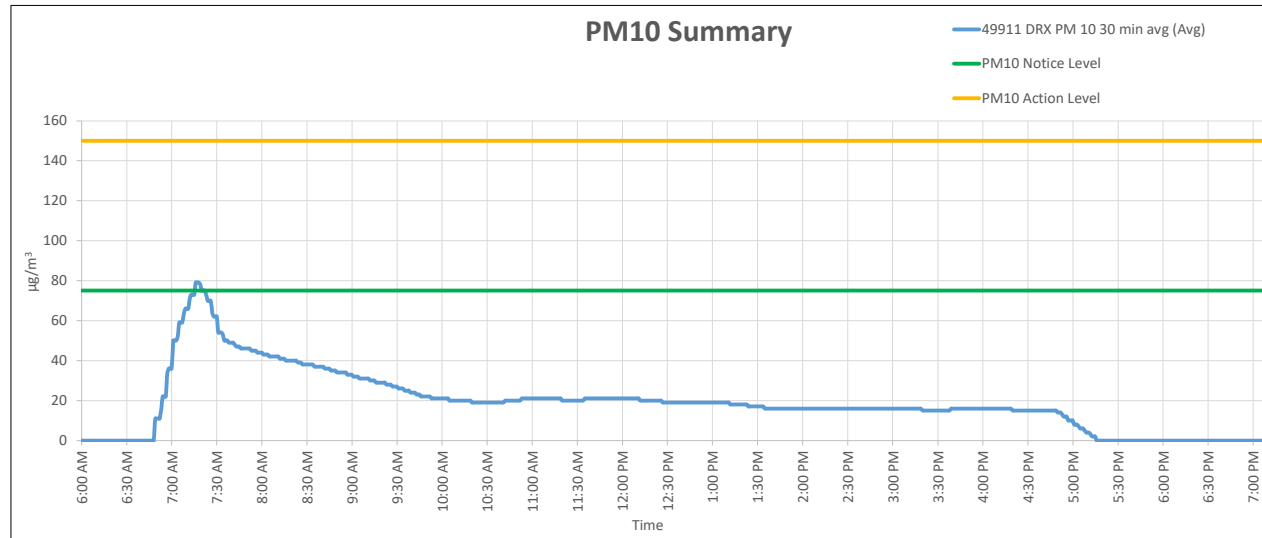
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 3, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:04 AM	5:30 PM	20.07	60.00	19.19	59.00



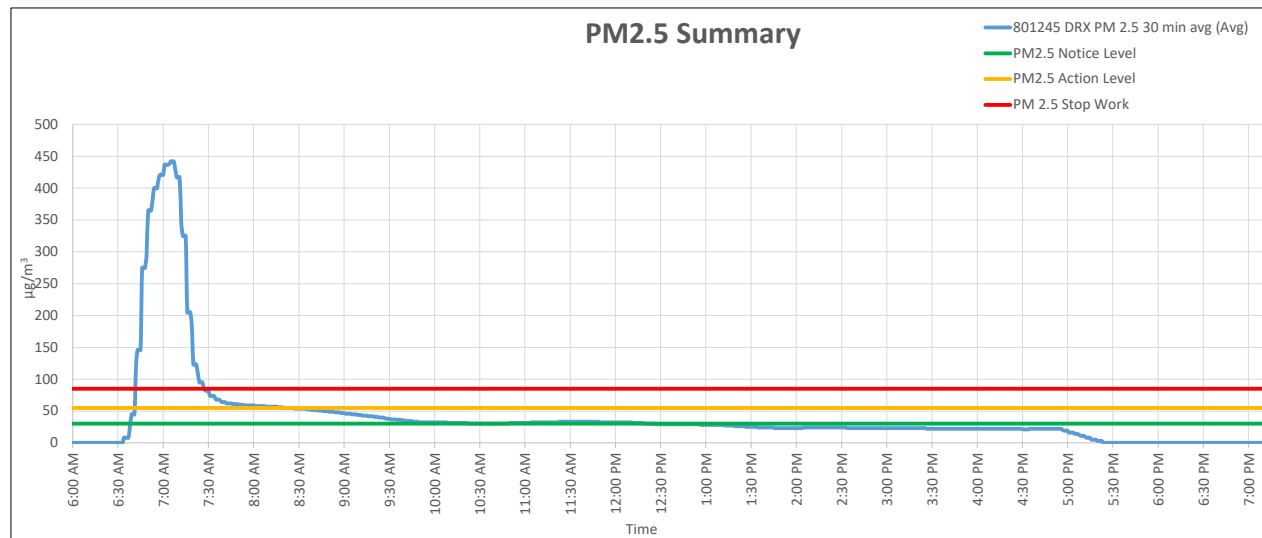
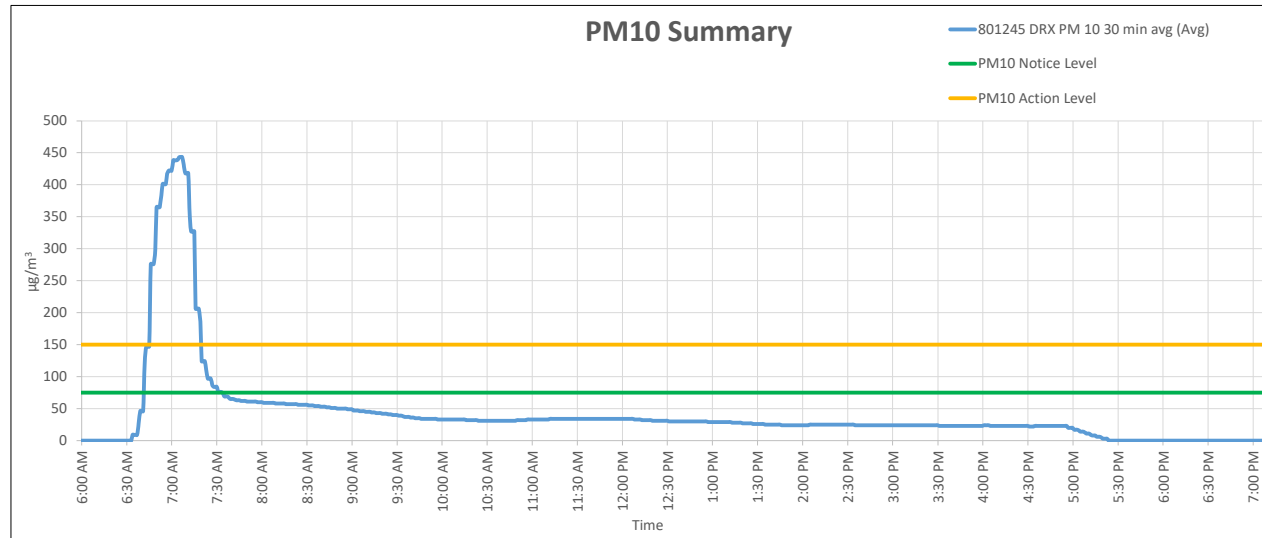
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 3, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	6:49 AM	5:15 PM	24.02	79.00	23.37	78.00



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 3, 2024

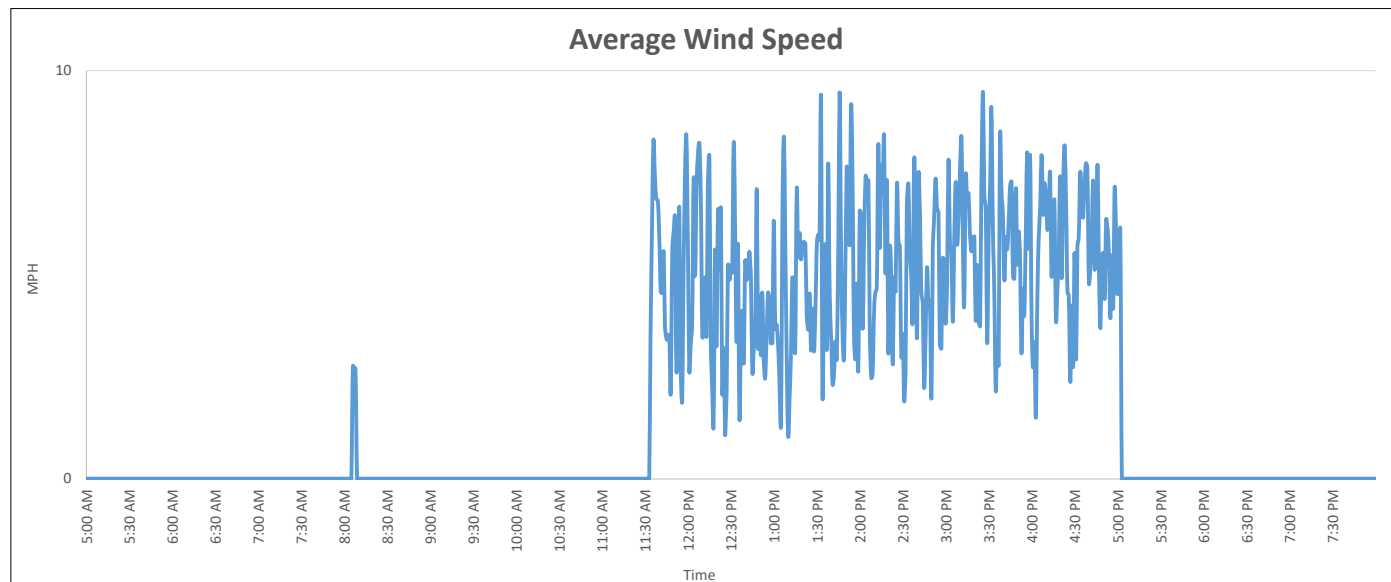
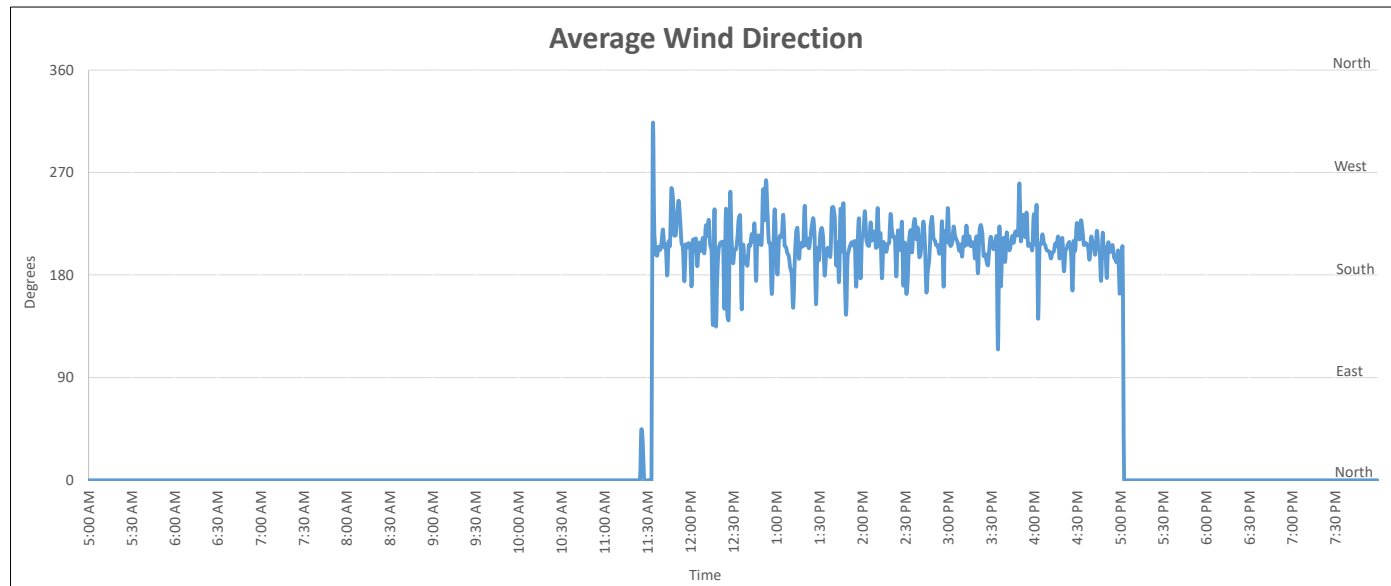
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:34 AM	5:23 PM	51.85	443.00	50.72	442.00



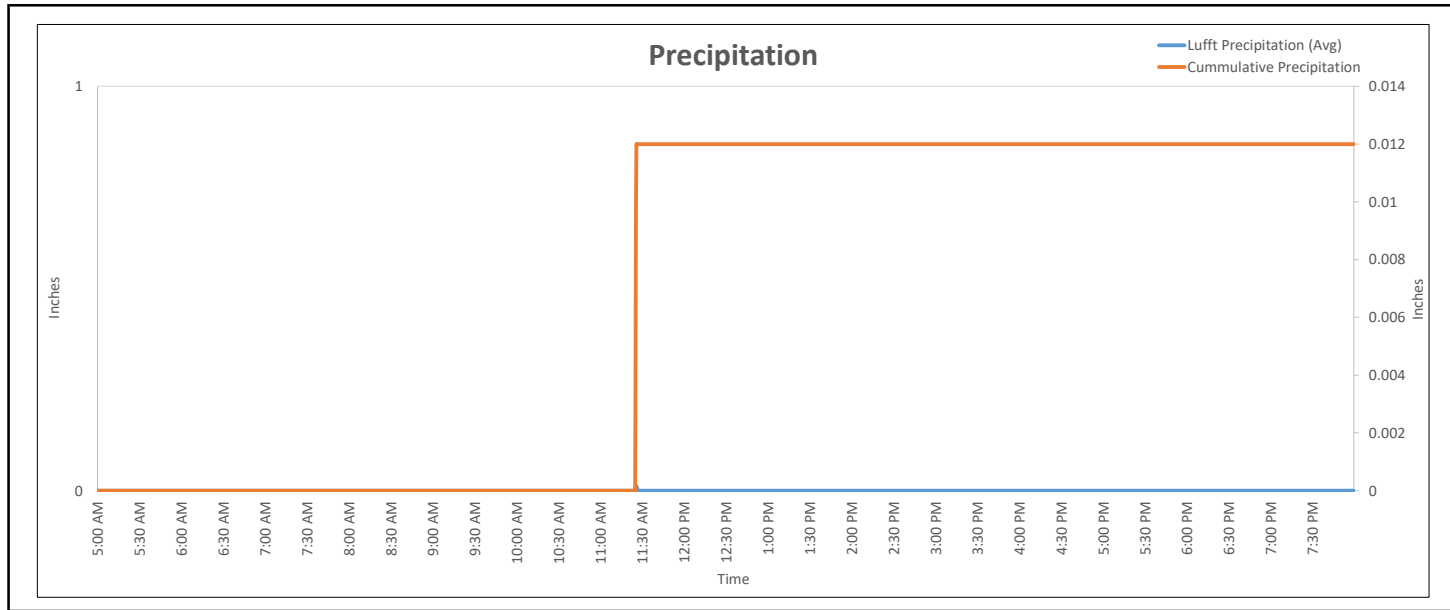
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston, Texas
TCEQ Air Monitor Values
Houston North Wayside C405/C1033
June 3, 2024

Parameter Measured	Morning												Afternoon												Parameter Measured	POC
	Mid	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	Noon	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00		
PM-10 (Standard Conditions)	27	29.4	21	22.7	27.5	29.8	32.2	<u>32.9</u>	17.8	22.1	25.5	21.6	19.8	16.5	15.7	QAS	QAS	NEG	0.3	17.7	17.6	20.2	22.1	22.7	PM-10 (Standard Conditions)	2 N MDL
PM-2.5 (Local Conditions)	16	18	17	19	<u>21</u>	21	19	14	14	14	15	10	14	11	QAS	9	14	10	11	12	10	13	15	14	PM-2.5 (Local Conditions)	1 R MDL
Parameter Measured	Mid	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	Afternoon												Parameter Measured	POC

Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Tuesday, June 4, 2024

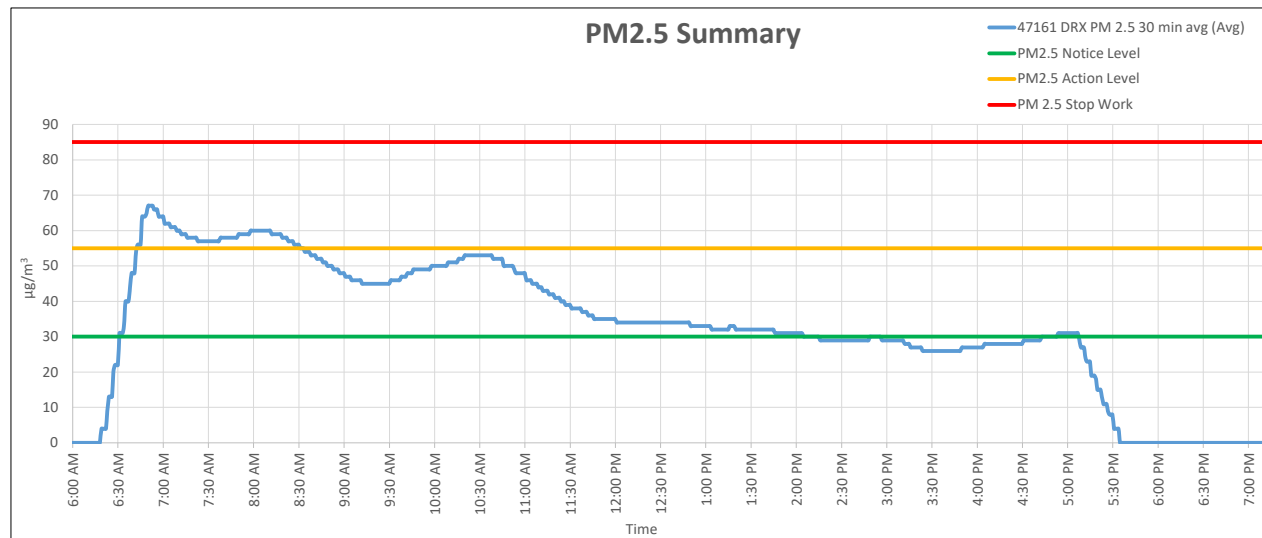
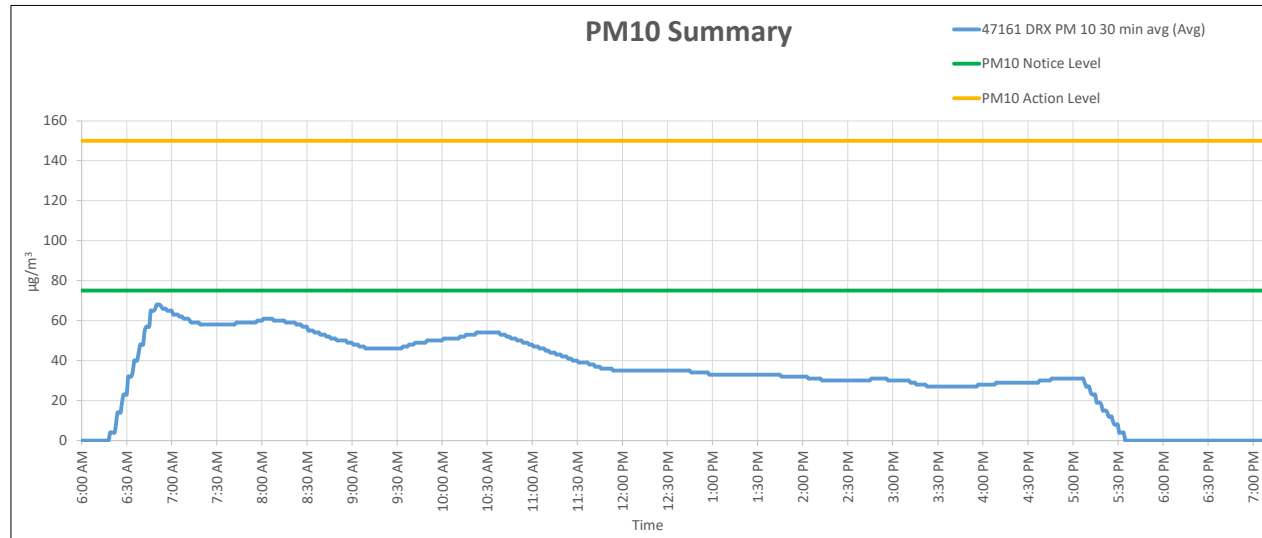


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Tuesday, June 4, 2024



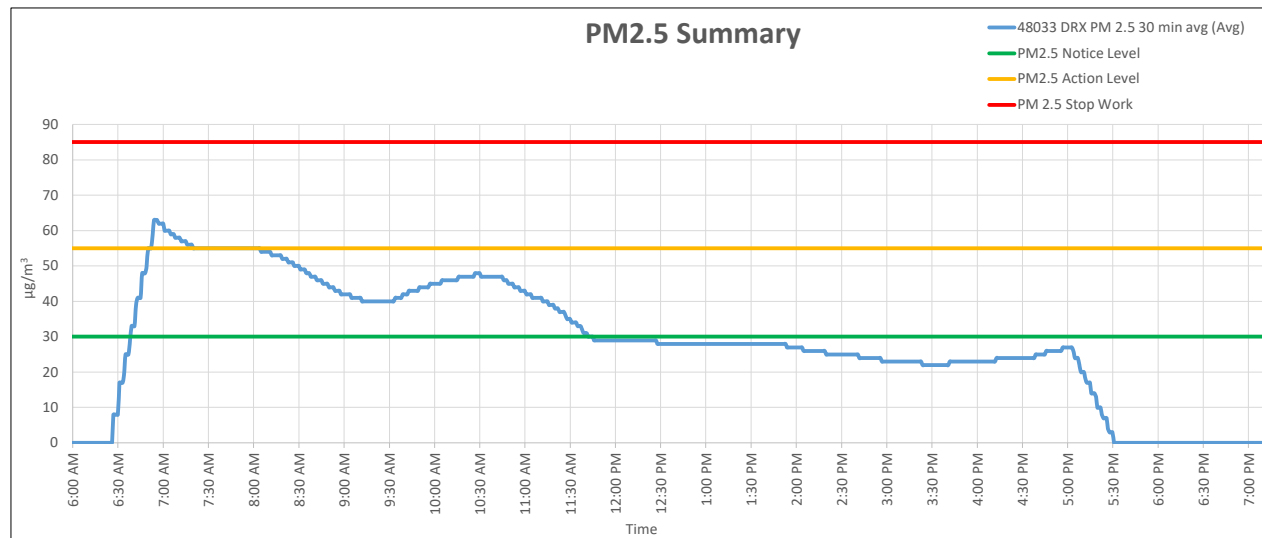
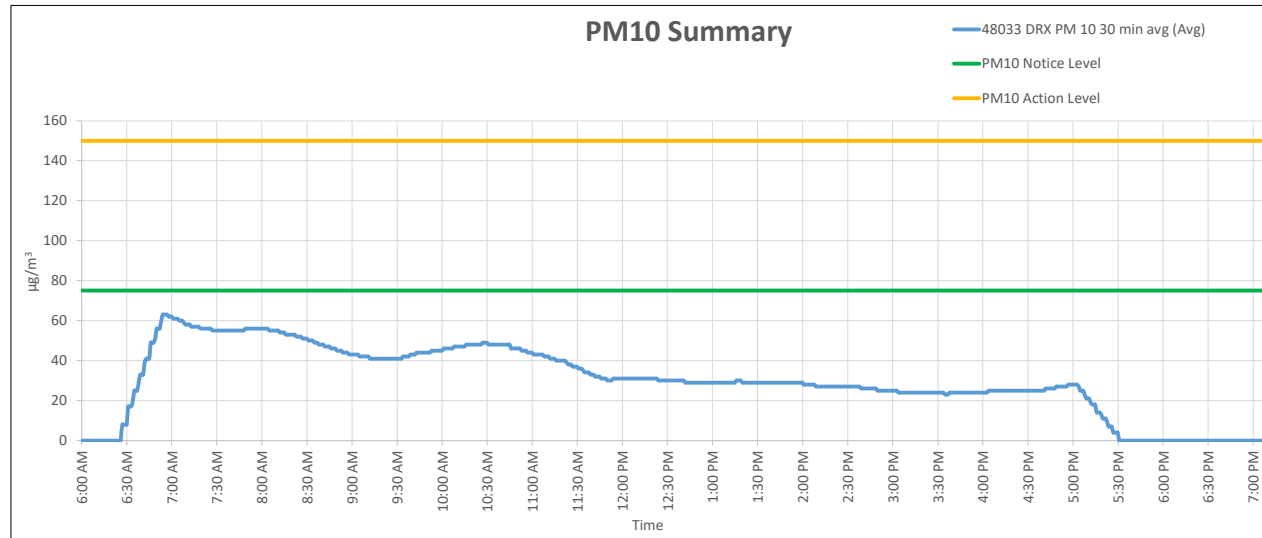
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Tuesday, June 4, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:19 AM	5:34 PM	39.99	68.00	39.25	67.00



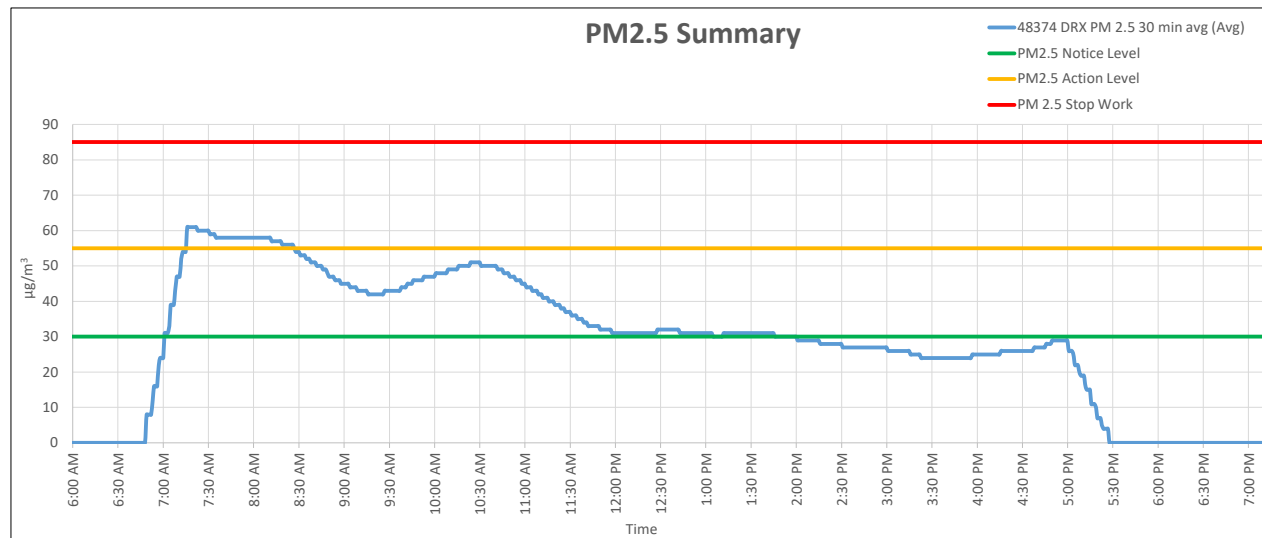
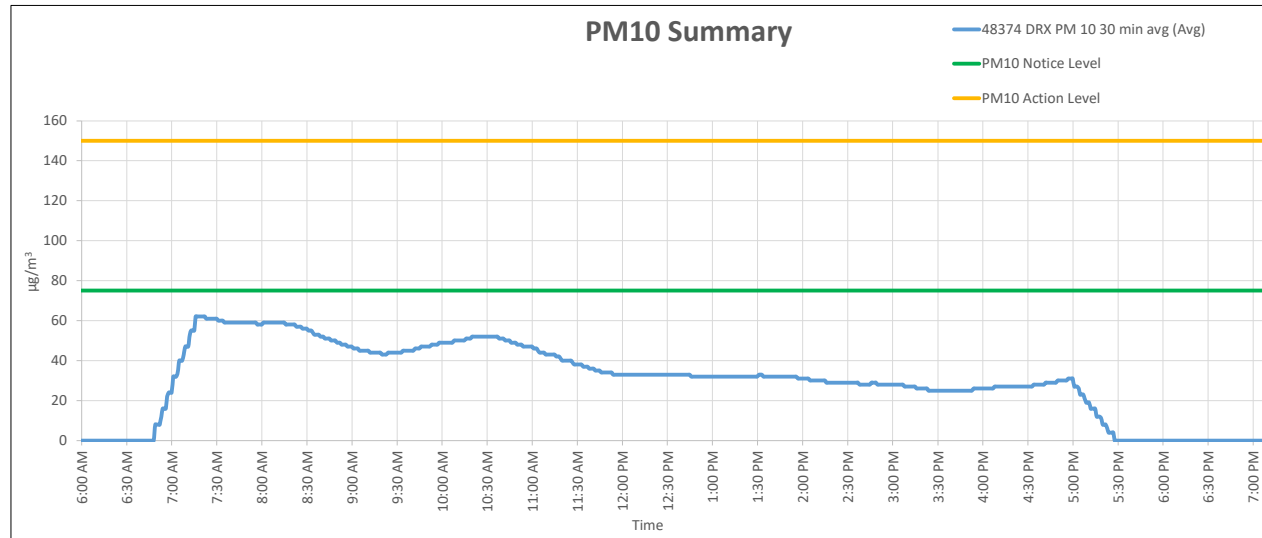
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Tuesday, June 4, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:27 AM	5:30 PM	35.94	63.00	34.86	63.00



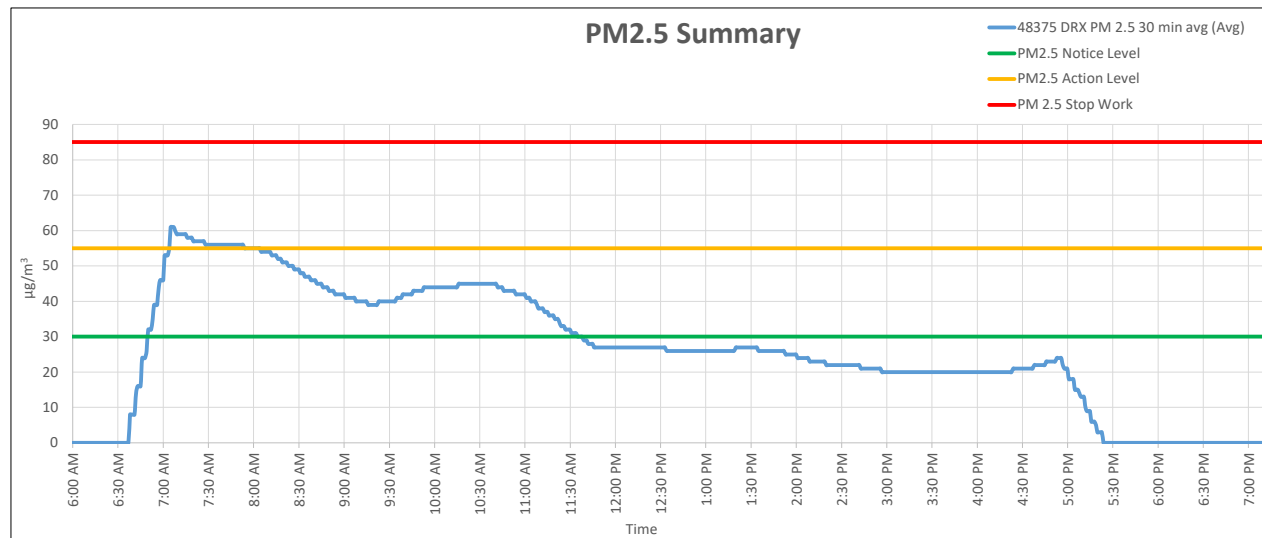
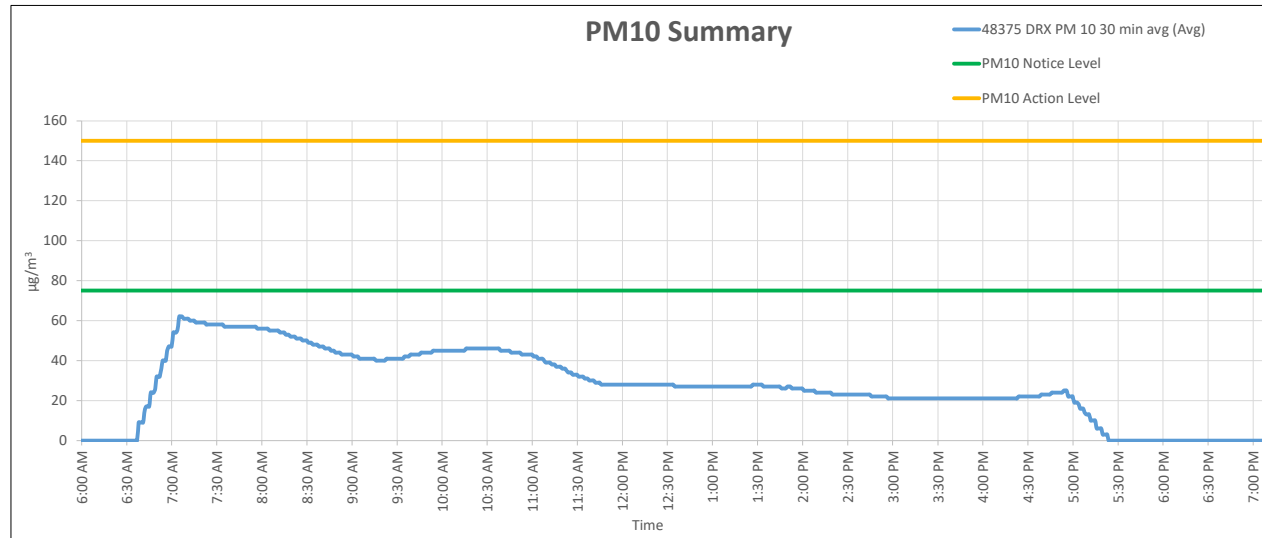
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Tuesday, June 4, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	6:49 AM	5:27 PM	37.70	62.00	36.44	61.00



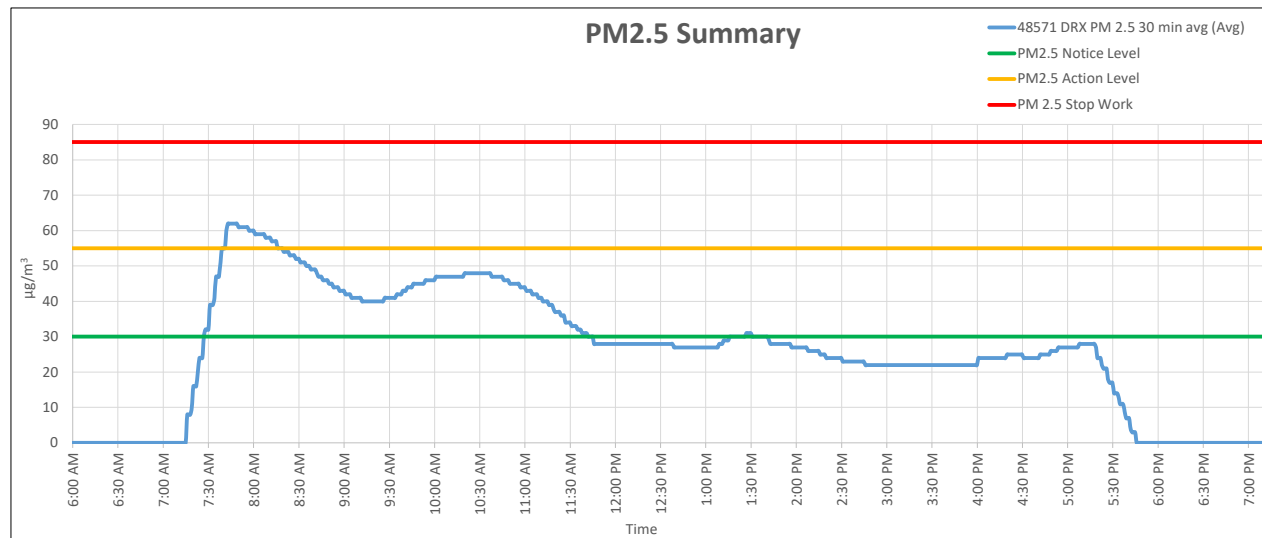
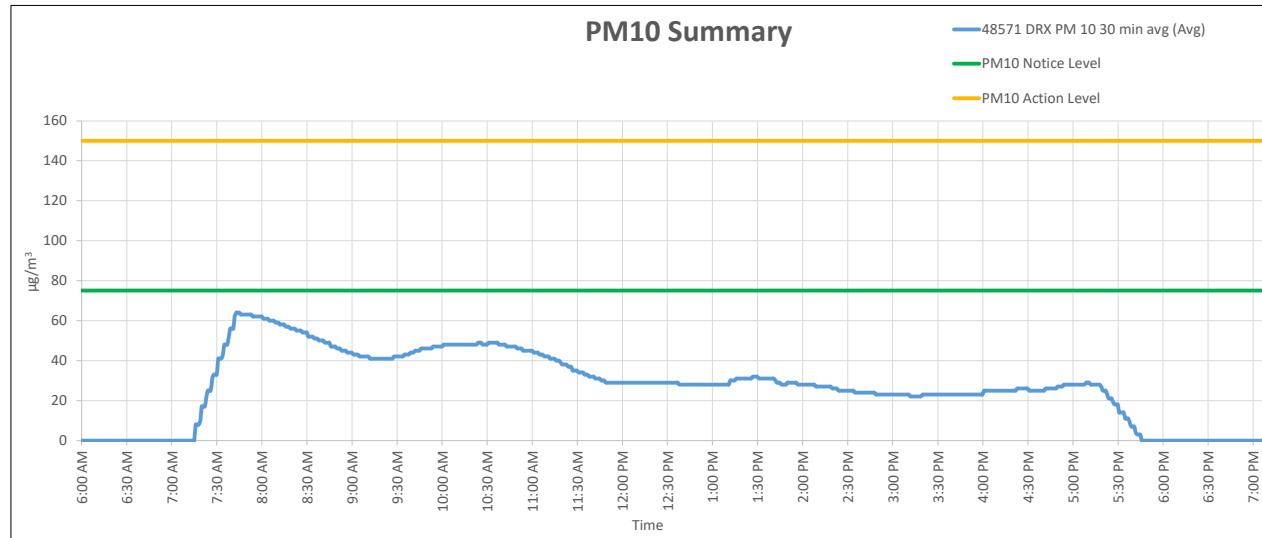
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Tuesday, June 4, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:38 AM	5:23 PM	33.75	62.00	32.79	61.00



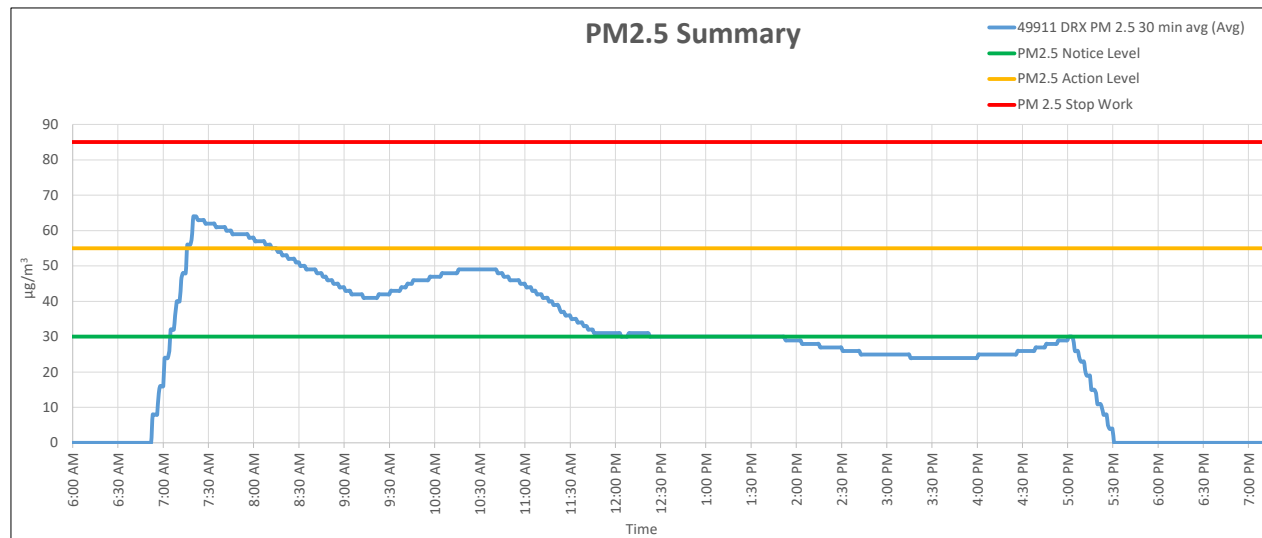
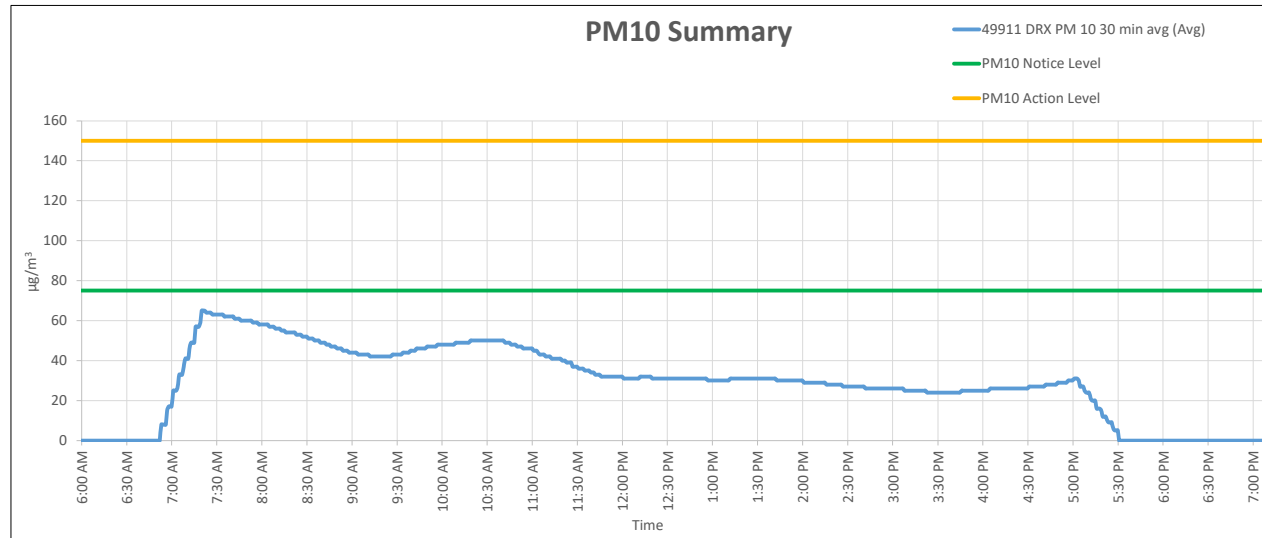
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Tuesday, June 4, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:16 AM	5:45 PM	34.28	64.00	33.30	62.00



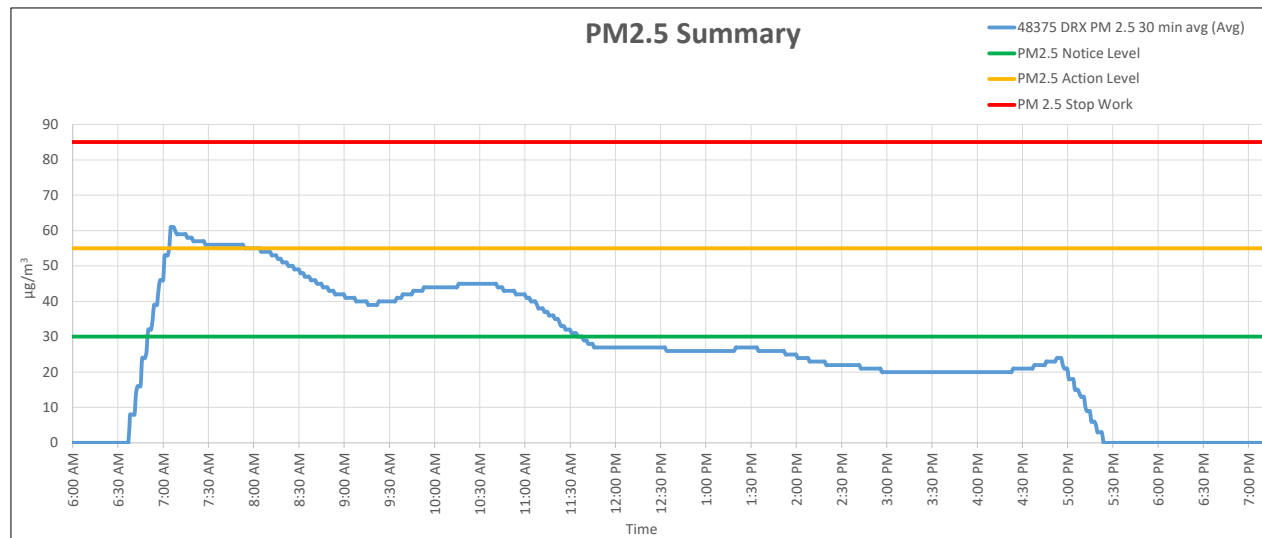
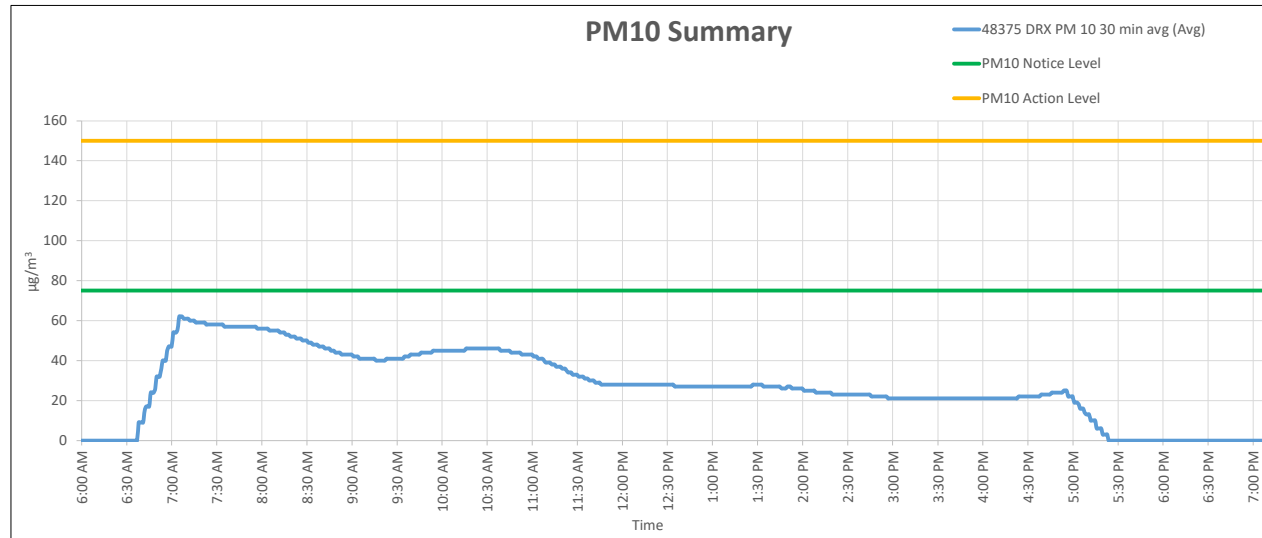
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Tuesday, June 4, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	6:53 AM	5:30 PM	36.46	65.00	35.72	64.00



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Tuesday, June 4, 2024

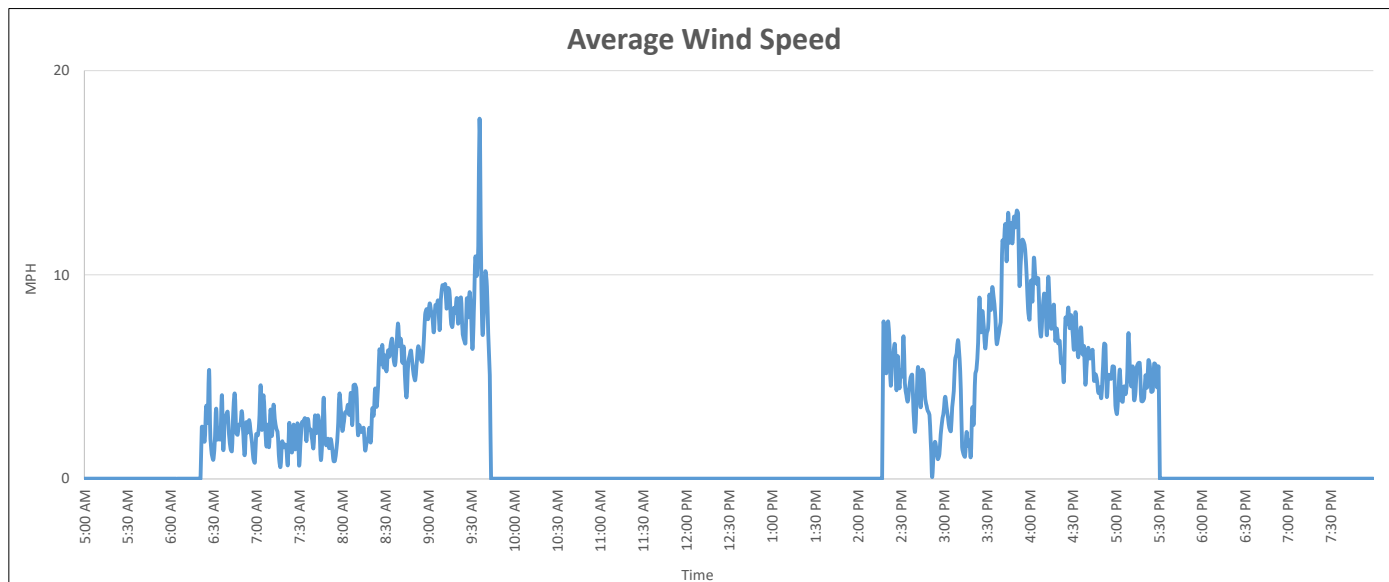
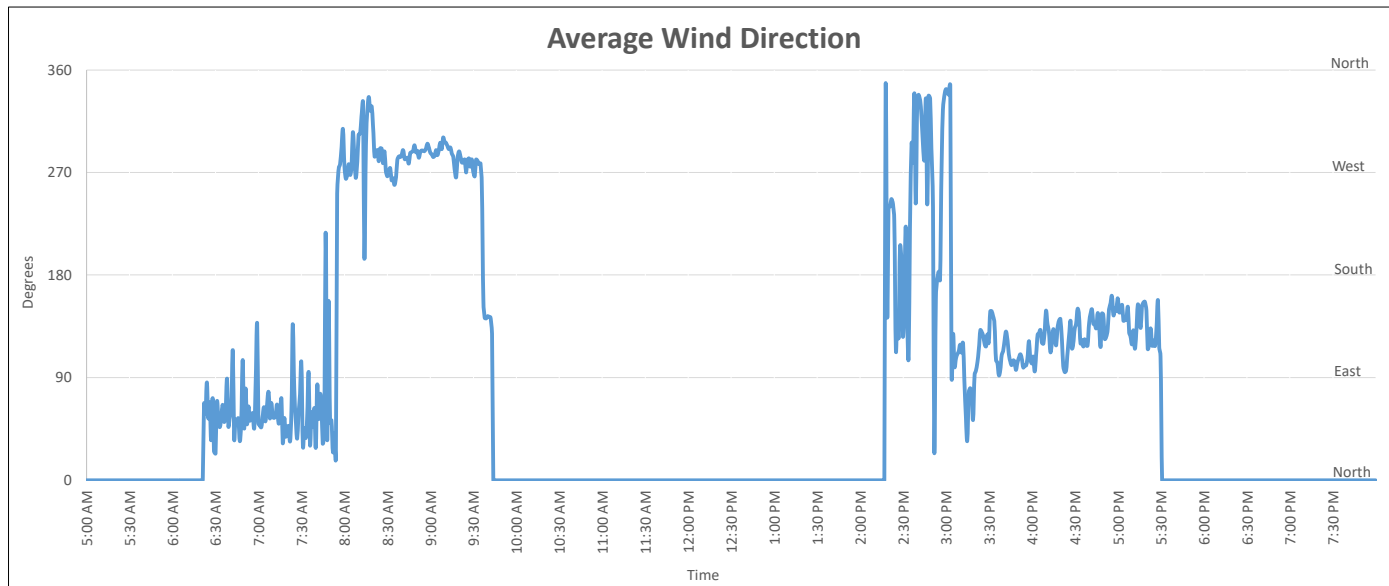
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:38 AM	5:23 PM	33.75	62.00	32.79	61.00



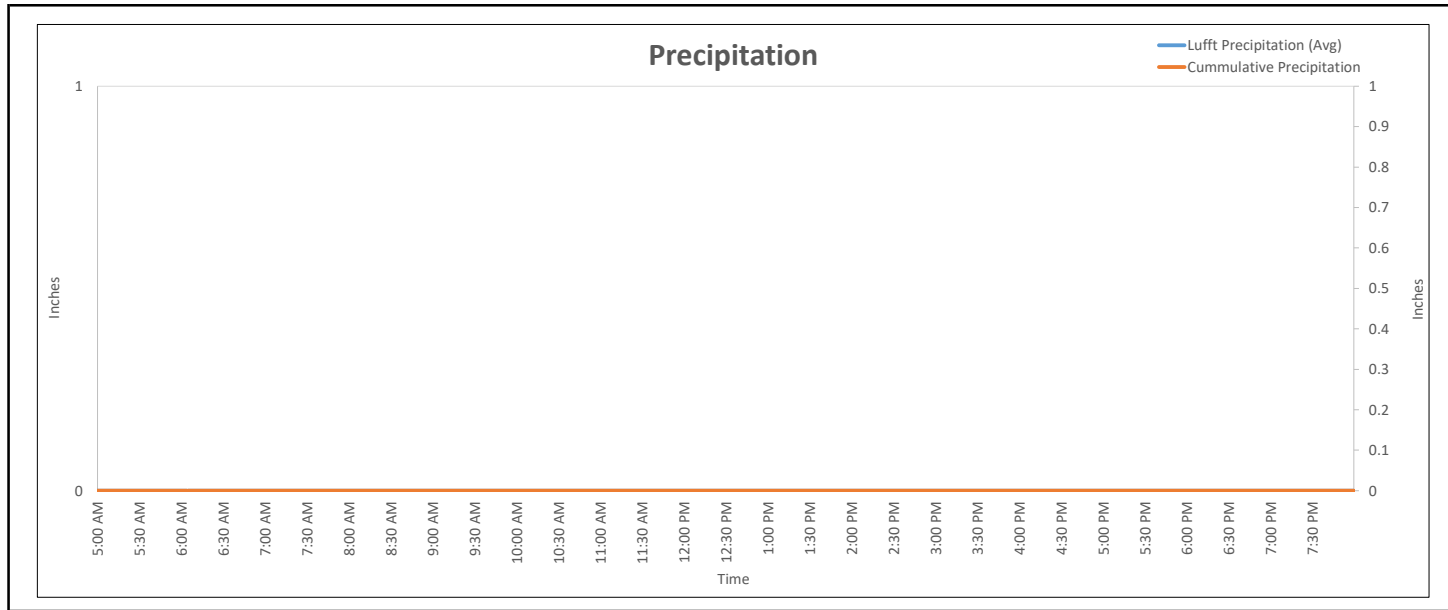
**Union Pacific Railroad
Houston Wood Preserving Works Site
Houston, Texas
TCEQ Air Monitor Values
Houston North Wayside C405/C1033
June 4, 2024**

Parameter Measured	Morning												Afternoon												Parameter Measured	POC
	Mid	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	Noon	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00		
PM-10 (Standard Conditions)	24	29.5	23.1	22	26.5	29.7	35.2	35.5	35.3	33.3	OAS	OAS	OAS	24	27.7	28.5	33.3	33.6	33.1	30.2	26.6	26.7	26.3	31.3	PM-10 (Standard Conditions)	2 N MDL
PM-2.5 (Local Conditions)	20	24	23	20	22	26	25	23	32	27	OAS	AQI	22	17	22	23	19	17	18	14	12	13	21	24	PM-2.5 (Local Conditions)	1 R MDL
Parameter Measured	Mid	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	Noon	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	Parameter Measured	POC
Morning													Afternoon													

Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Wednesday, June 5, 2024

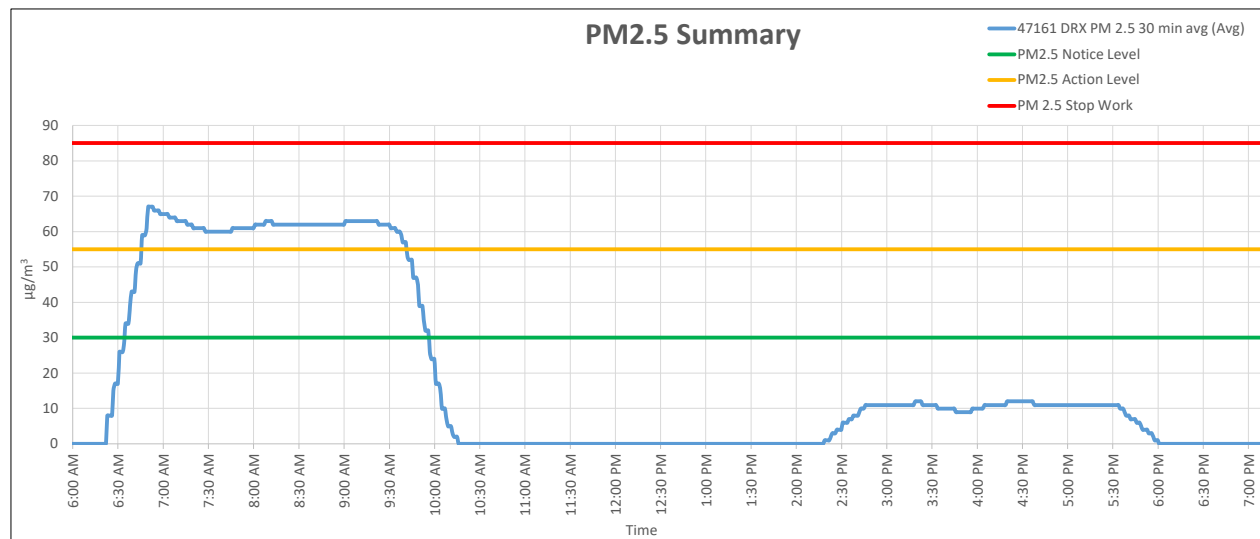
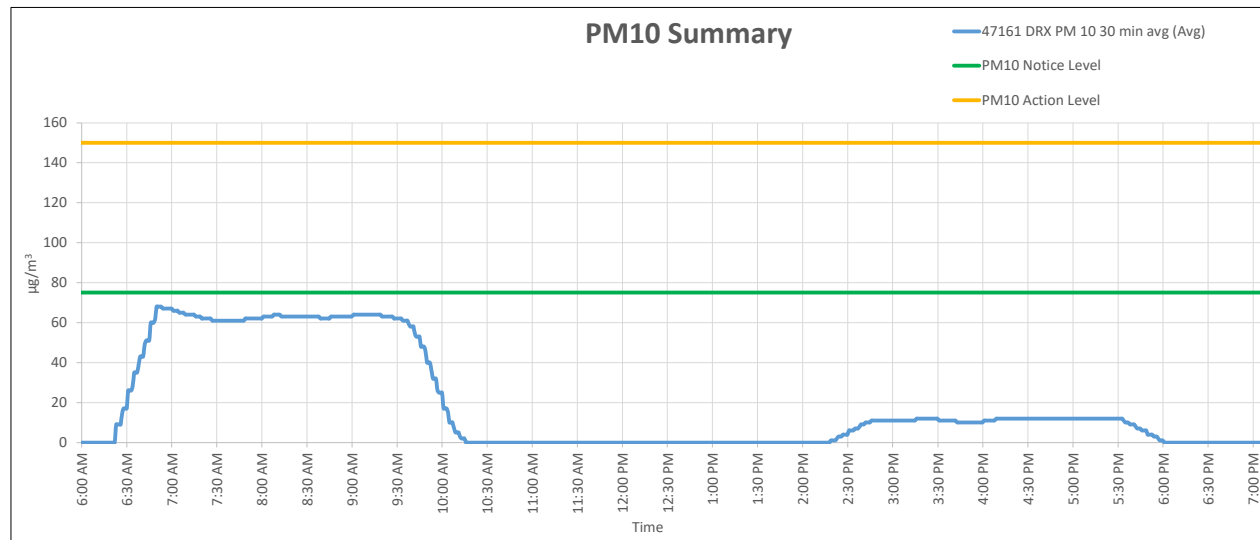


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Wednesday, June 5, 2024



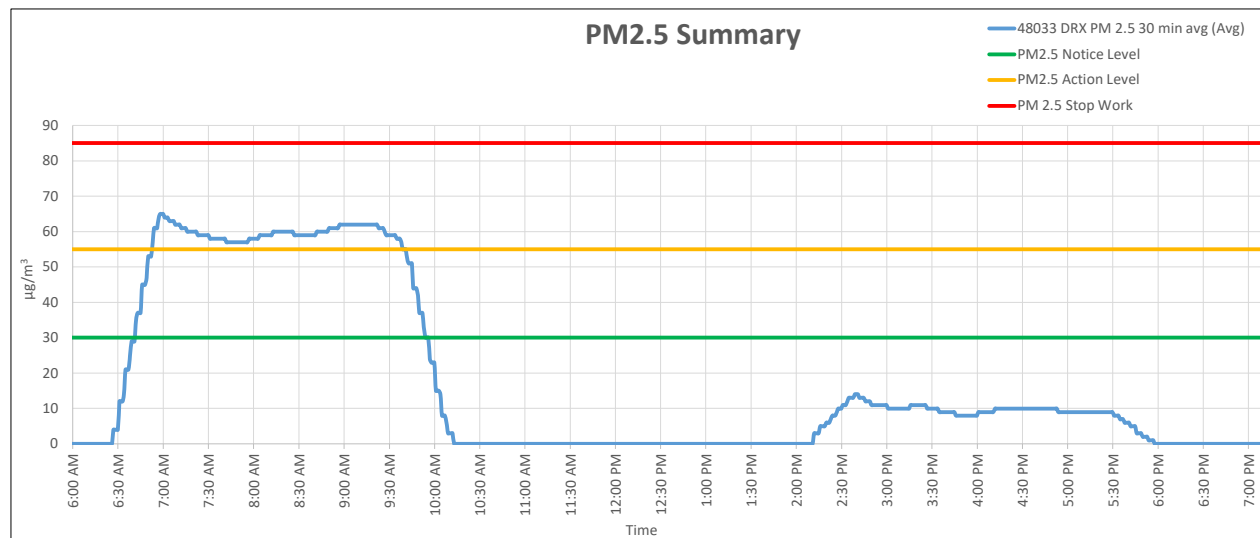
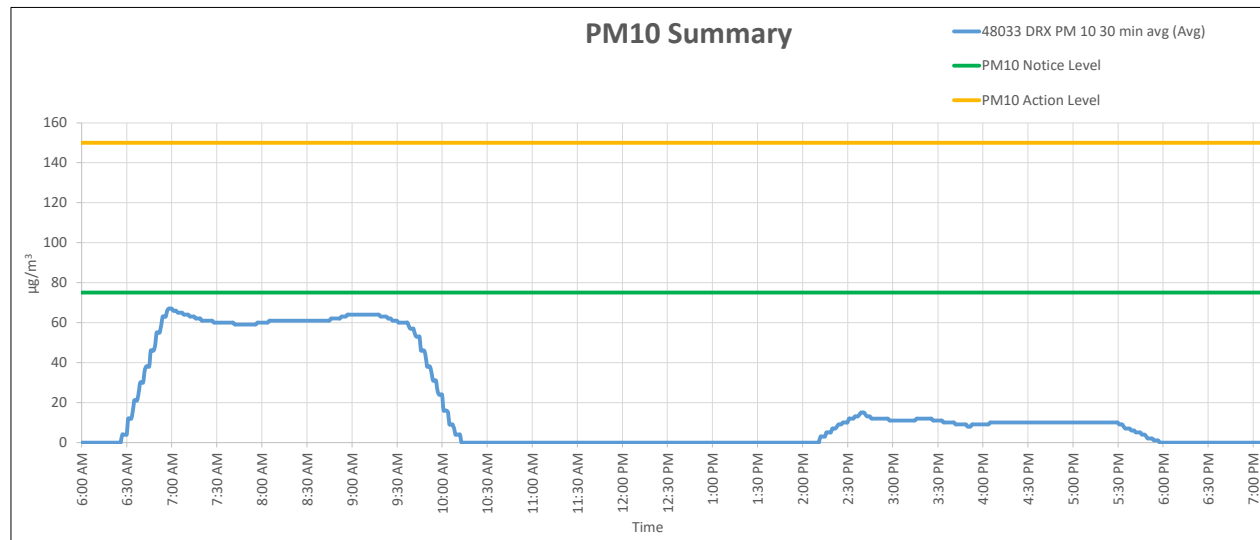
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Wednesday, June 5, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:23 AM	5:57 PM	32.71	68.00	32.06	67.00



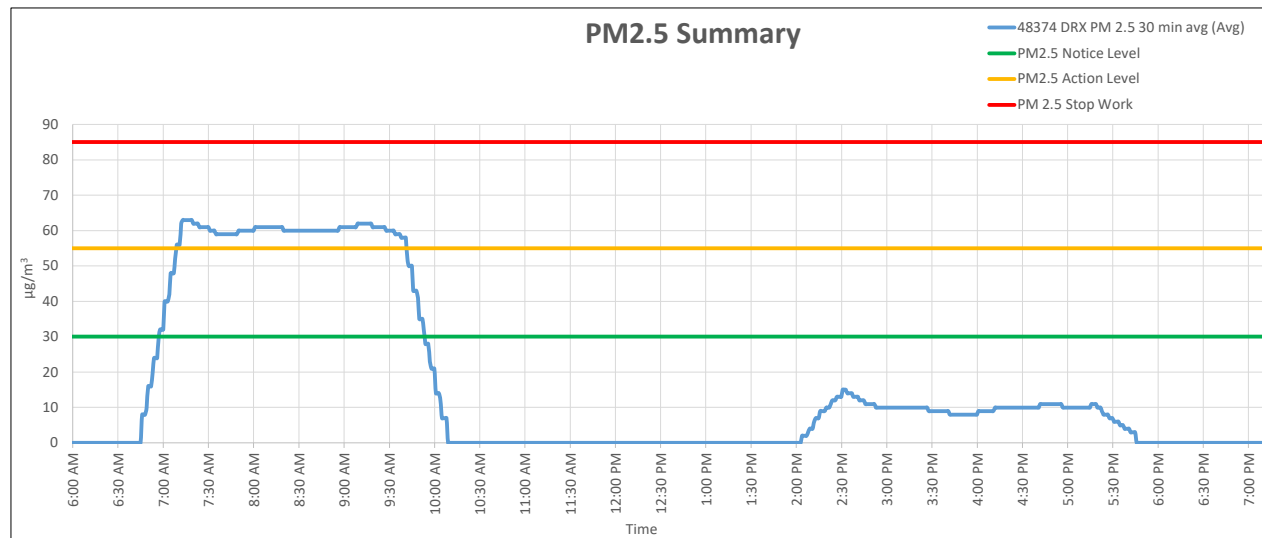
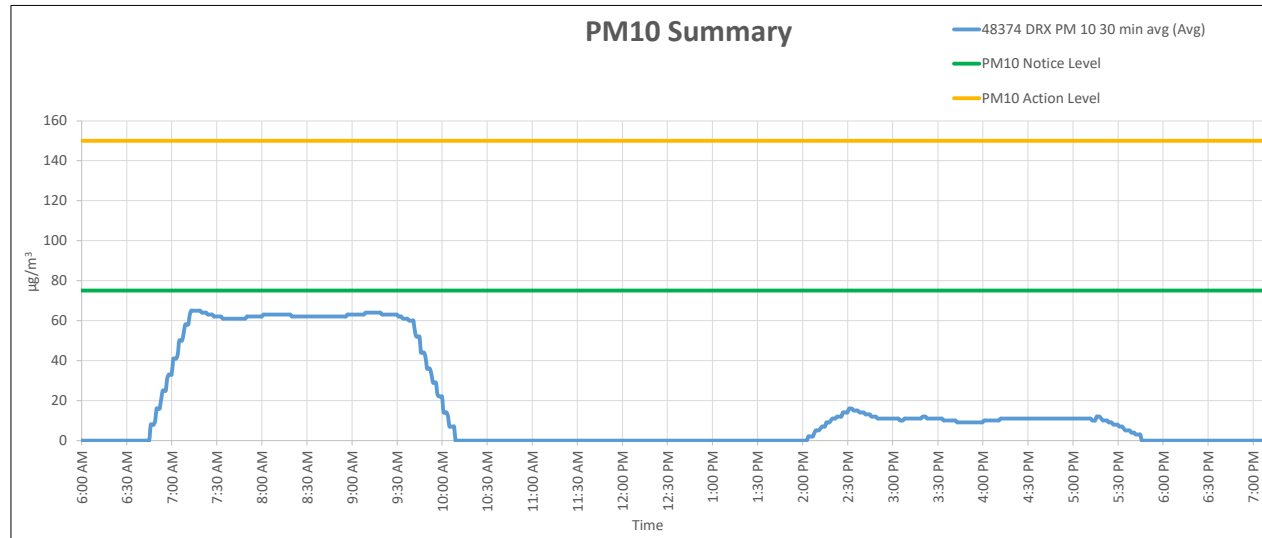
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Wednesday, June 5, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:27 AM	5:53 PM	31.32	67.00	30.25	65.00



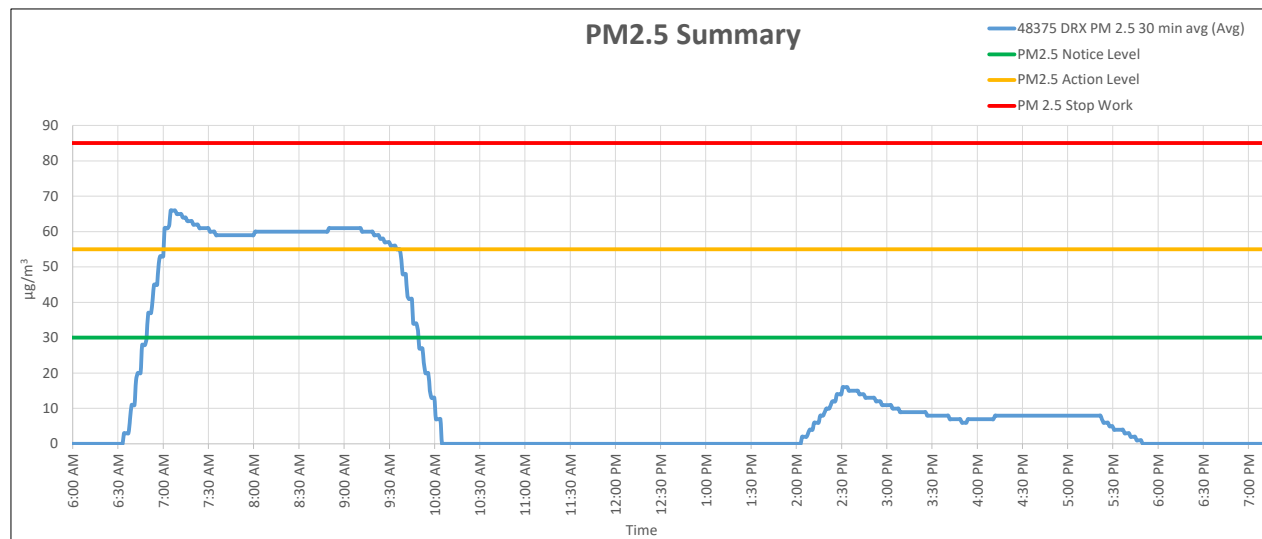
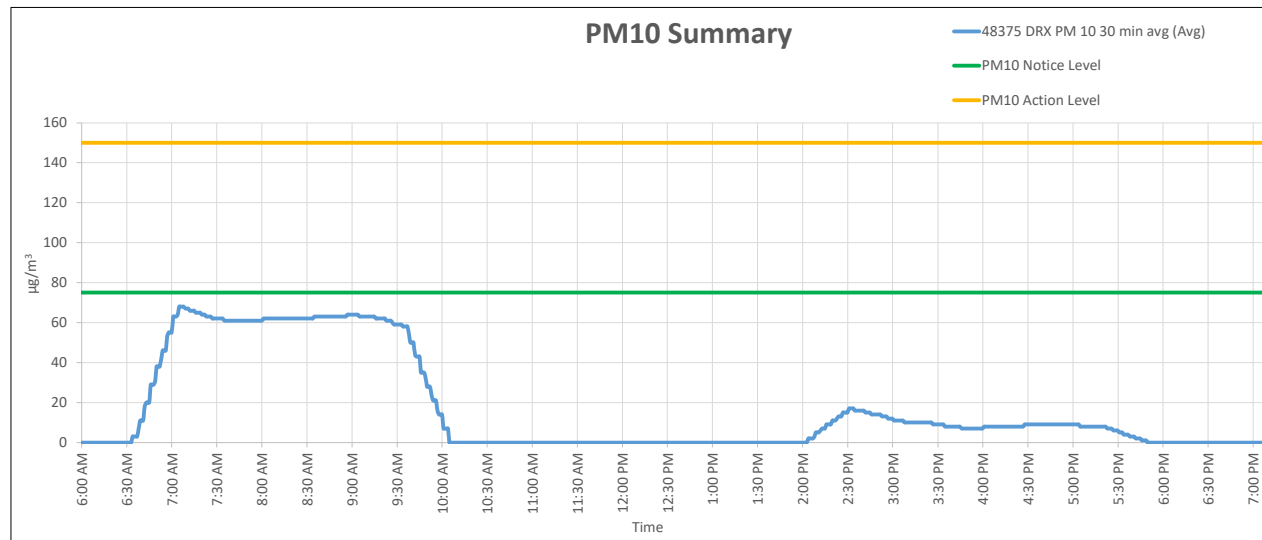
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Wednesday, June 5, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	6:46 AM	5:45 PM	31.20	65.00	29.97	63.00



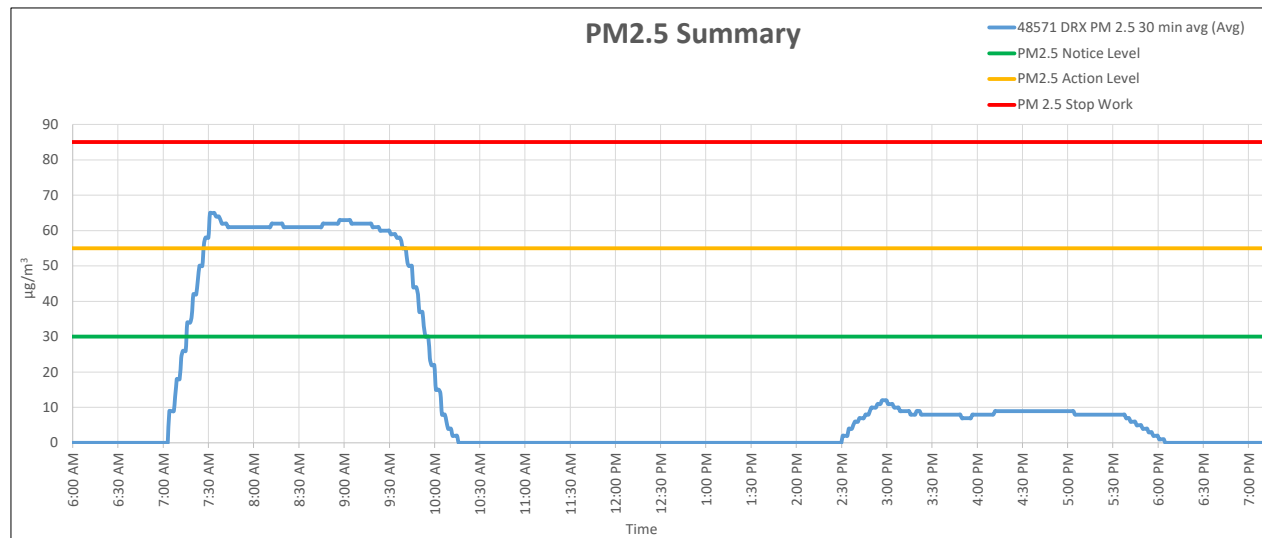
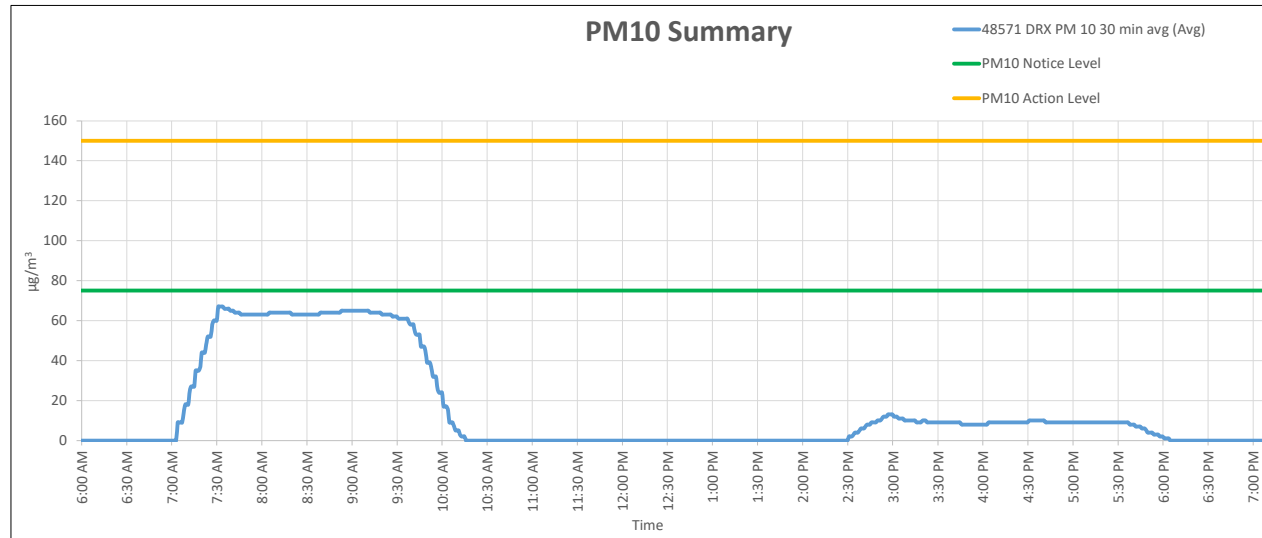
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Wednesday, June 5, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:34 AM	5:45 PM	30.51	68.00	29.27	66.00



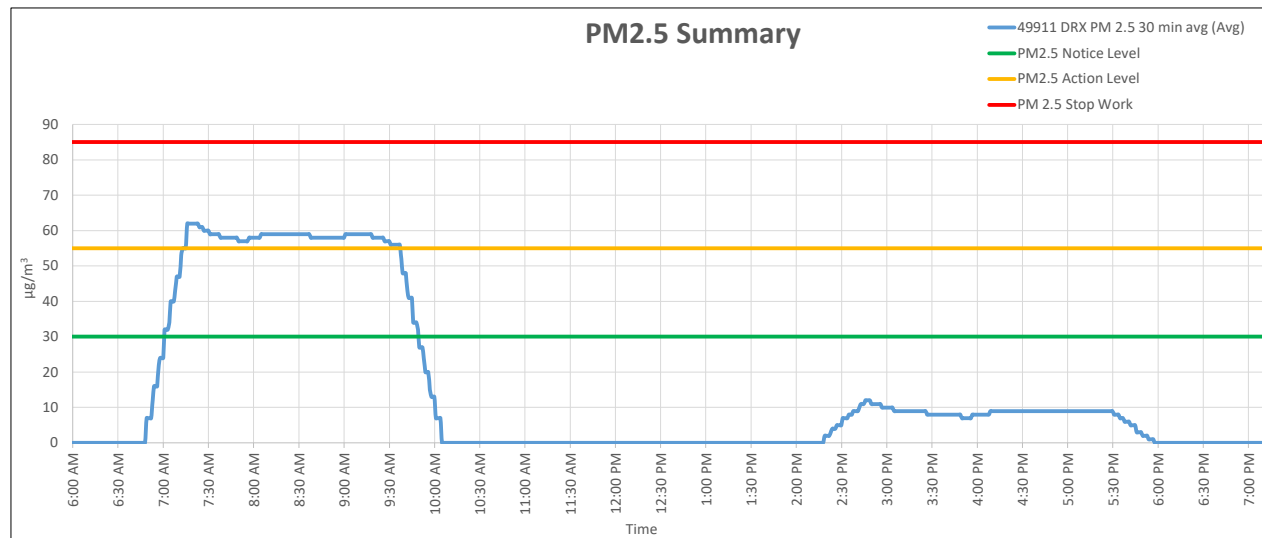
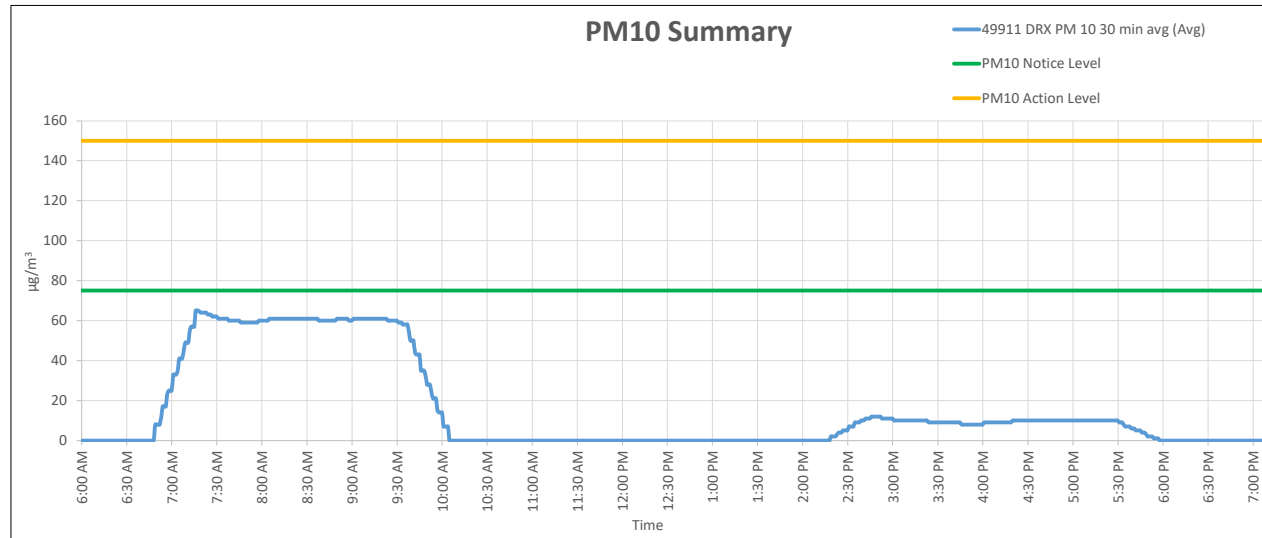
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Wednesday, June 5, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:04 AM	6:00 PM	29.36	67.00	28.07	65.00



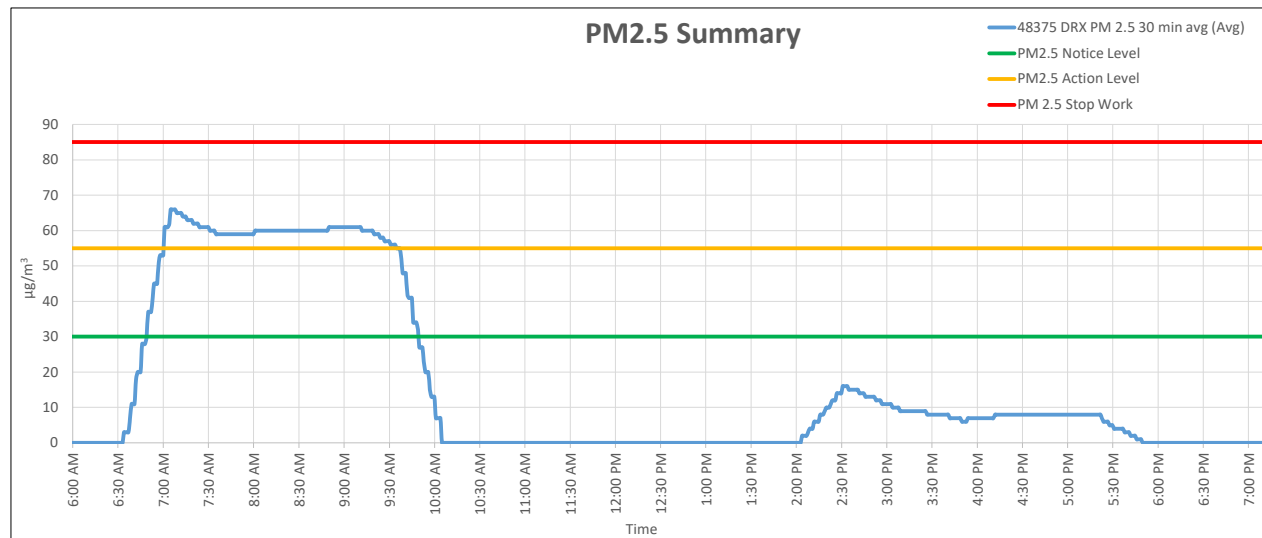
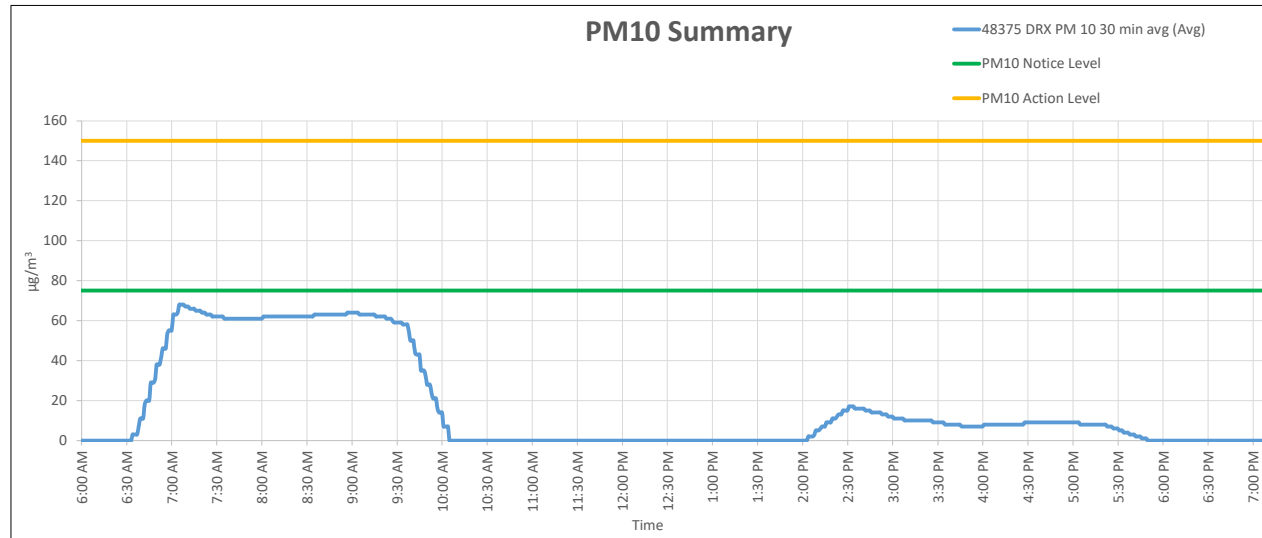
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Wednesday, June 5, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	6:49 AM	5:53 PM	29.32	65.00	28.10	62.00

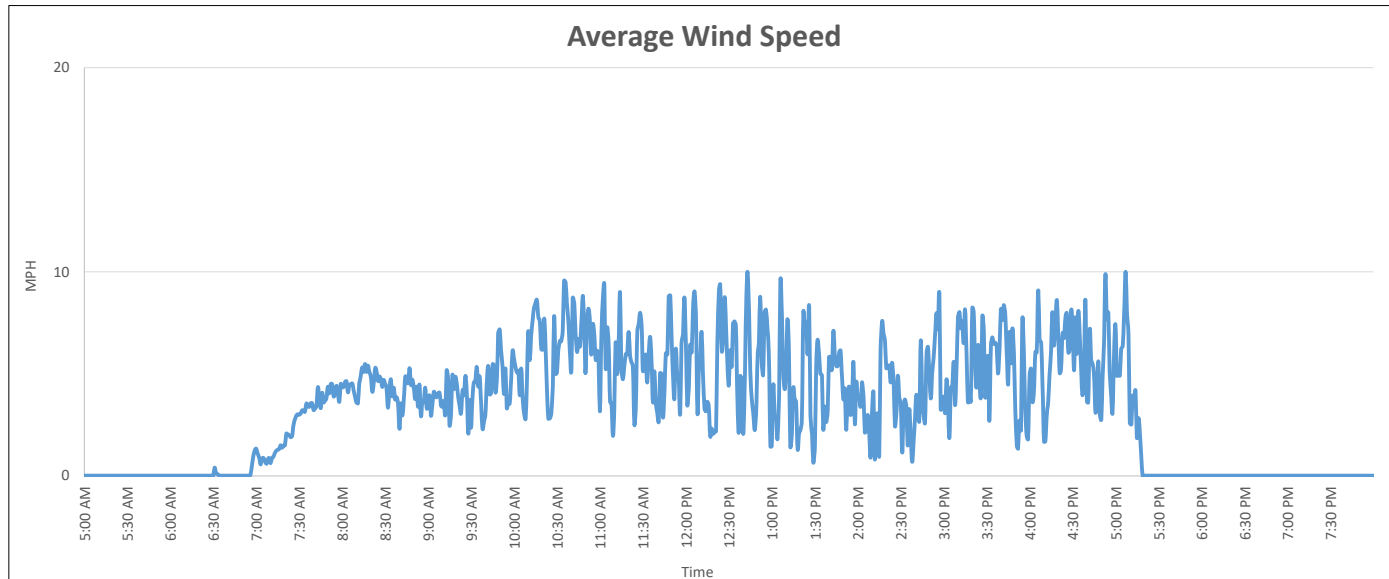
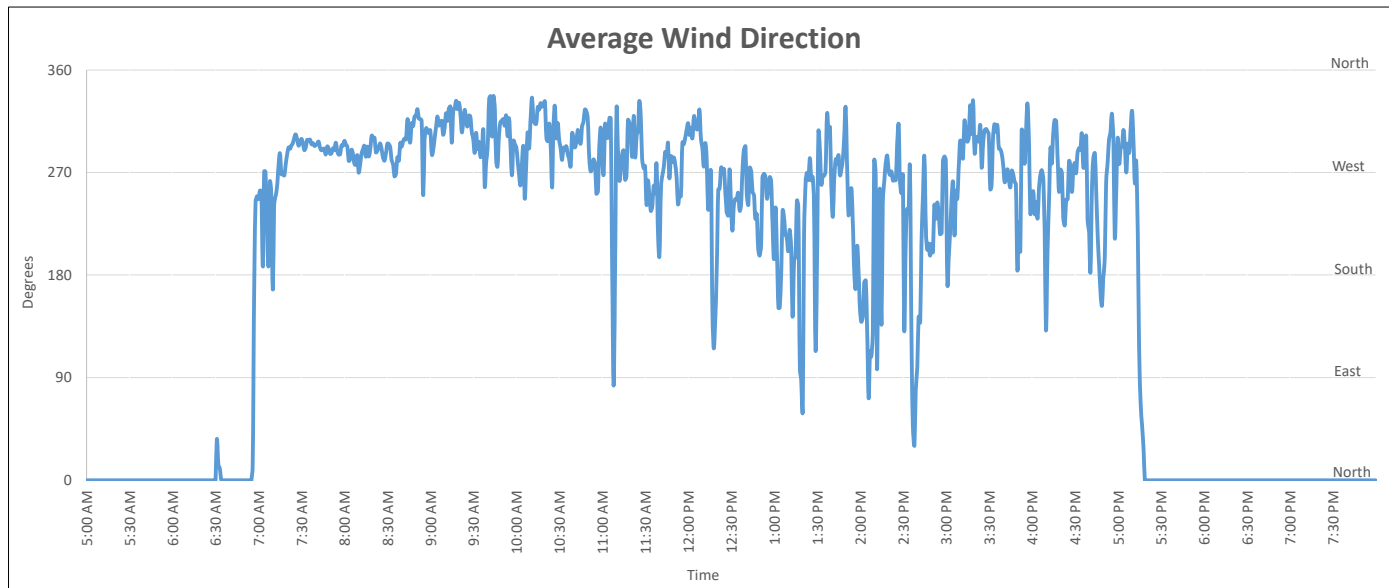


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Wednesday, June 5, 2024

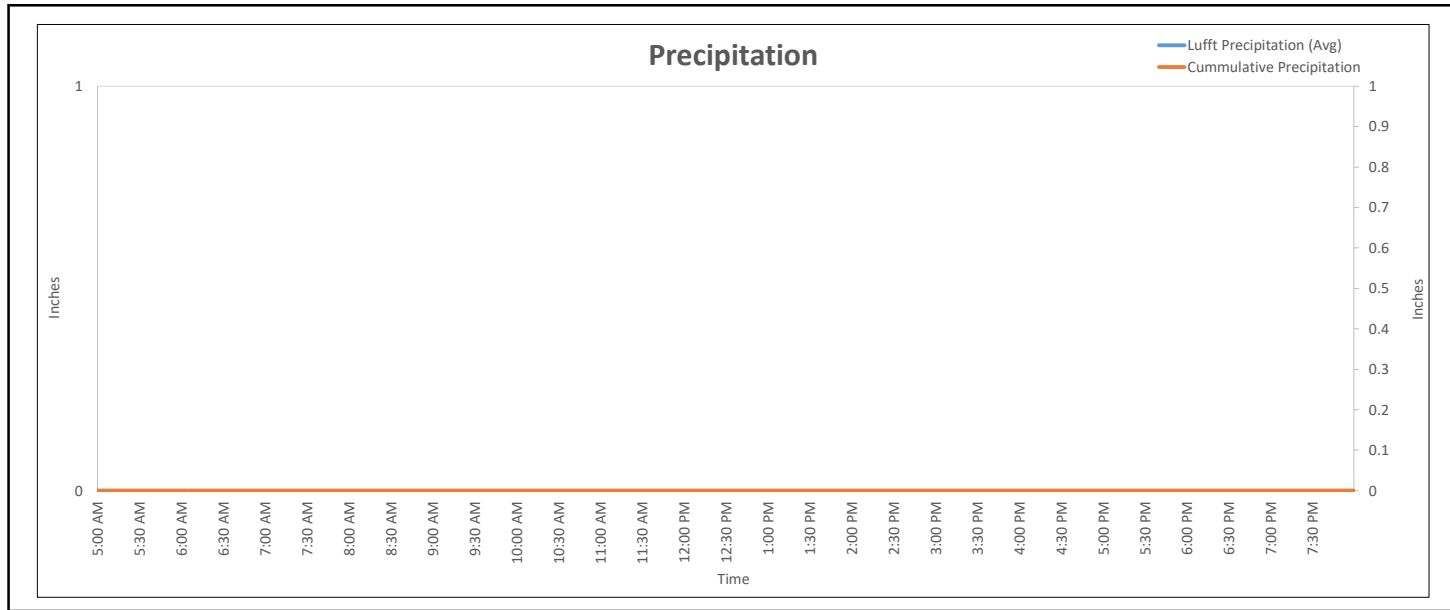
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:34 AM	5:45 PM	30.51	68.00	29.27	66.00



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Thursday, June 6, 2024



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Thursday, June 6, 2024



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 6, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:34 AM	5:49 PM	19.43	40.00	18.79	38.00

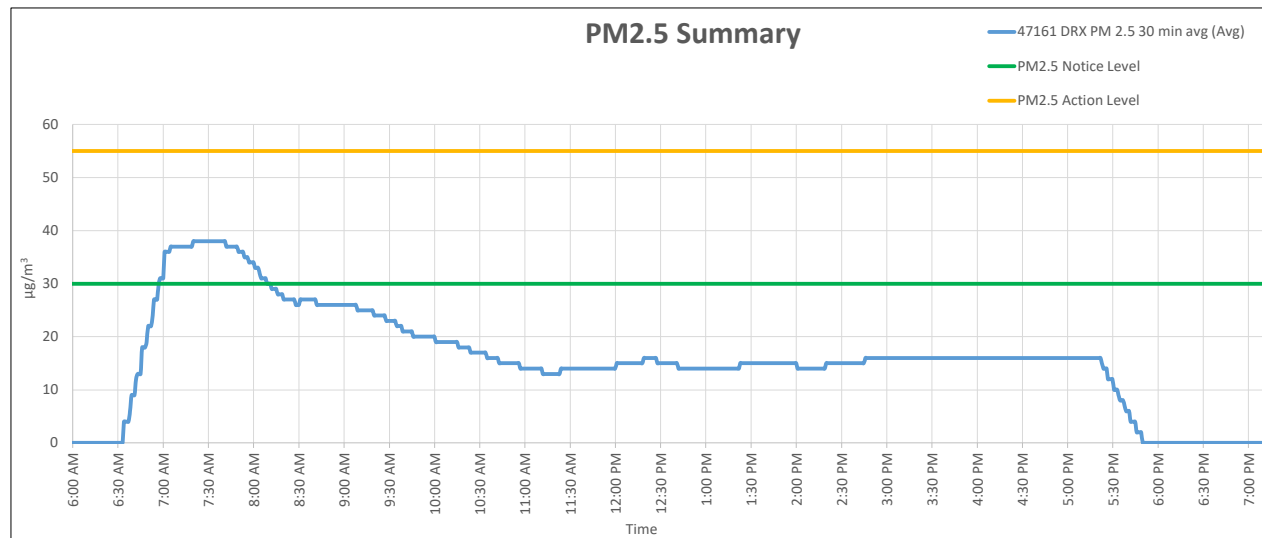
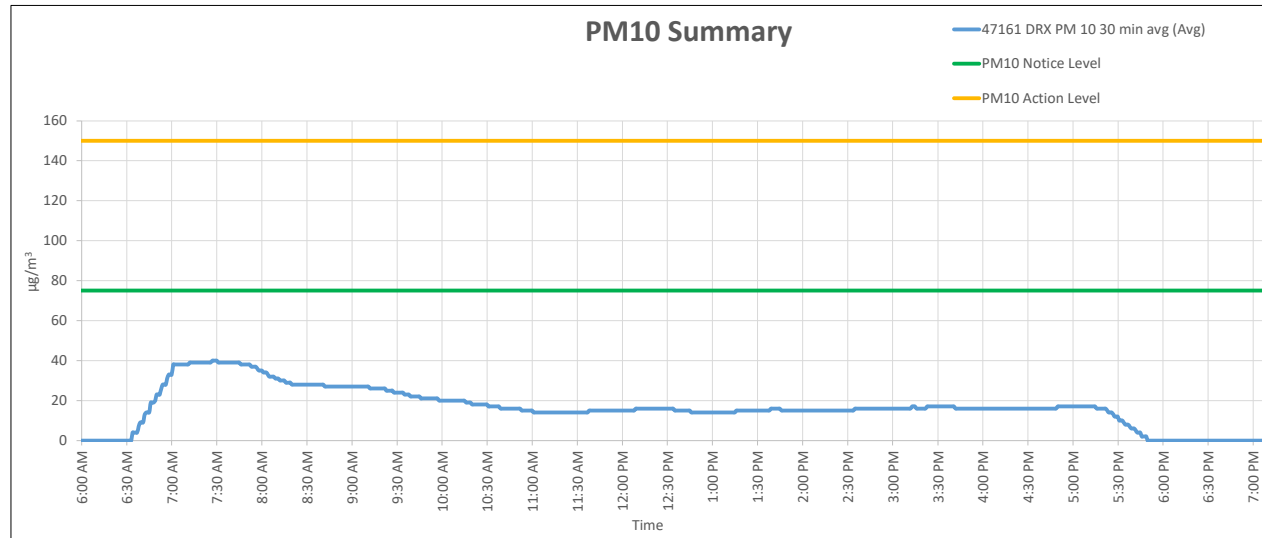
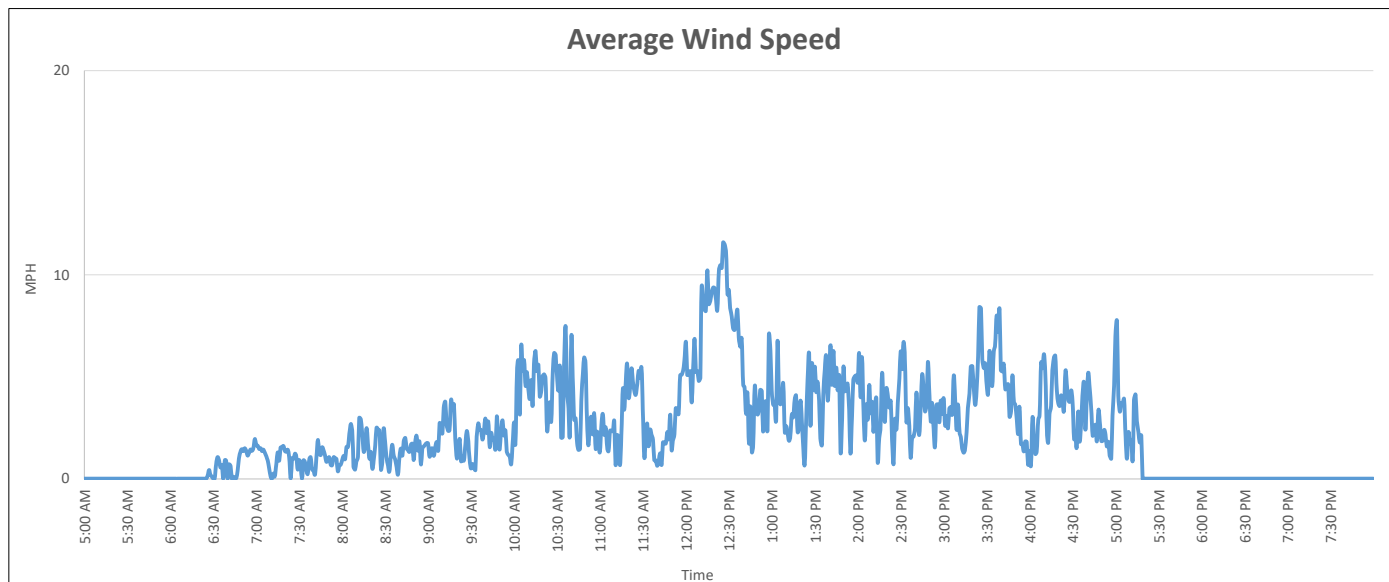
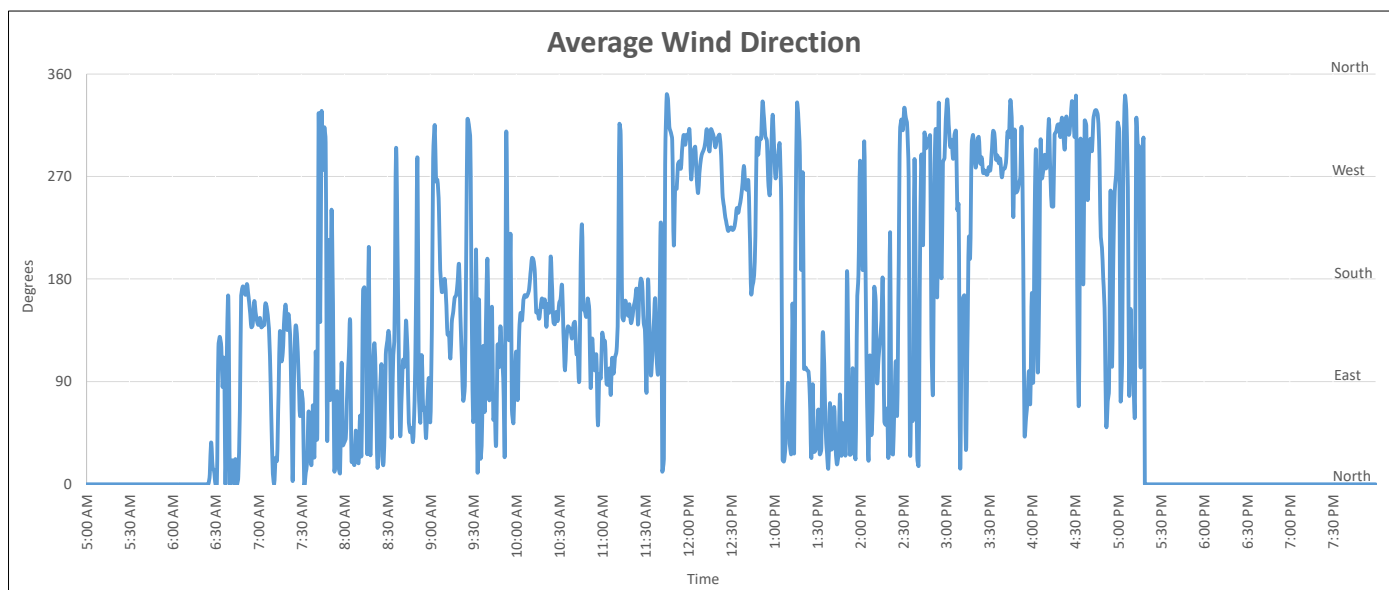


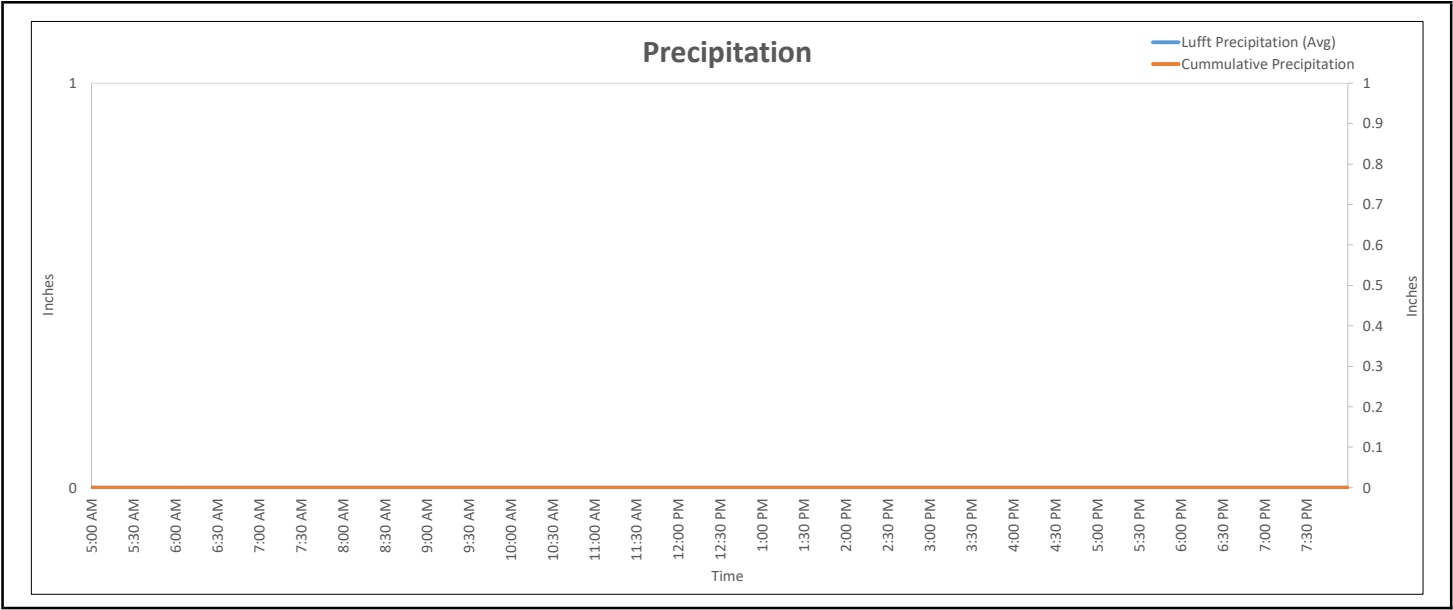
Table 5 – Direct Read Summary
Union Pacific Houston Wood Preserving Works
Houston, Texas

Date	Modem #	PM ₁₀ Concentration (µg/m ³)			PM _{2.5} Concentration (µg/m ³)		
		Min	Max	Average	Min	Max	Average
Week 7							
6/10/2024	48374	3.00	31.00	21.46	3.00	29.00	20.18
	47161	3.00	36.00	22.77	3.00	35.00	22.10
	48033	3.00	34.00	19.76	3.00	33.00	18.76
	48571	3.00	31.00	19.37	3.00	30.00	18.38
	48375	2.00	83.00	19.34	2.00	81.00	18.35
	801245	3.00	43.00	23.74	3.00	42.00	22.20
	49911	3.00	32.00	22.18	3.00	31.00	21.13
6/11/2024	48374	3.00	43.00	33.67	3.00	42.00	31.97
	47161	3.00	41.00	31.61	2.00	41.00	30.93
	48033	3.00	44.00	33.47	2.00	40.00	31.60
	48571	2.00	42.00	30.83	2.00	39.00	29.38
	48375	1.00	39.00	26.40	1.00	35.00	24.73
	801245	3.00	56.00	42.29	3.00	51.00	40.17
	49911	3.00	42.00	32.28	3.00	40.00	30.68
6/12/2024	48374	3.00	39.00	28.85	3.00	33.00	27.15
	47161	3.00	37.00	27.65	3.00	35.00	27.00
	48033	4.00	43.00	29.33	4.00	36.00	27.77
	48571	3.00	40.00	28.11	3.00	36.00	26.07
	48375	3.00	42.00	24.41	3.00	37.00	22.51
	801245	4.00	58.00	37.38	4.00	50.00	35.27
	49911	4.00	37.00	27.28	4.00	32.00	25.79
6/13/2024	48374	5.00	48.00	38.06	5.00	43.00	36.03
	47161	4.00	49.00	38.50	4.00	48.00	37.55
	48033	6.00	54.00	40.64	6.00	47.00	38.34
	48571	3.00	57.00	30.59	3.00	41.00	25.93
	48375	3.00	50.00	30.13	3.00	43.00	28.32
	801245	6.00	72.00	50.71	5.00	64.00	47.85
	49911	5.00	51.00	37.62	5.00	48.00	36.05
6/14/2024	48374	4.00	65.00	34.11	4.00	63.00	32.85
	47161	10.00	71.00	31.83	9.00	69.00	31.42
	48033	4.00	72.00	35.48	4.00	67.00	33.94
	48571	4.00	80.00	32.97	3.00	74.00	31.16
	48375	10.00	76.00	25.97	9.00	70.00	25.29
	801245	8.00	102.00	40.48	7.00	96.00	39.39
	49911	4.00	70.00	33.48	4.00	67.00	32.24
Note:							
1. Values shown in GREEN are above the Notice Level Threshold.							
2. Values shown in ORANGE are above the Action Level Threshold.							
3. Values shown in RED are above the Stop-Work Level Threshold.							

Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Monday, June 10, 2024

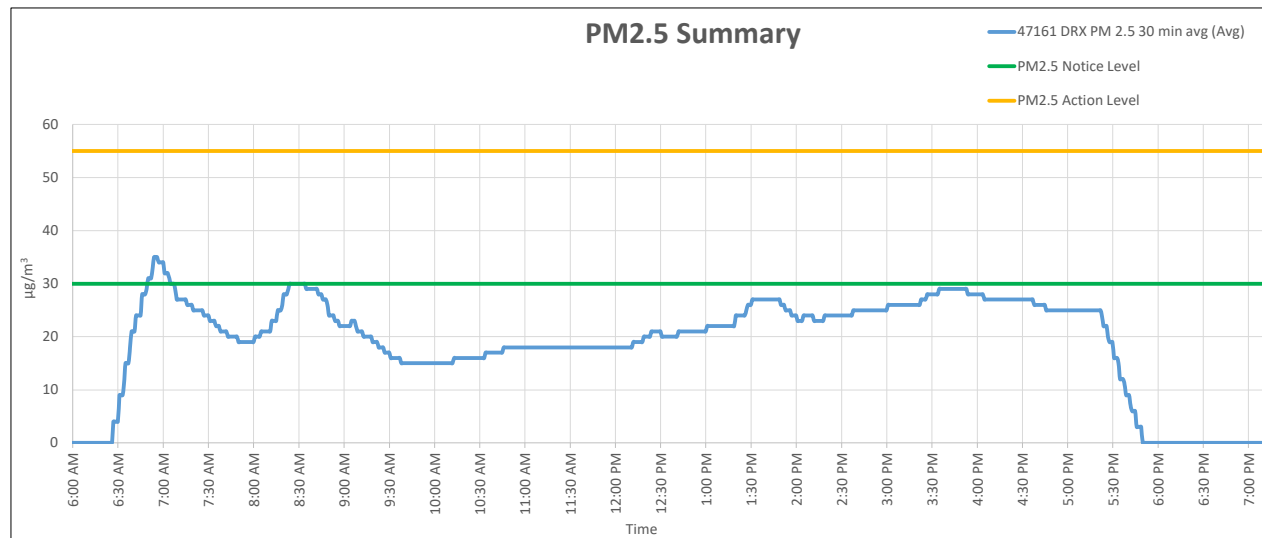
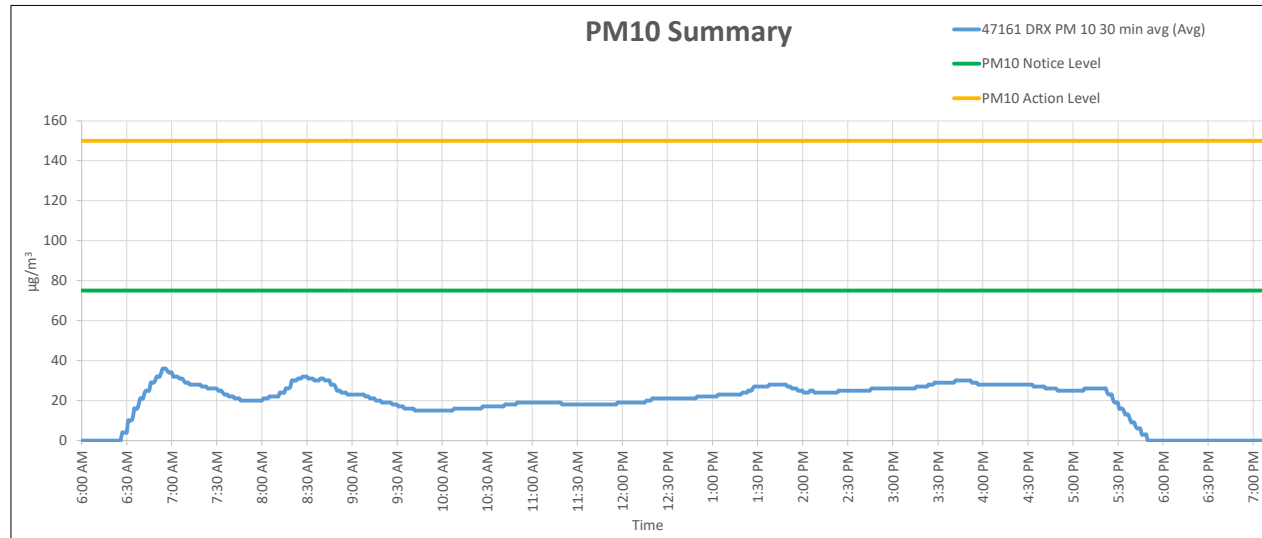


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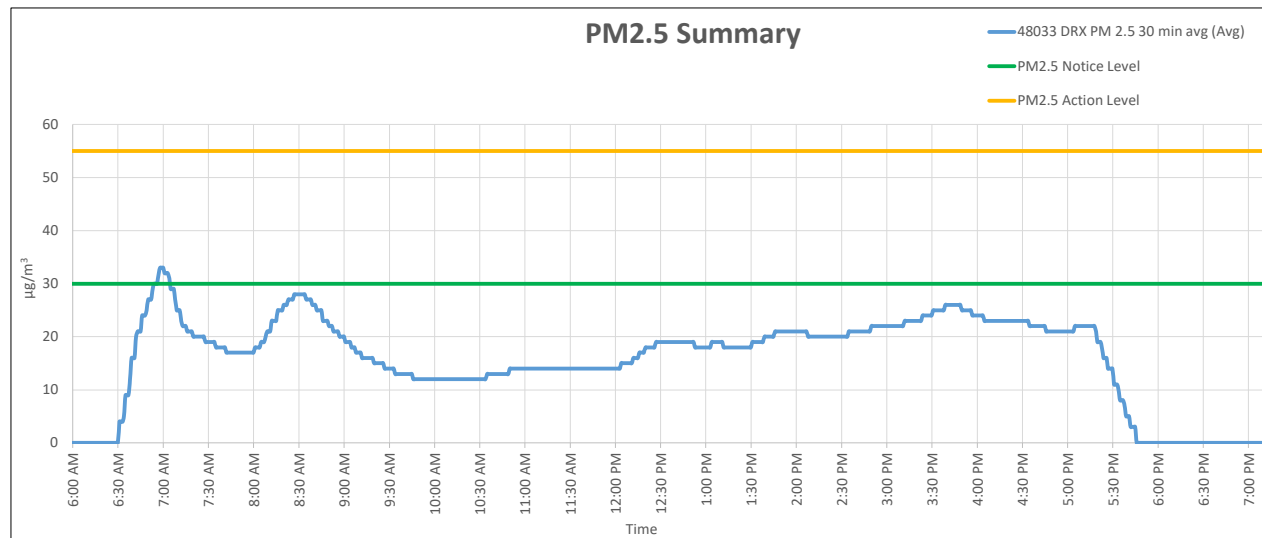
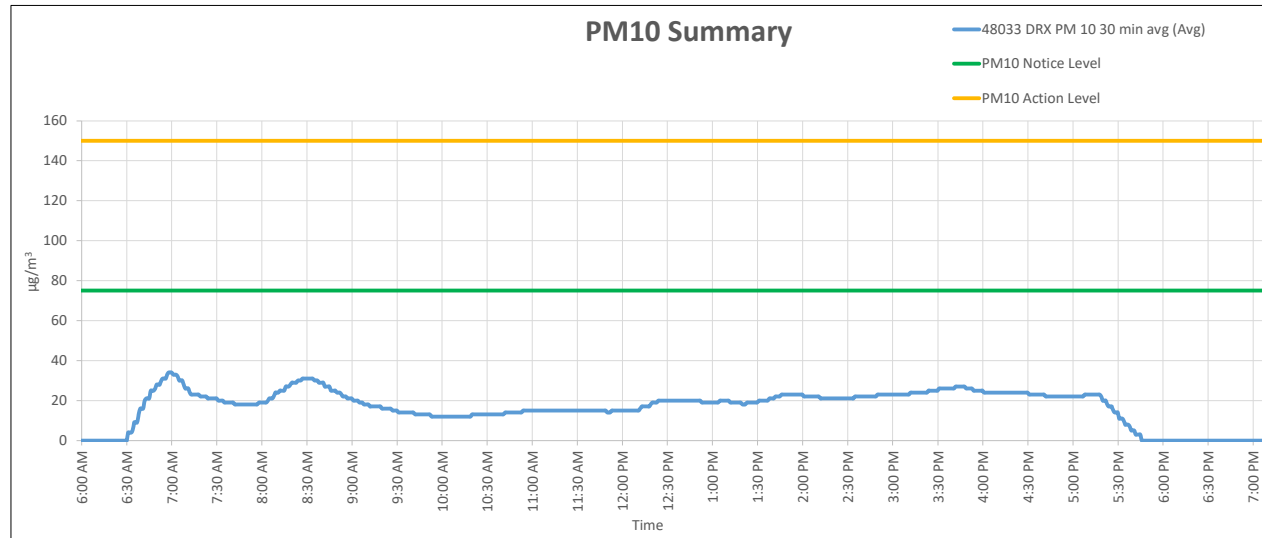
Union Pacific Railroad
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:27 AM	5:49 PM	22.77	36.00	22.10	35.00



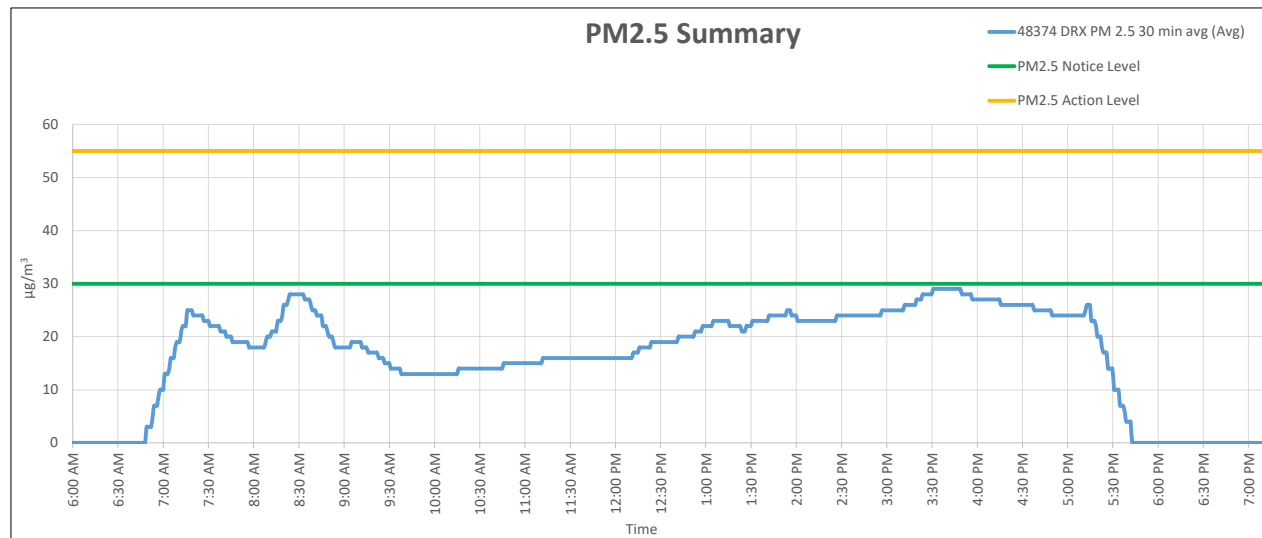
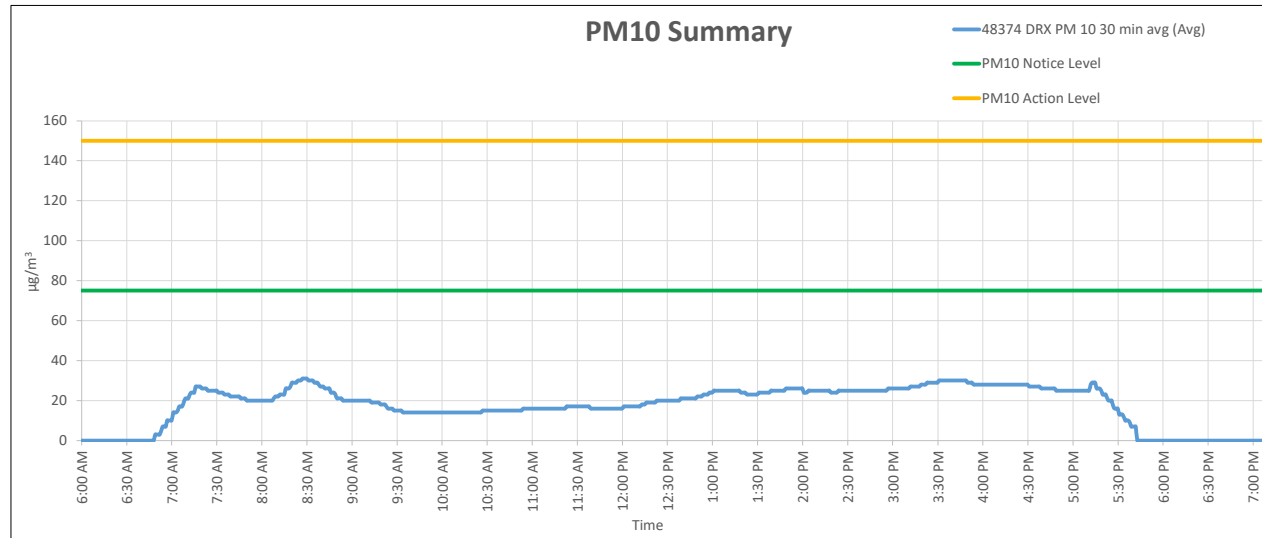
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:31 AM	5:45 PM	19.76	34.00	18.76	33.00



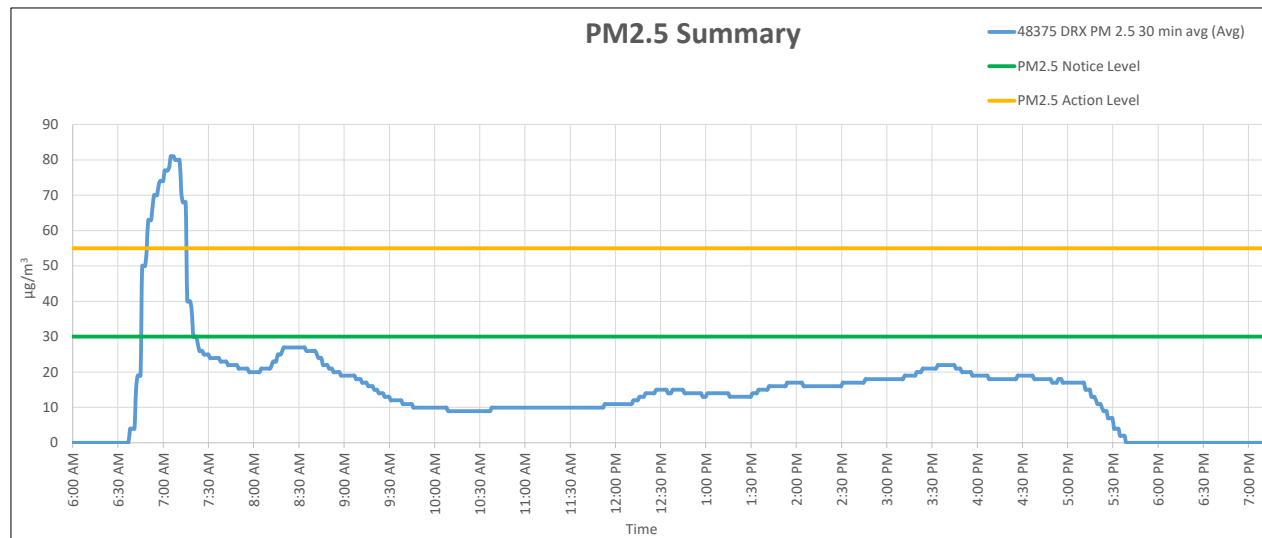
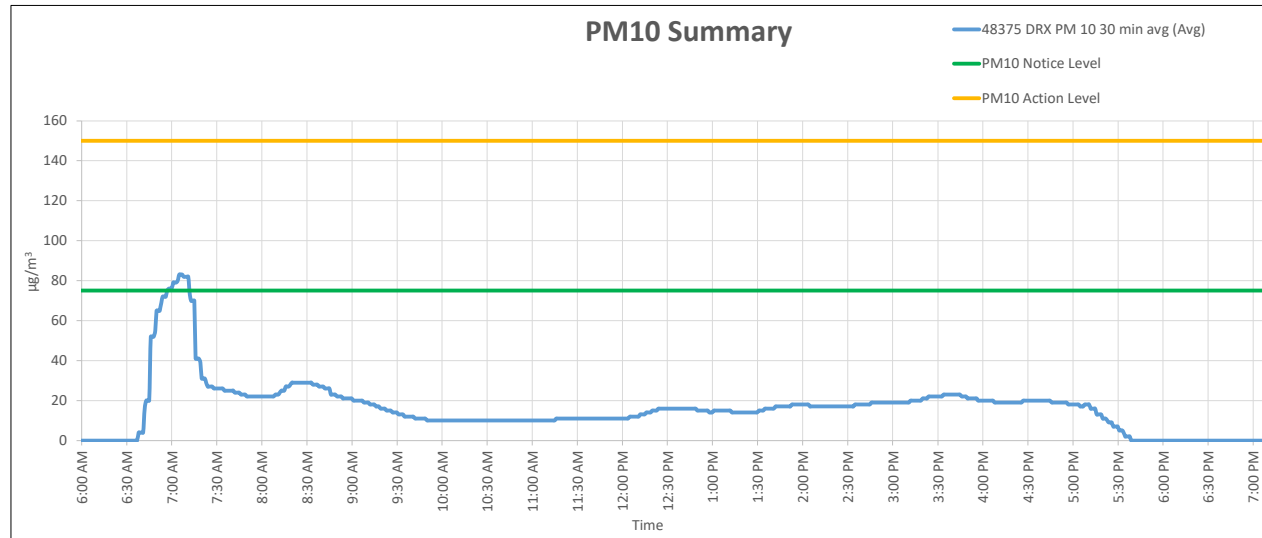
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	6:49 AM	5:42 PM	21.46	31.00	20.18	29.00



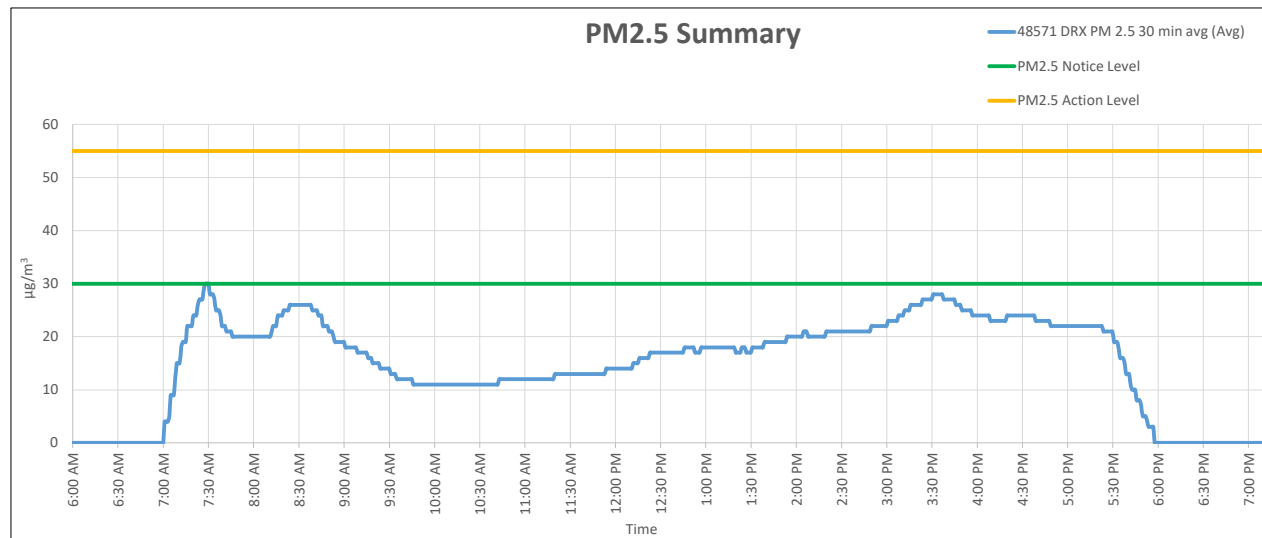
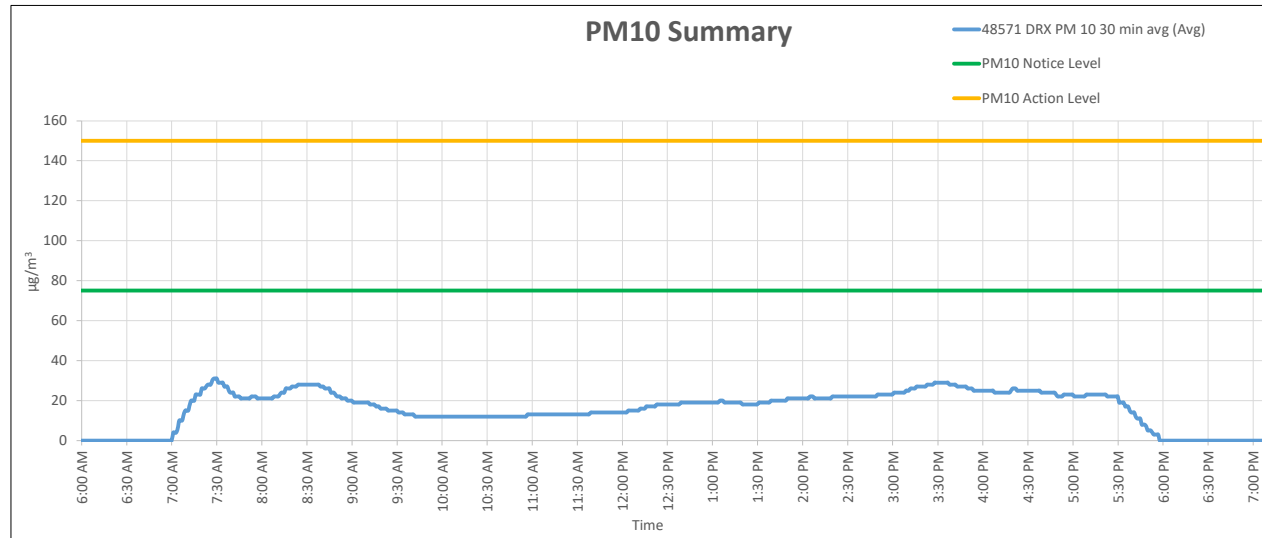
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:38 AM	5:38 PM	19.34	83.00	18.35	81.00



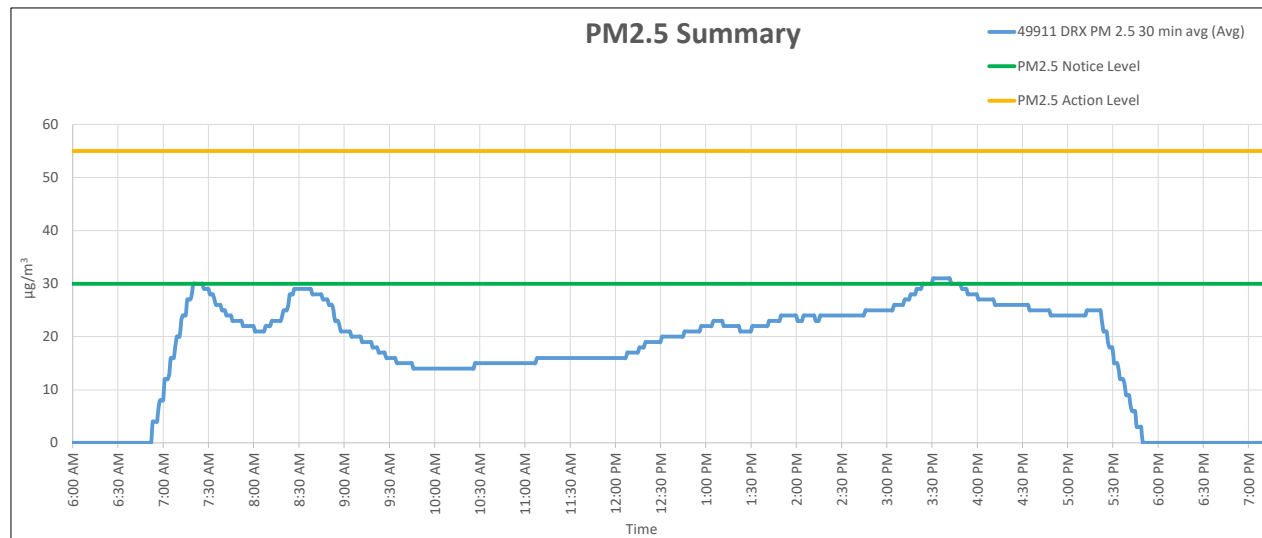
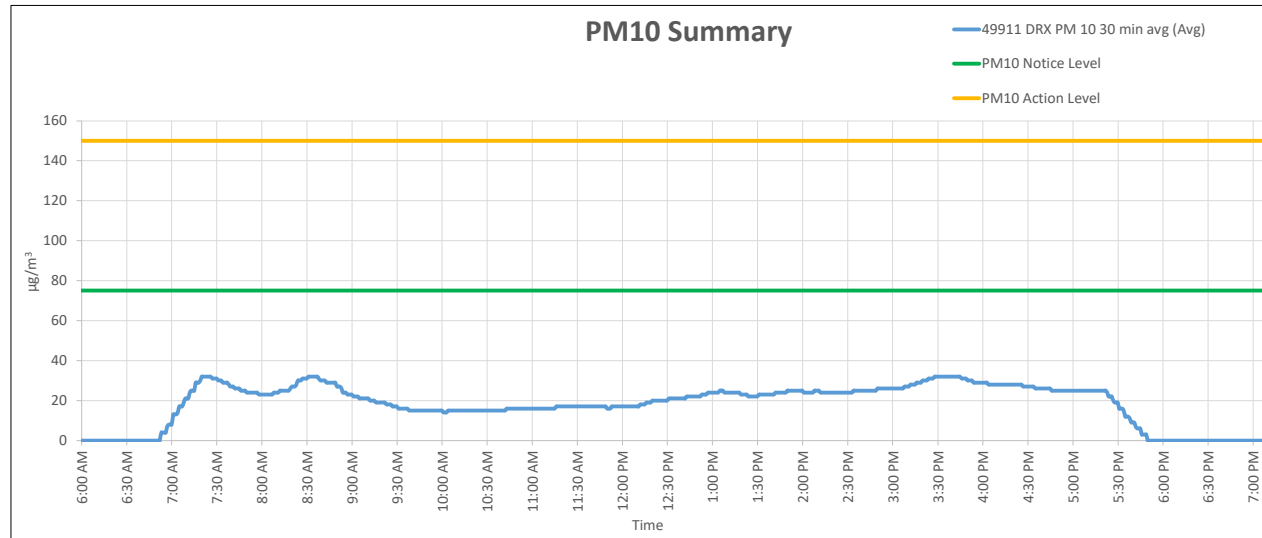
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:01 AM	5:57 PM	19.37	31.00	18.38	30.00



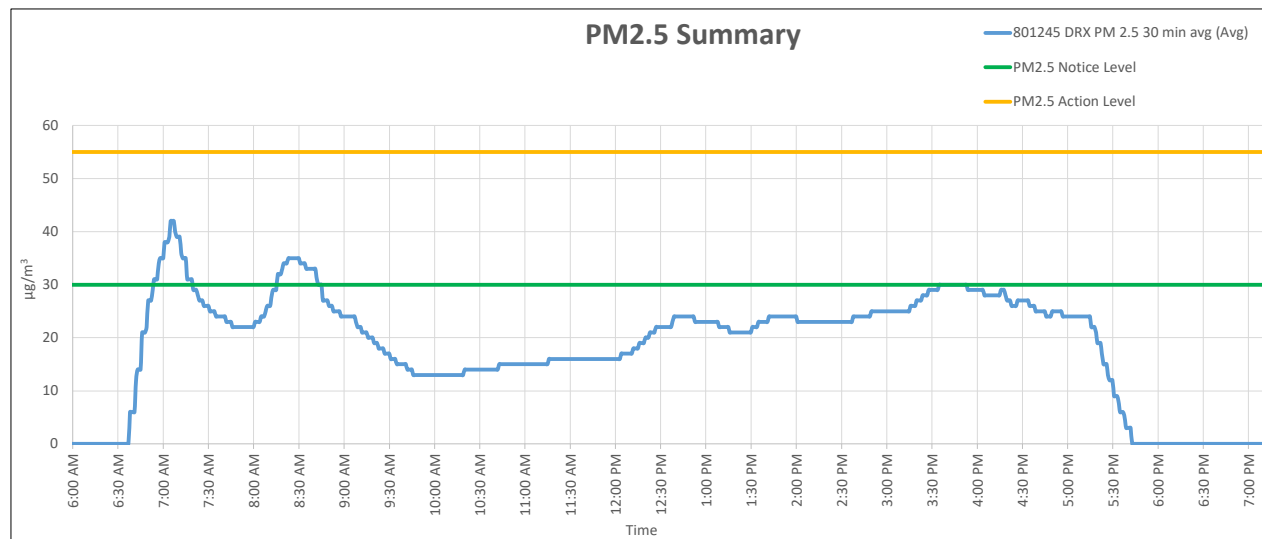
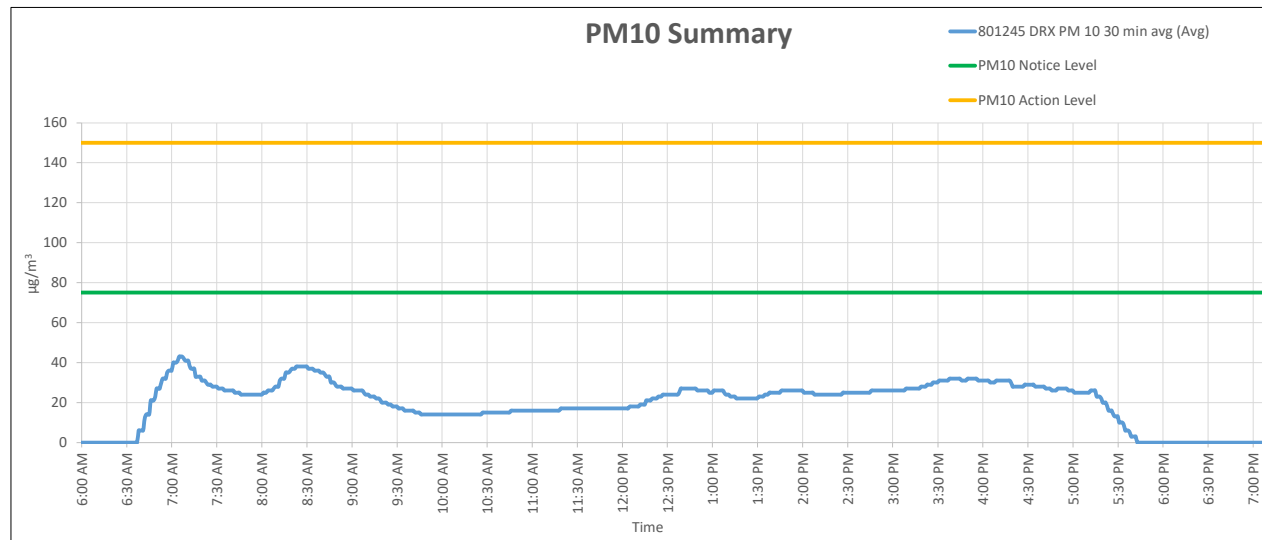
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	6:53 AM	5:49 PM	22.18	32.00	21.13	31.00

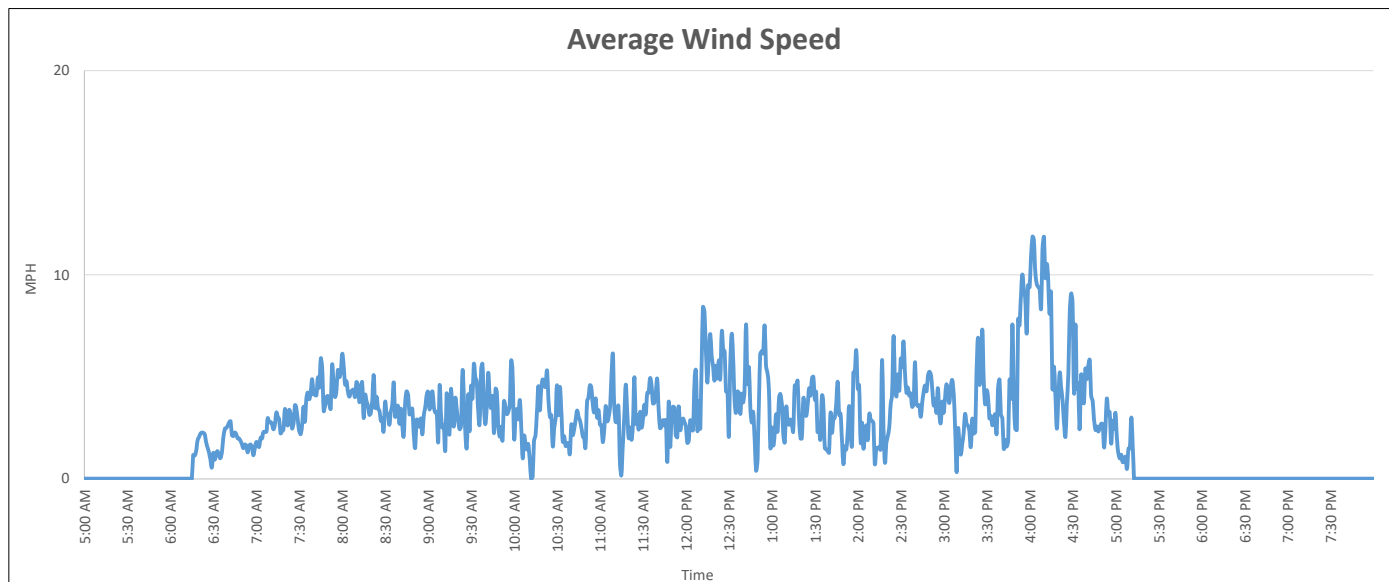
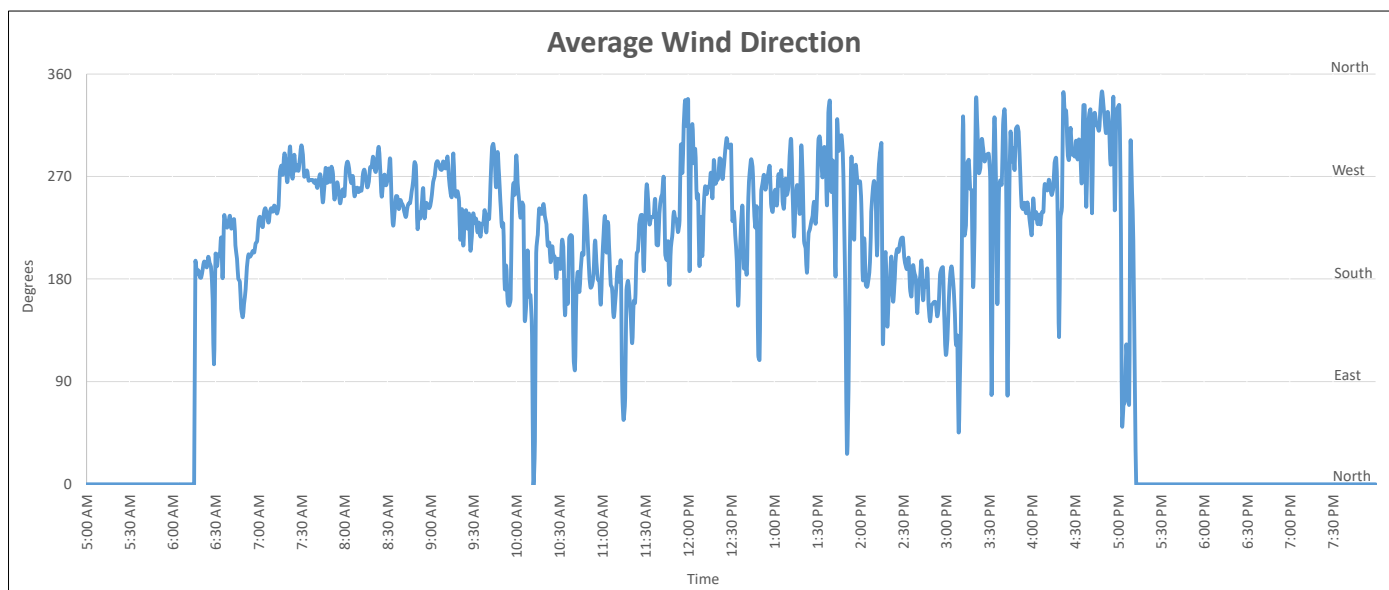


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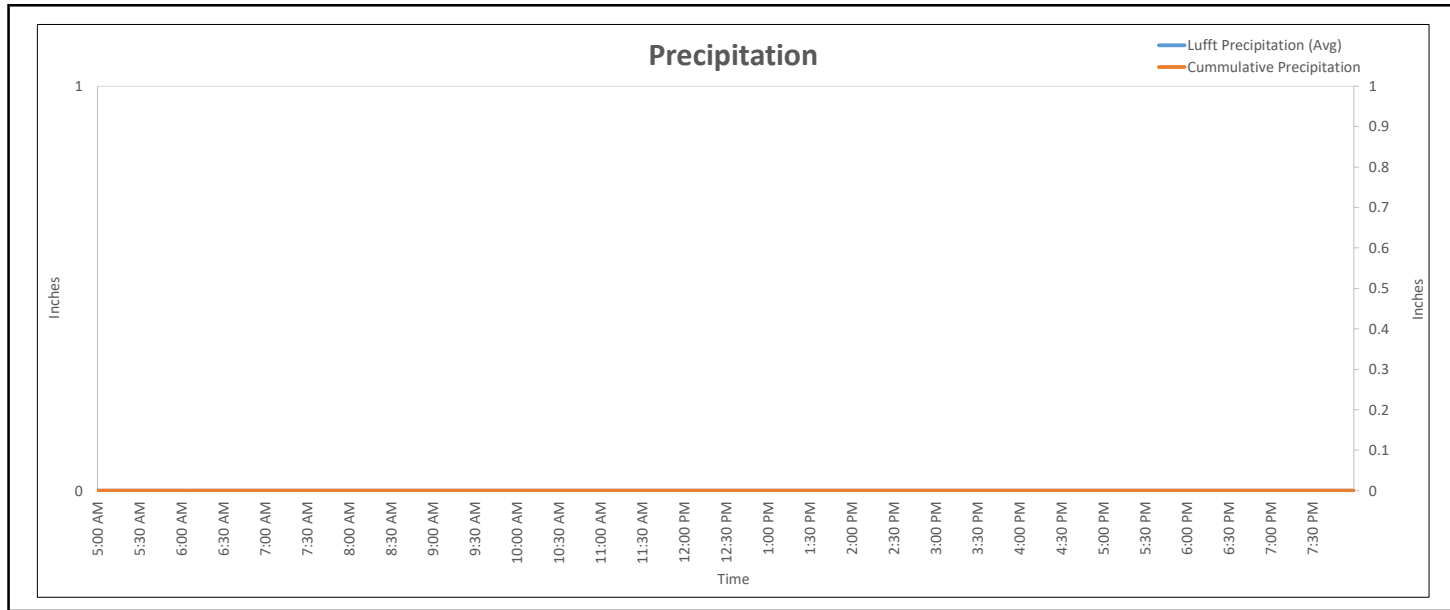
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:38 AM	5:42 PM	23.74	43.00	22.20	42.00



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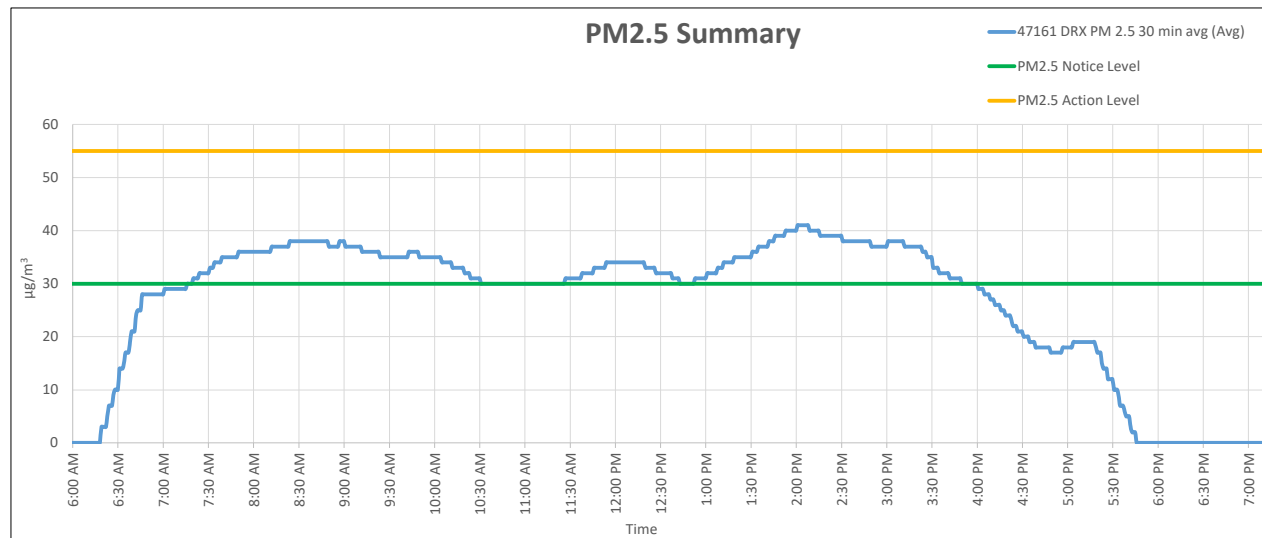
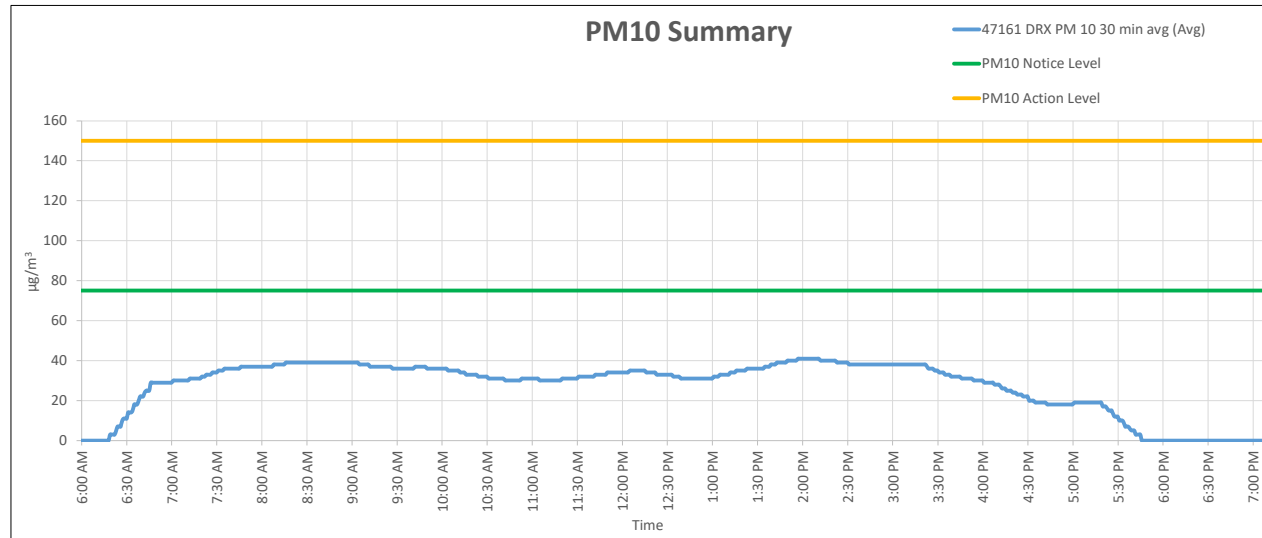


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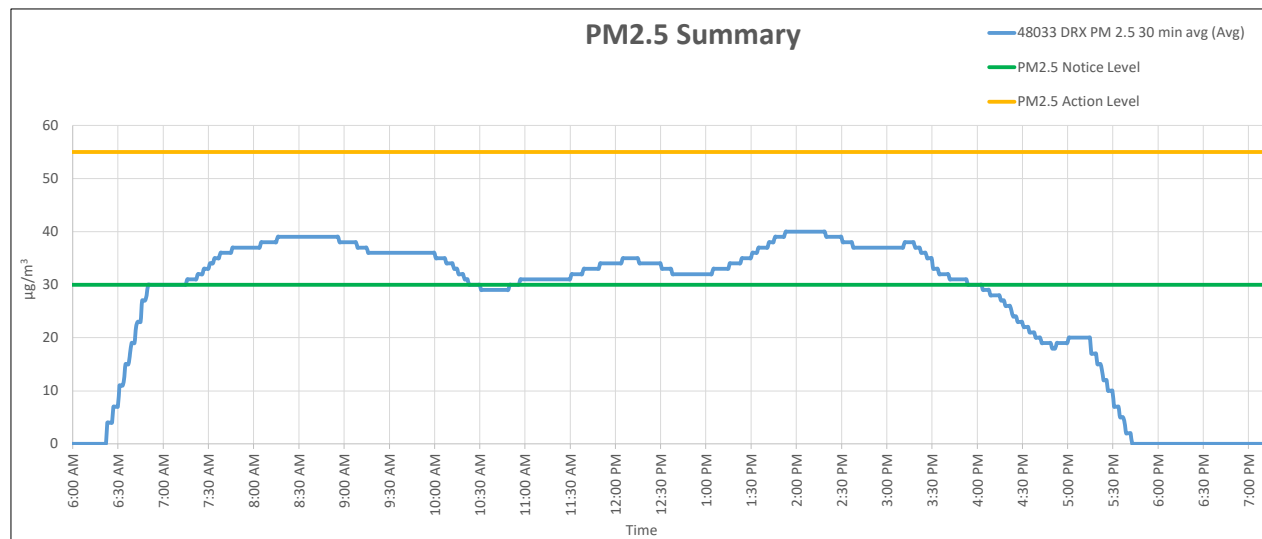
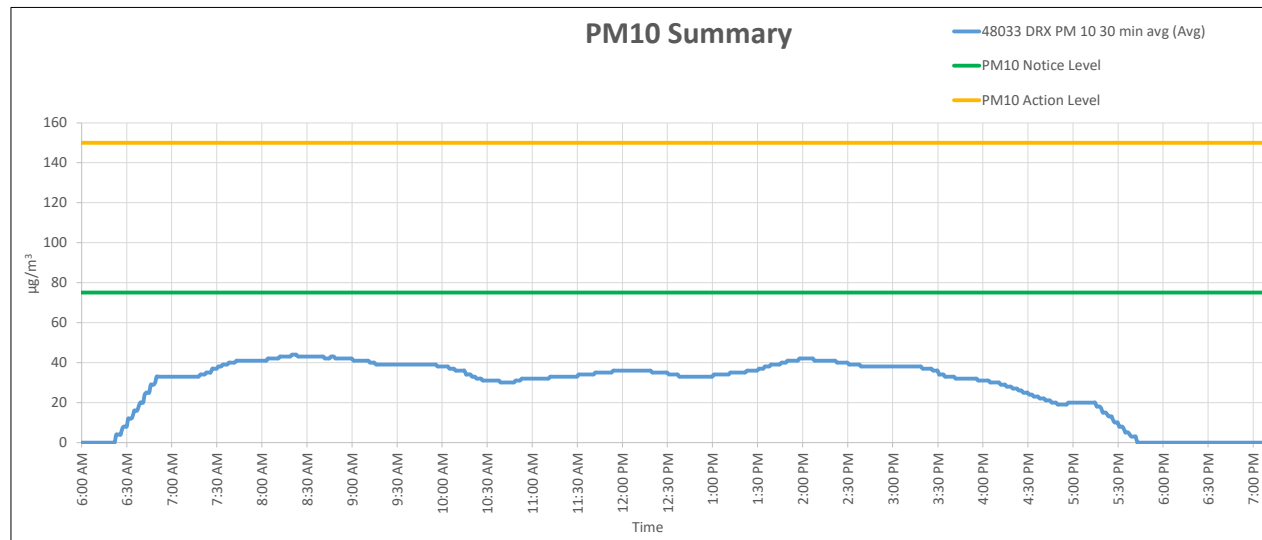
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:19 AM	5:45 PM	31.61	41.00	30.93	41.00



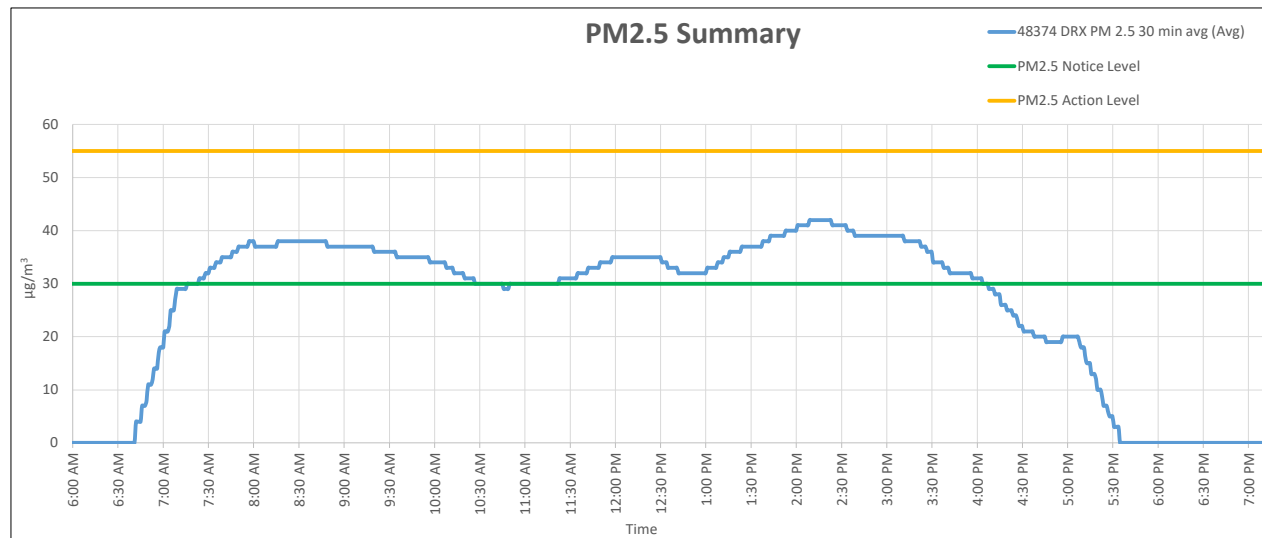
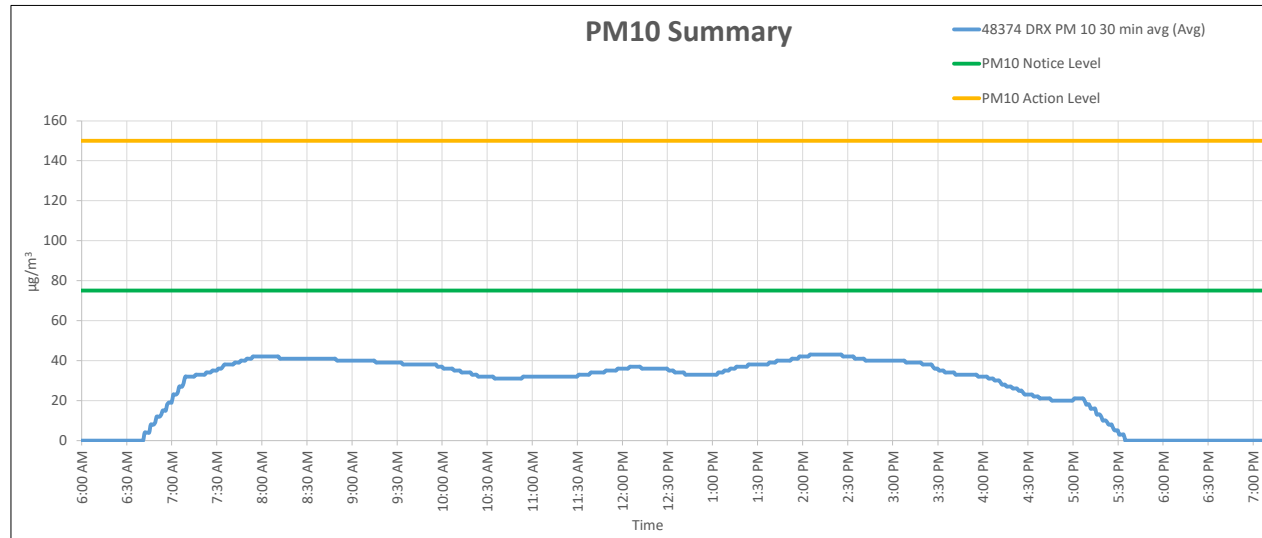
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:23 AM	5:42 PM	33.47	44.00	31.60	40.00



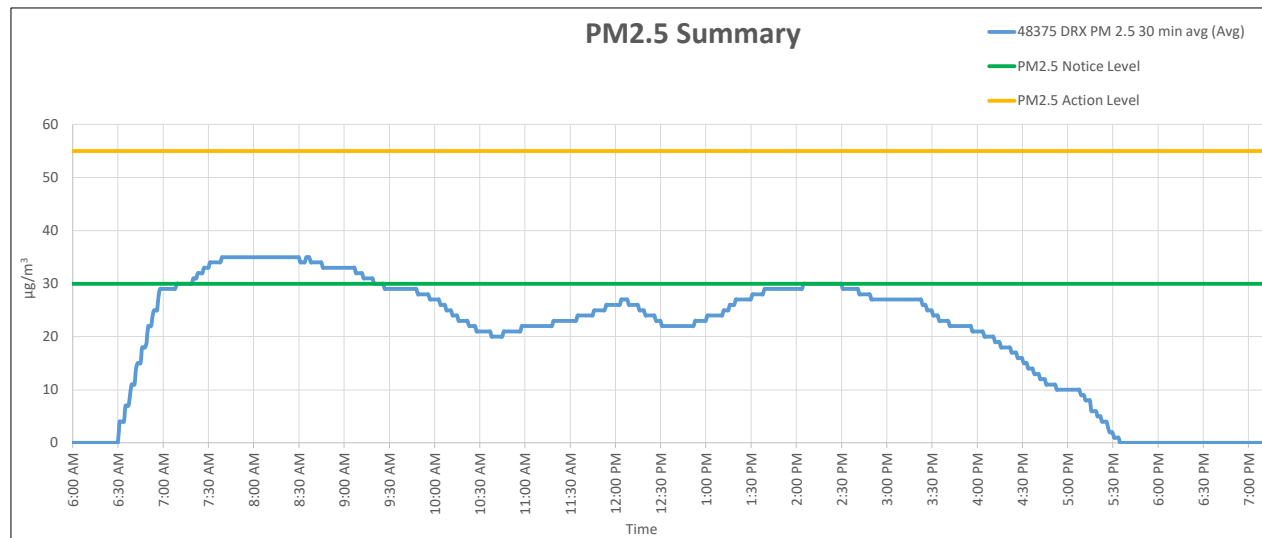
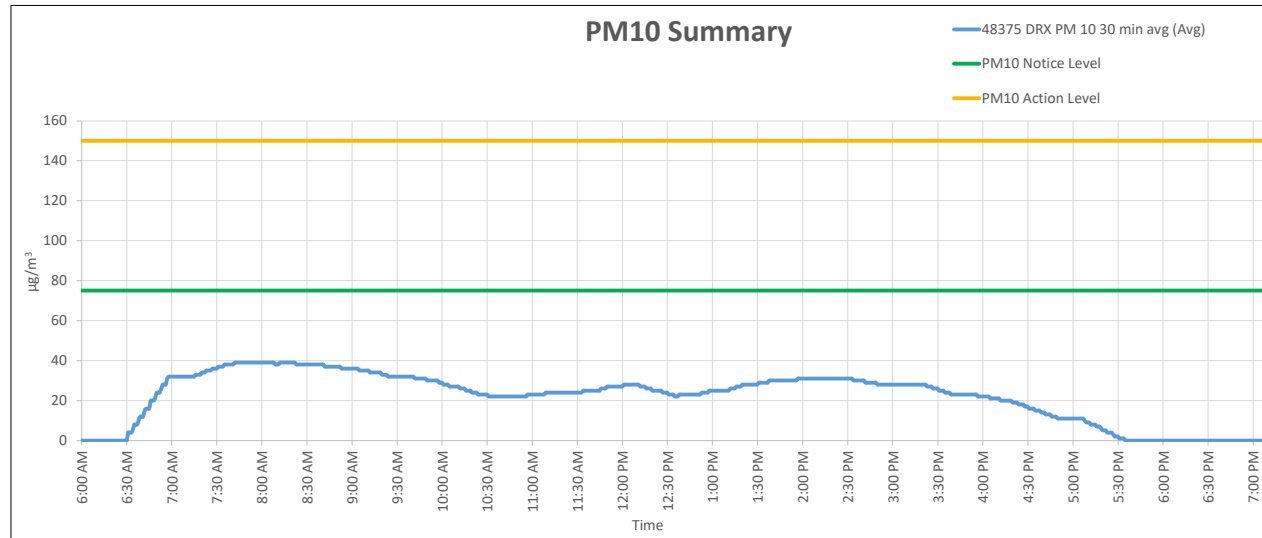
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	6:42 AM	5:34 PM	33.67	43.00	31.97	42.00



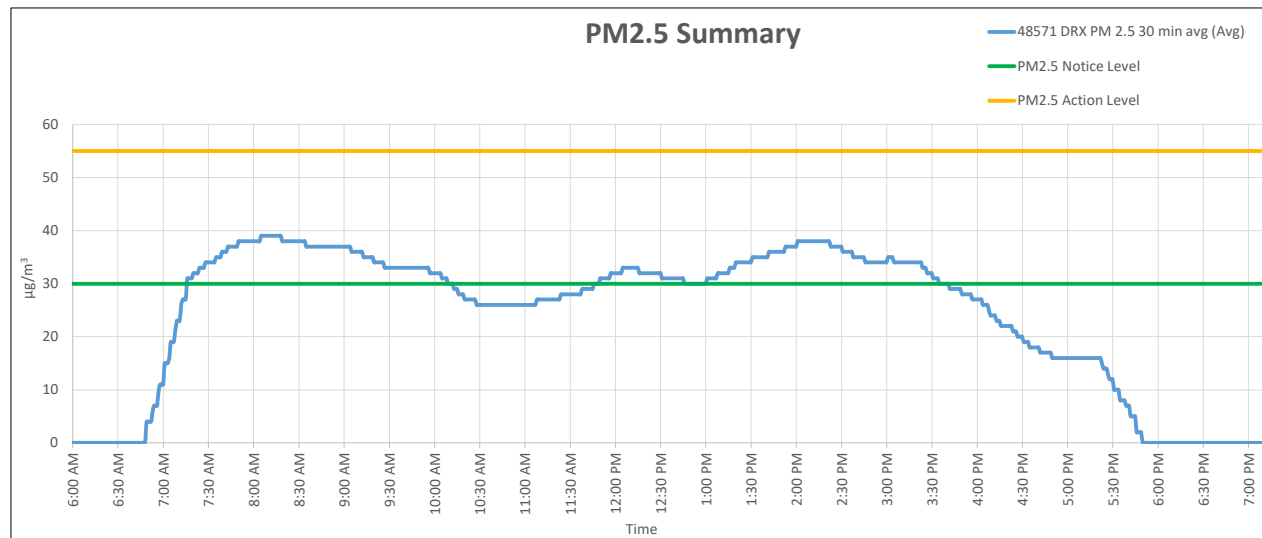
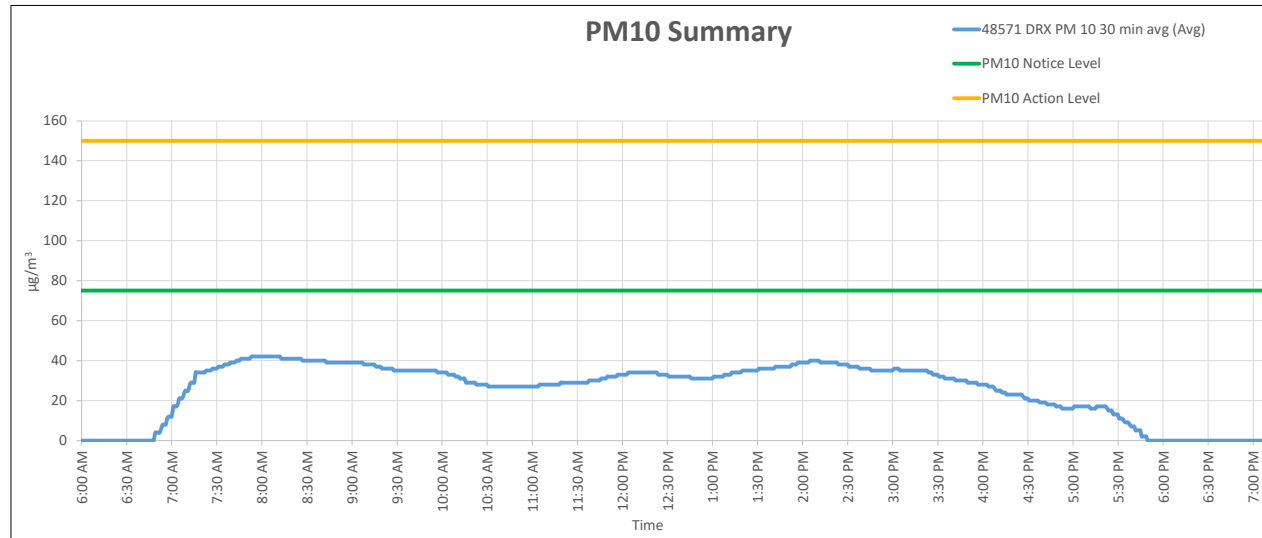
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:31 AM	5:30 PM	26.40	39.00	24.73	35.00



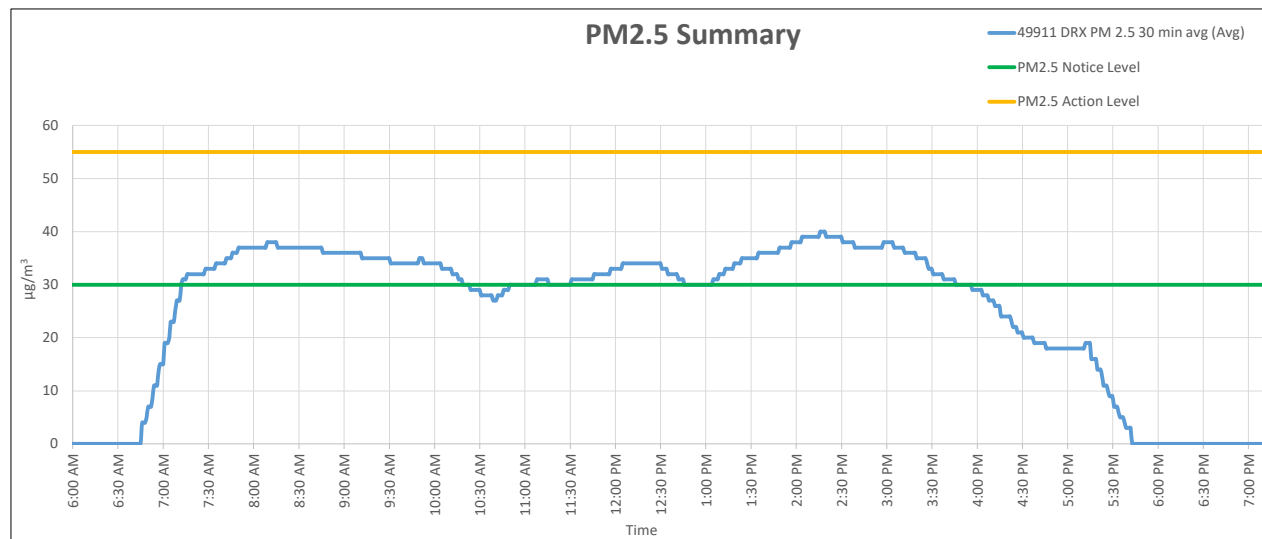
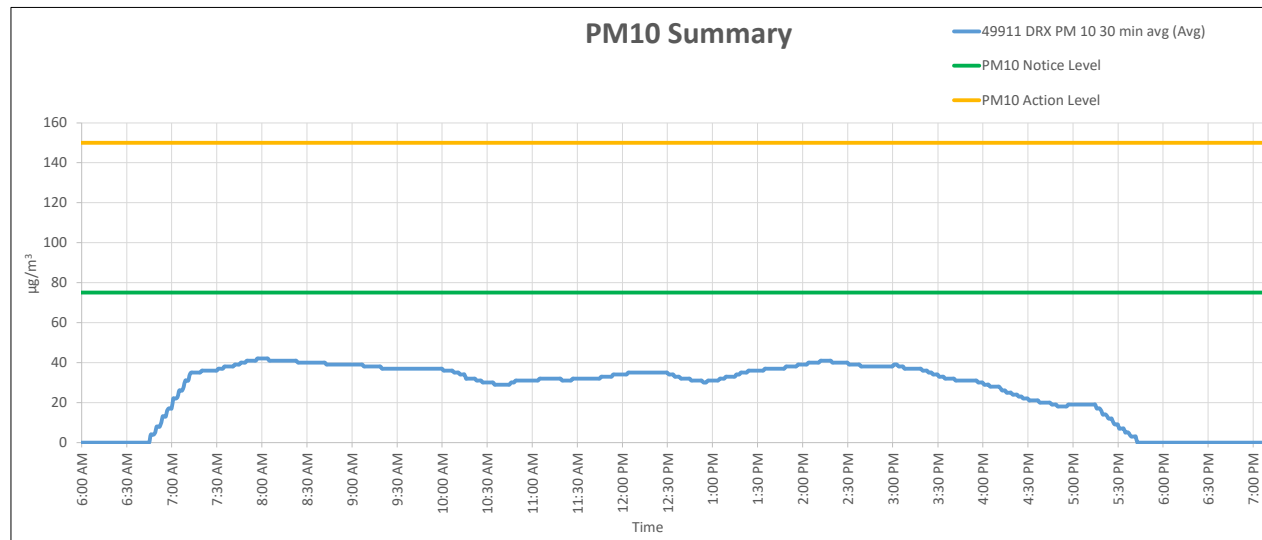
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	6:49 AM	5:49 PM	30.83	42.00	29.38	39.00



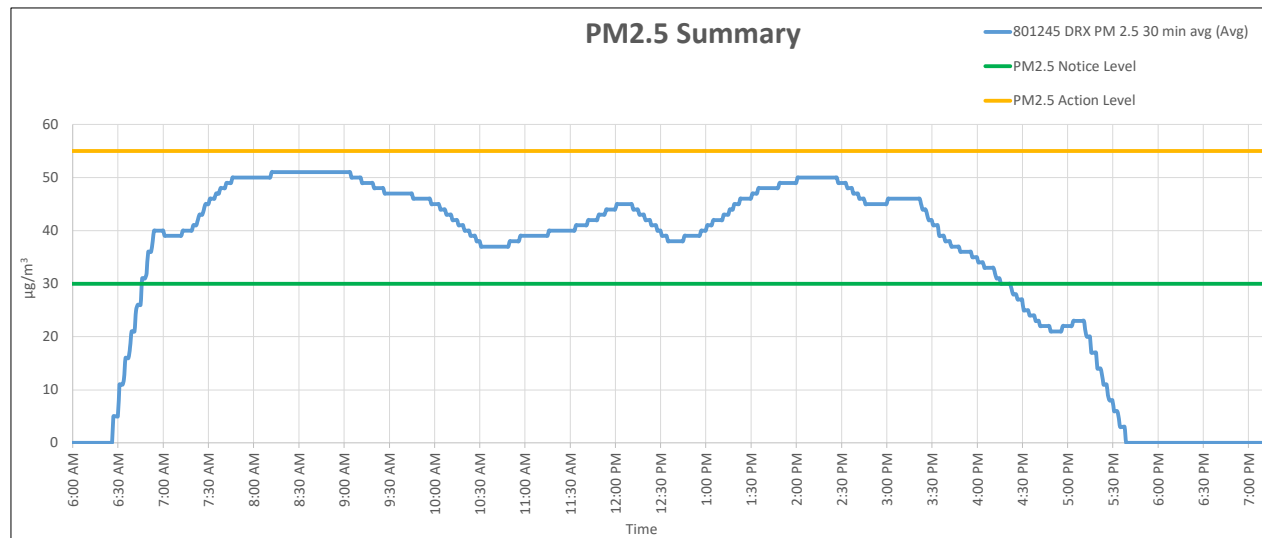
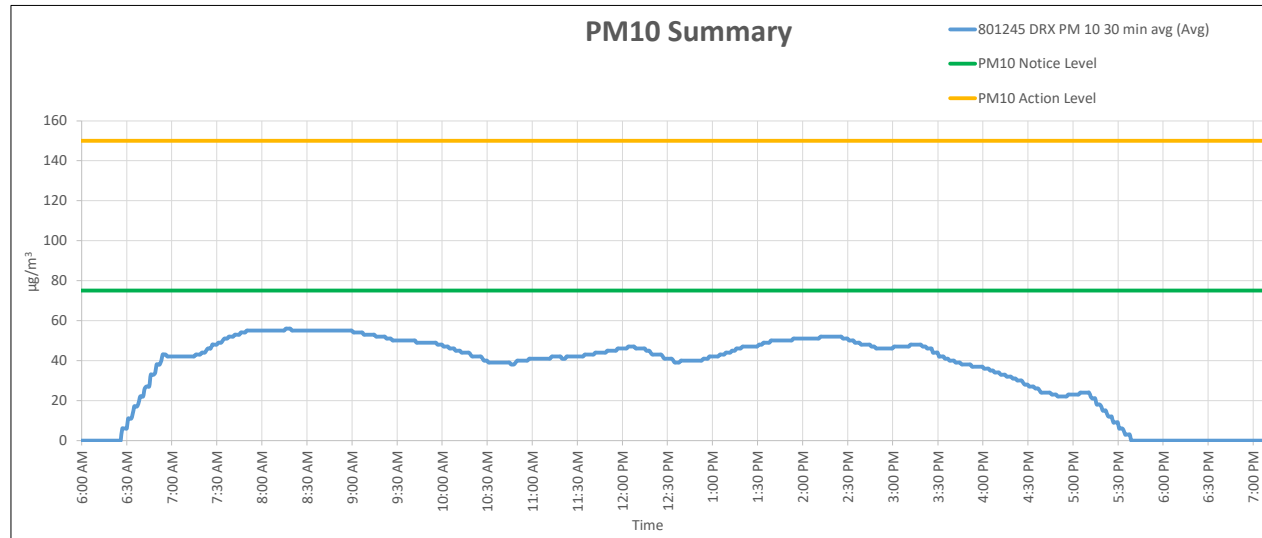
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	6:46 AM	5:42 PM	32.28	42.00	30.68	40.00

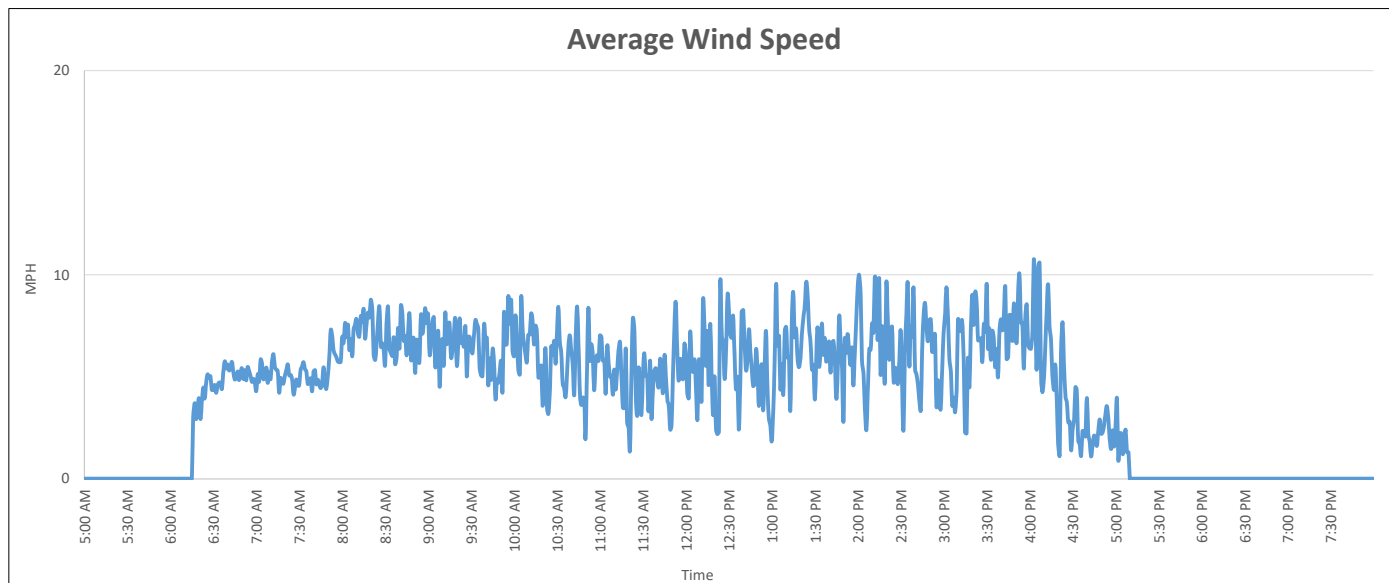
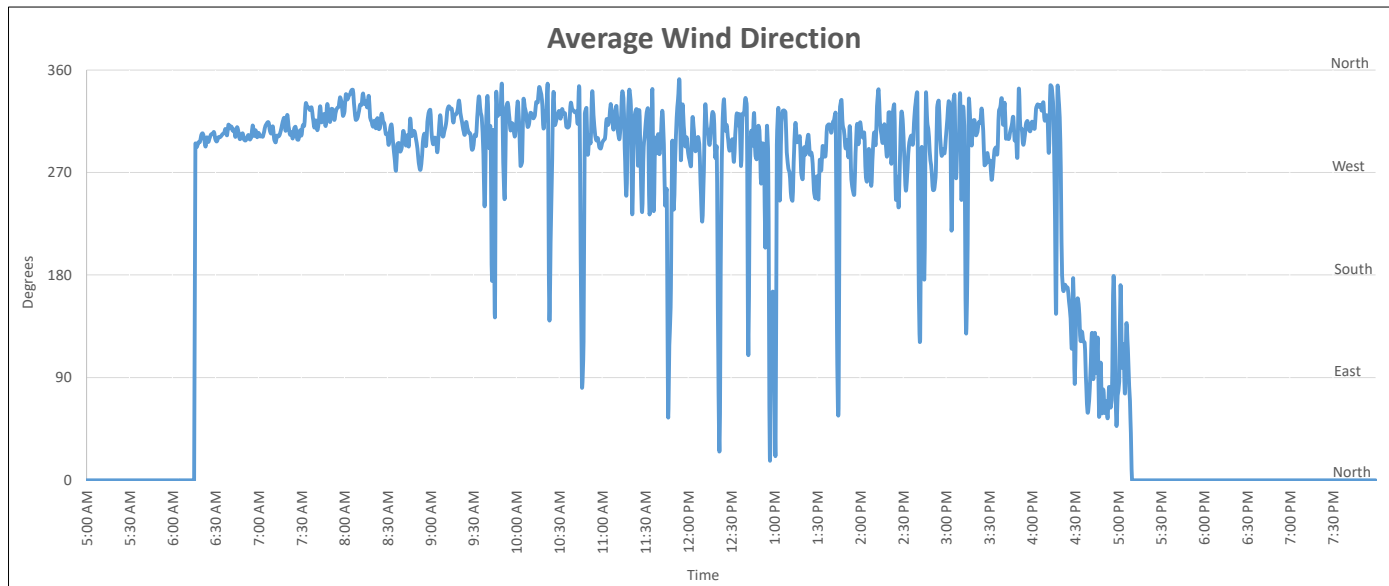


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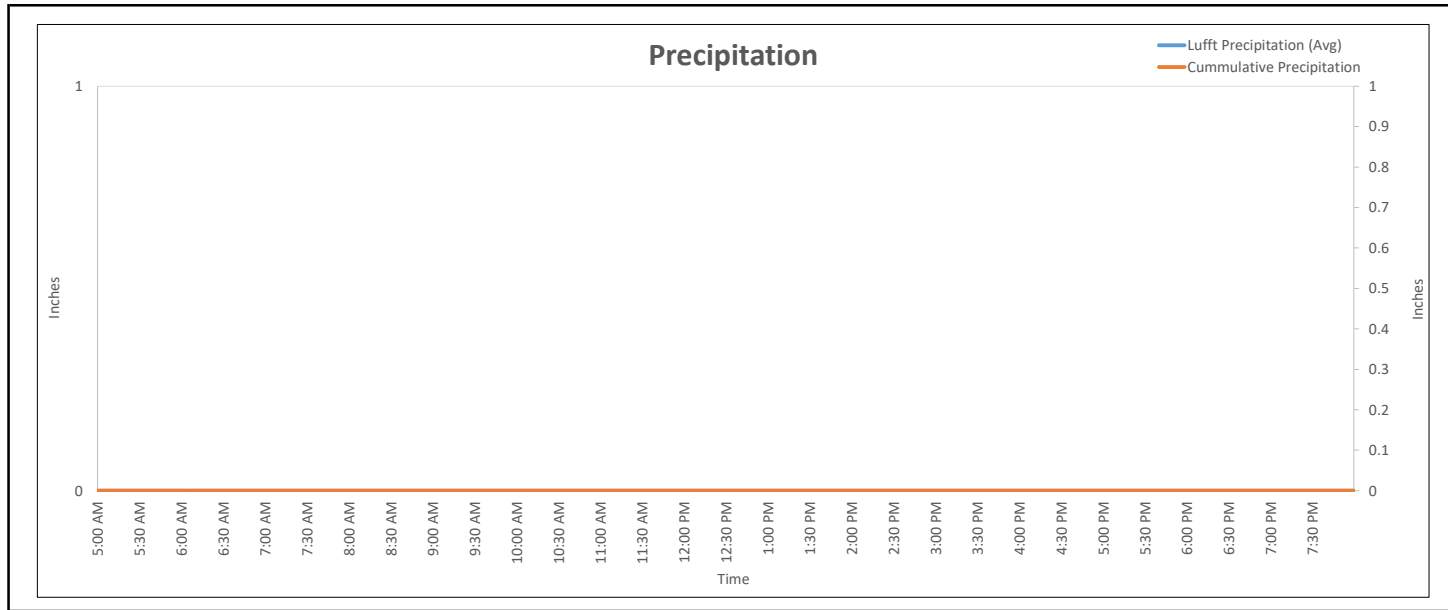
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:27 AM	5:38 PM	42.29	56.00	40.17	51.00



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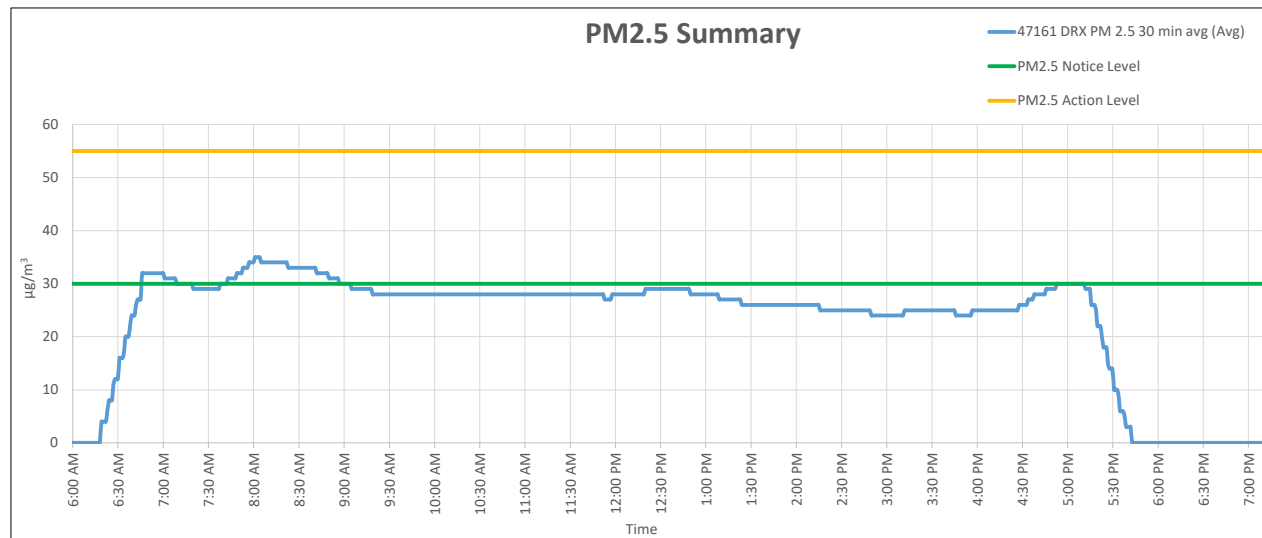
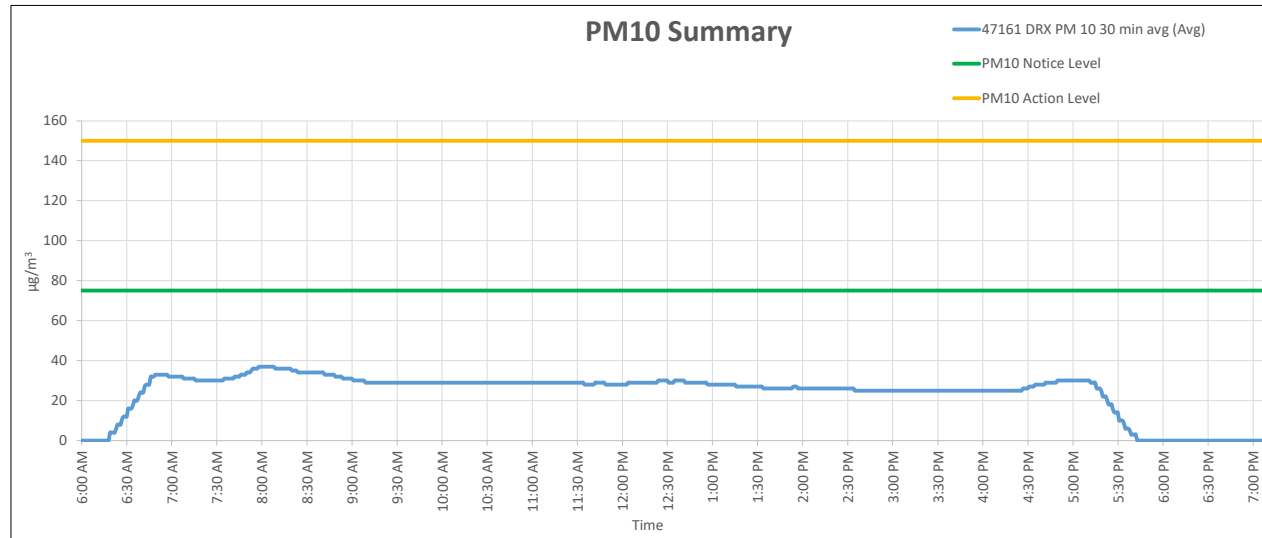


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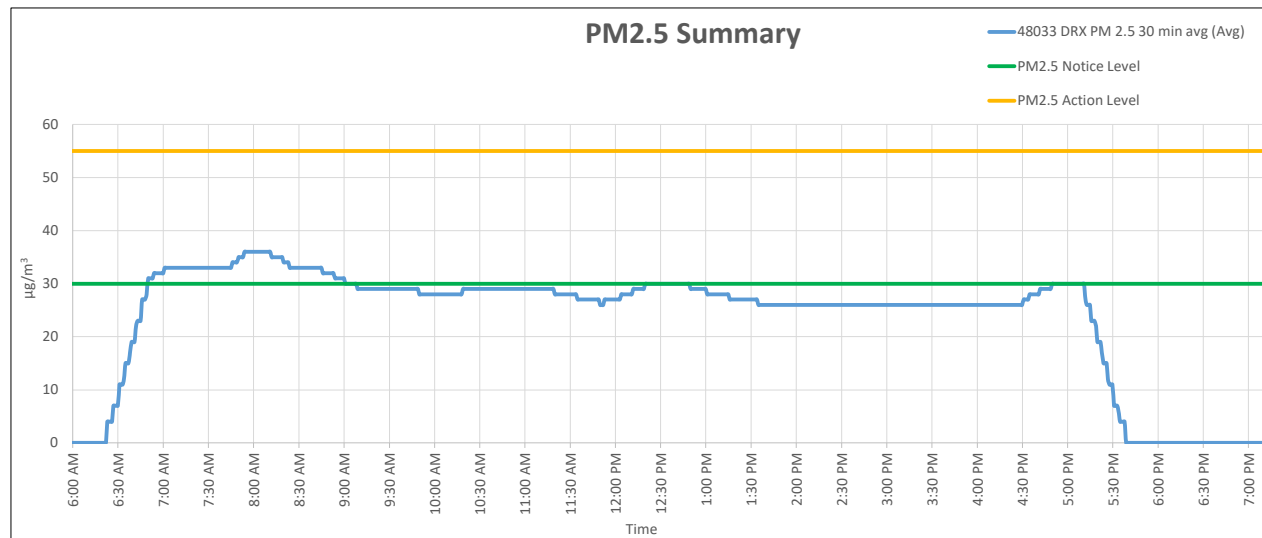
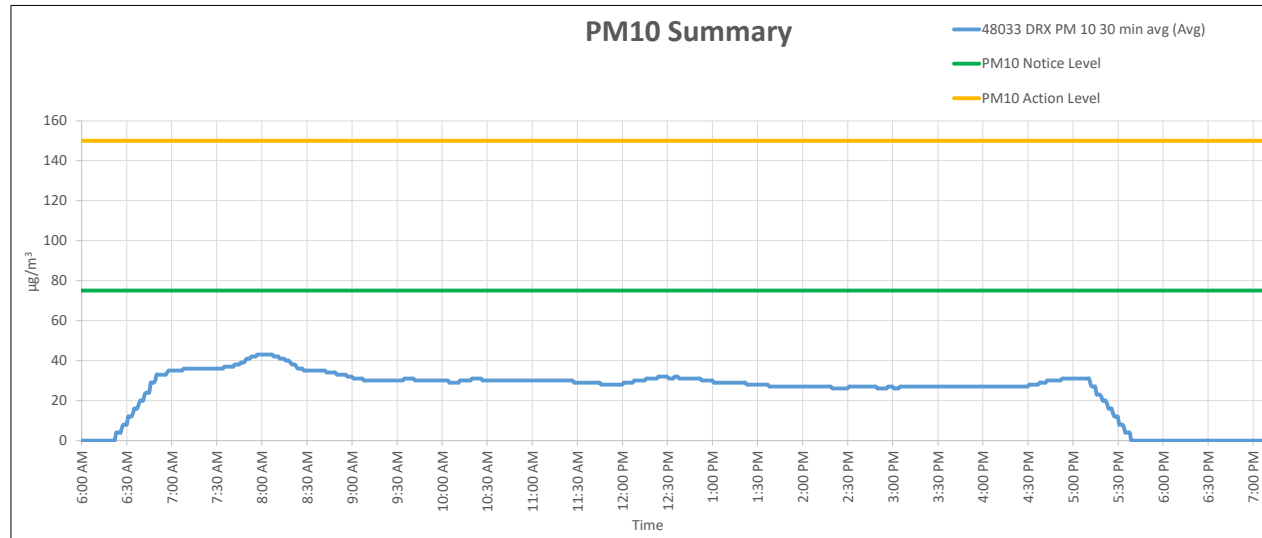
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:19 AM	5:42 PM	27.65	37.00	27.00	35.00



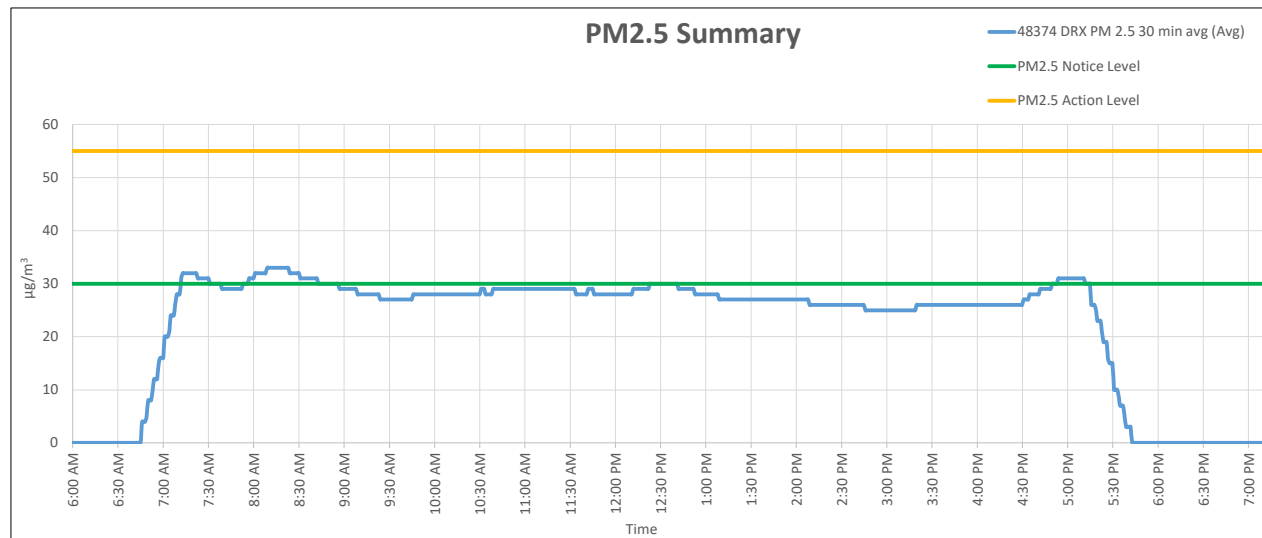
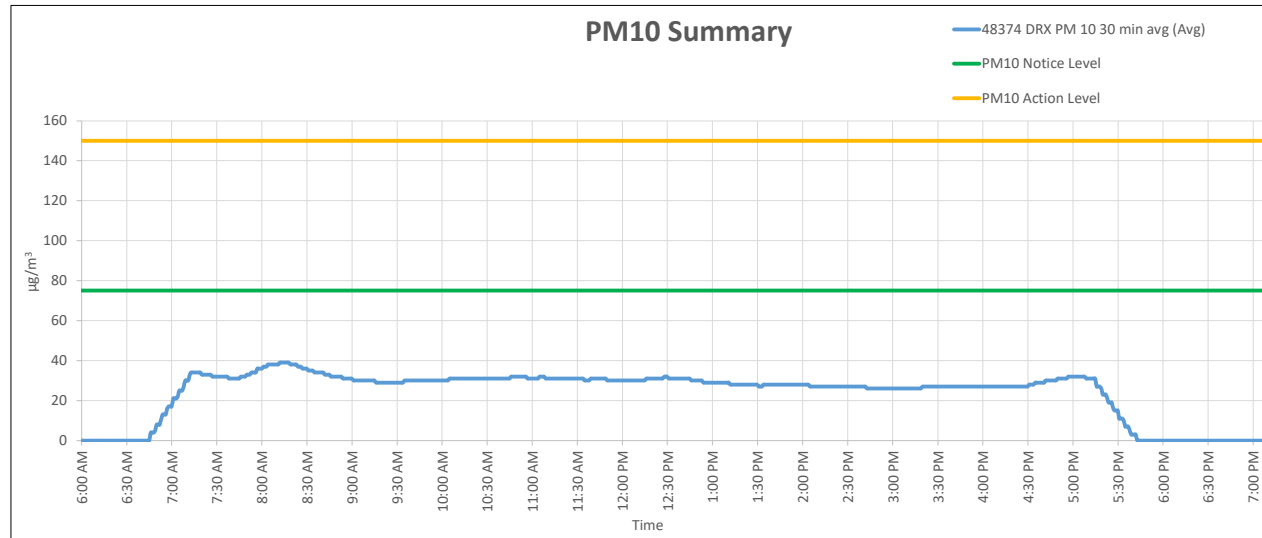
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:23 AM	5:38 PM	29.33	43.00	27.77	36.00



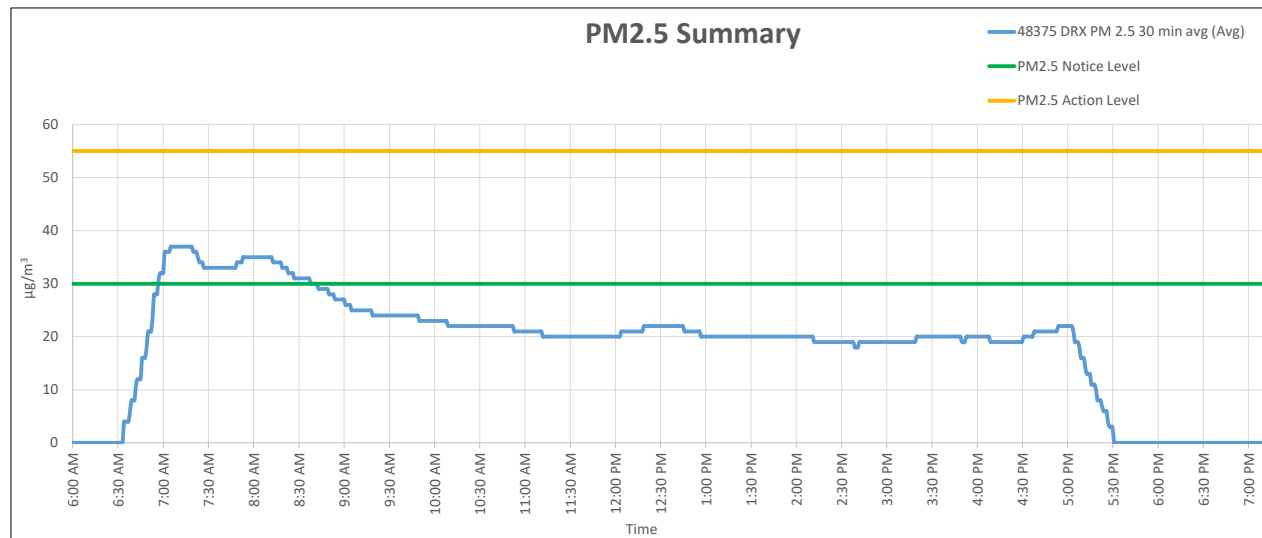
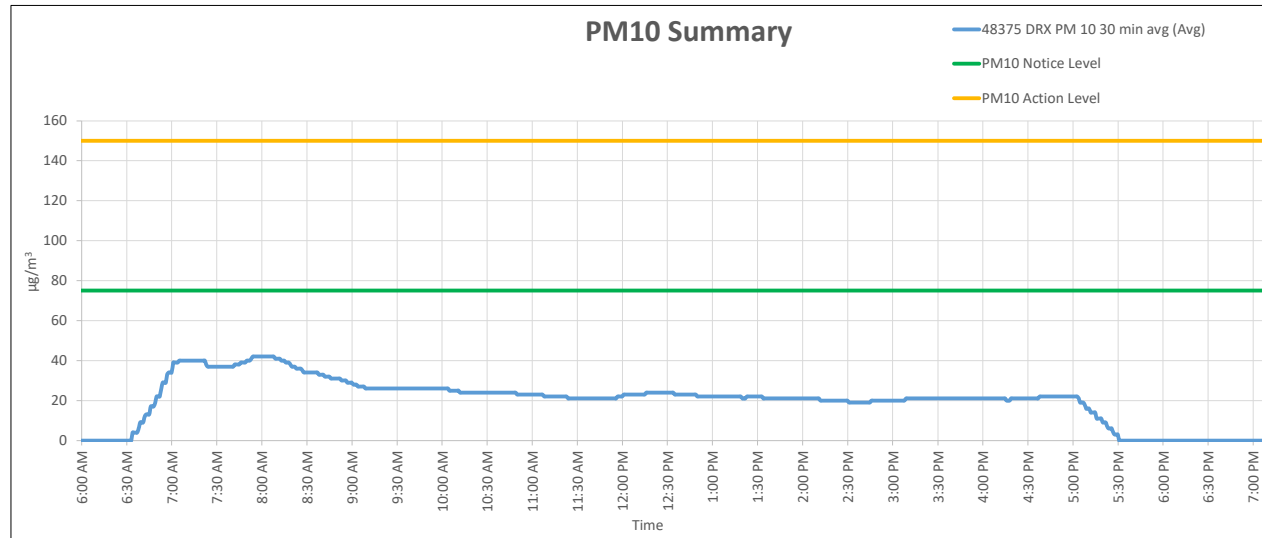
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	6:46 AM	5:42 PM	28.85	39.00	27.15	33.00



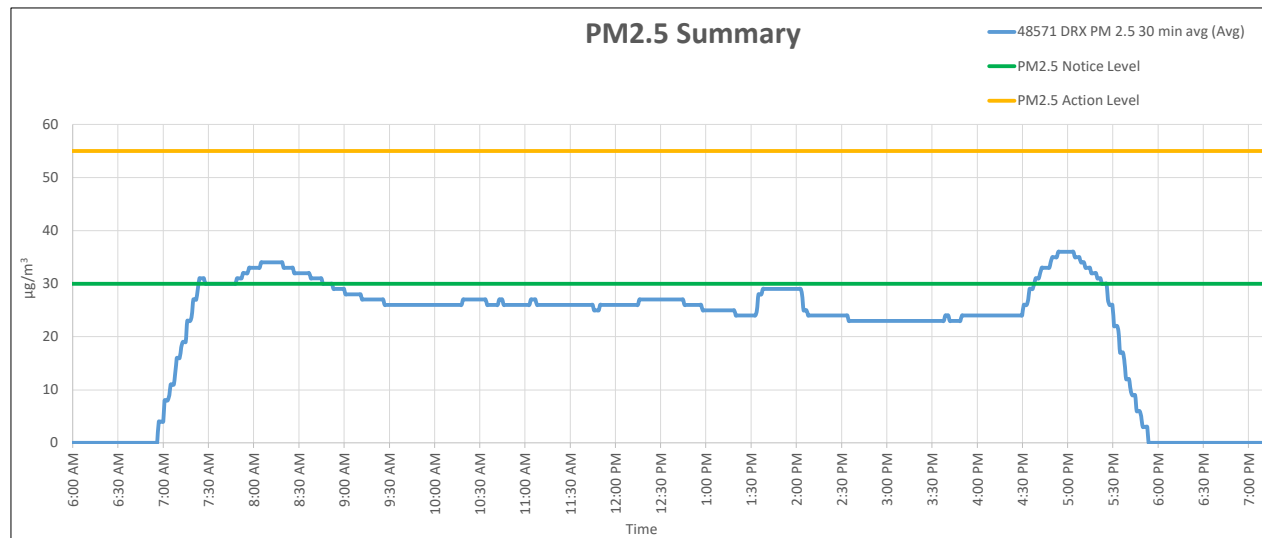
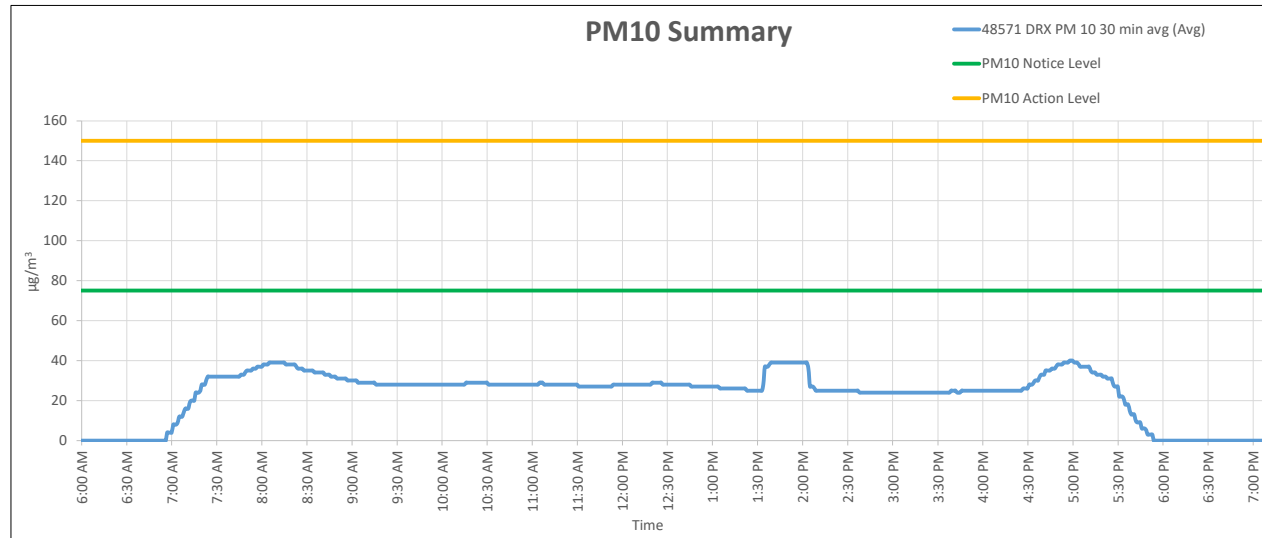
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:34 AM	5:30 PM	24.41	42.00	22.51	37.00



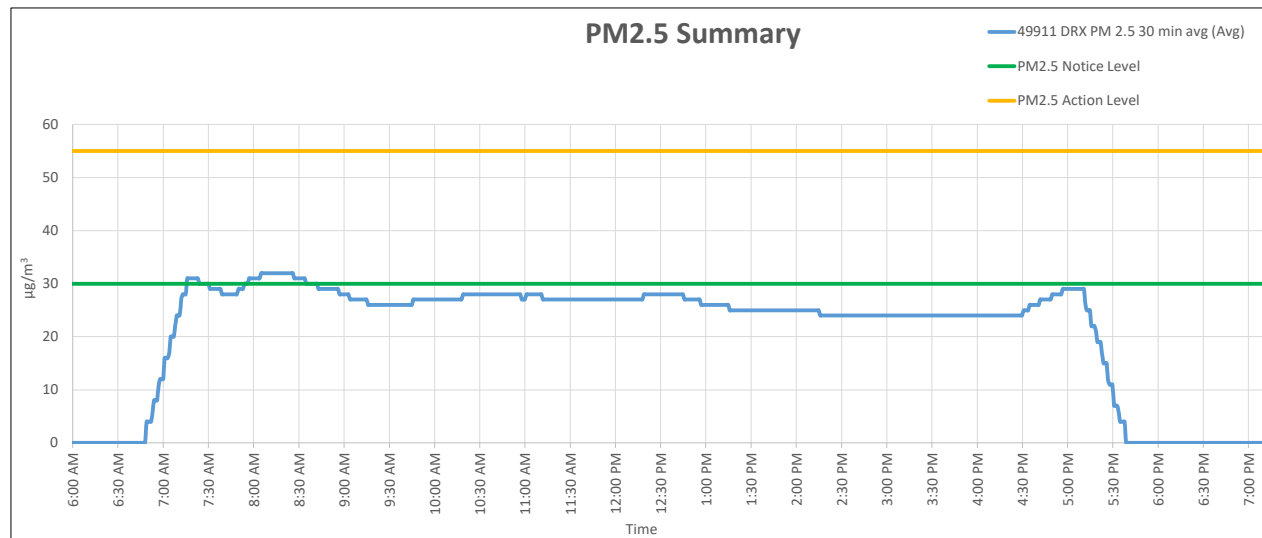
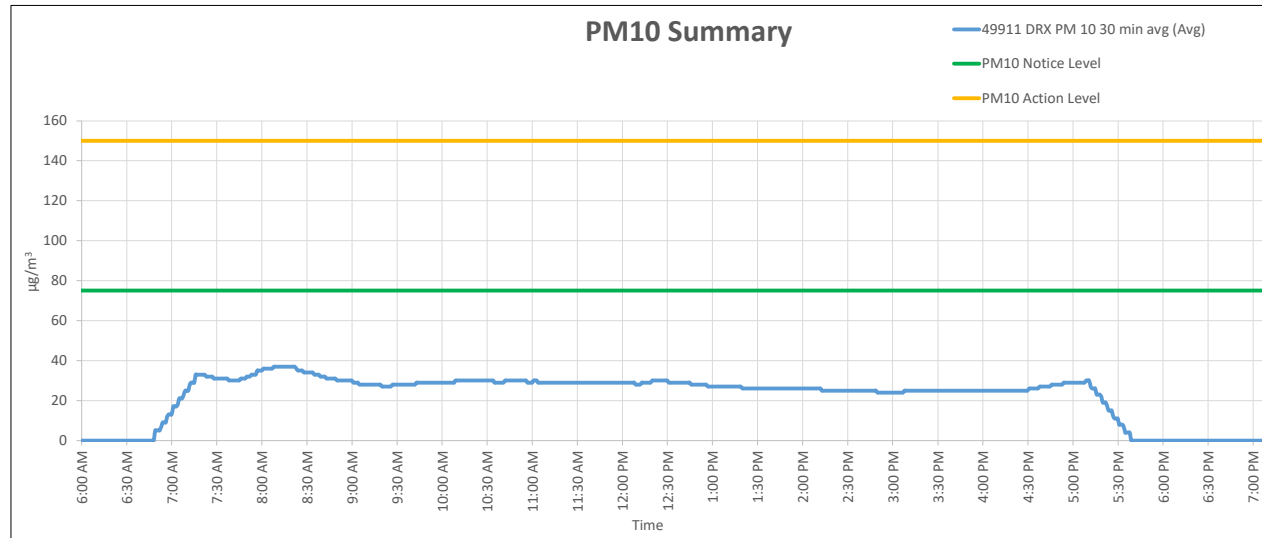
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	6:57 AM	5:53 PM	28.11	40.00	26.07	36.00



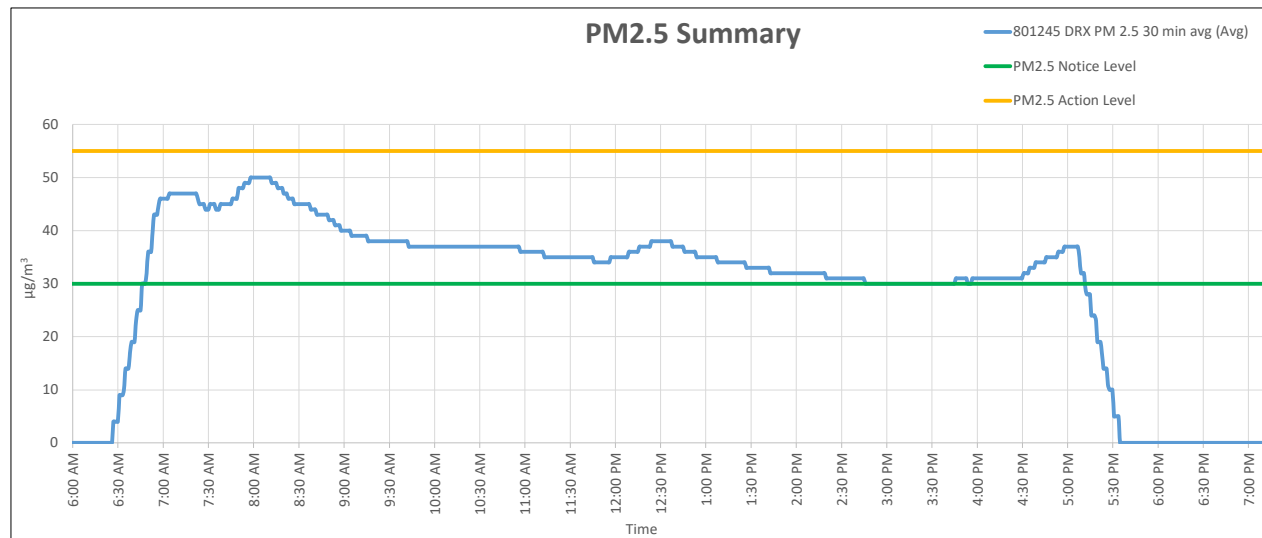
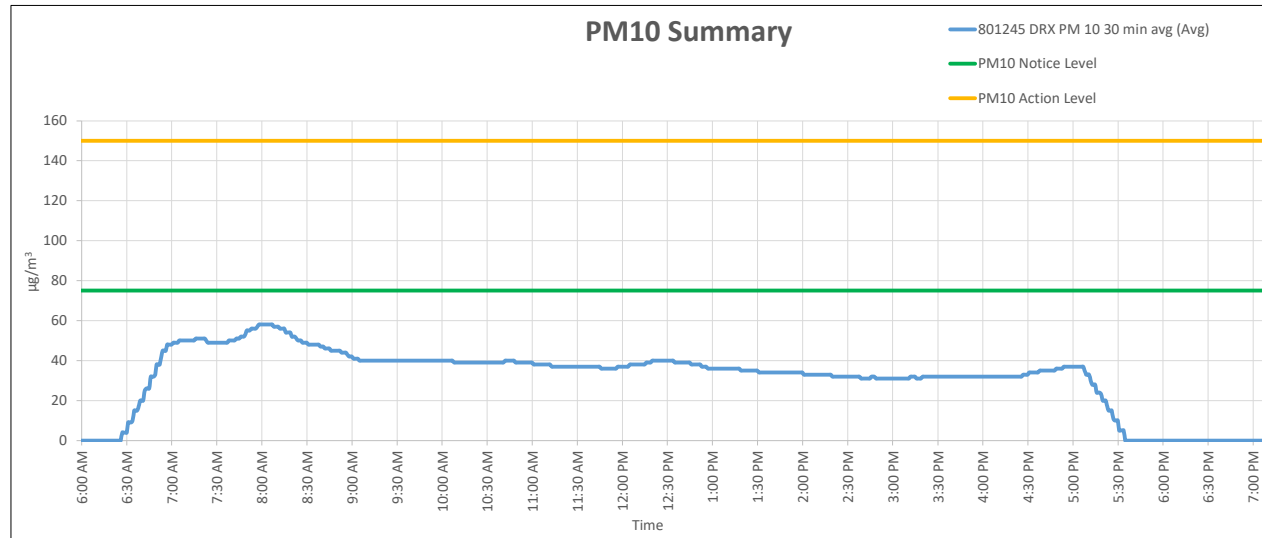
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	6:49 AM	5:38 PM	27.28	37.00	25.79	32.00

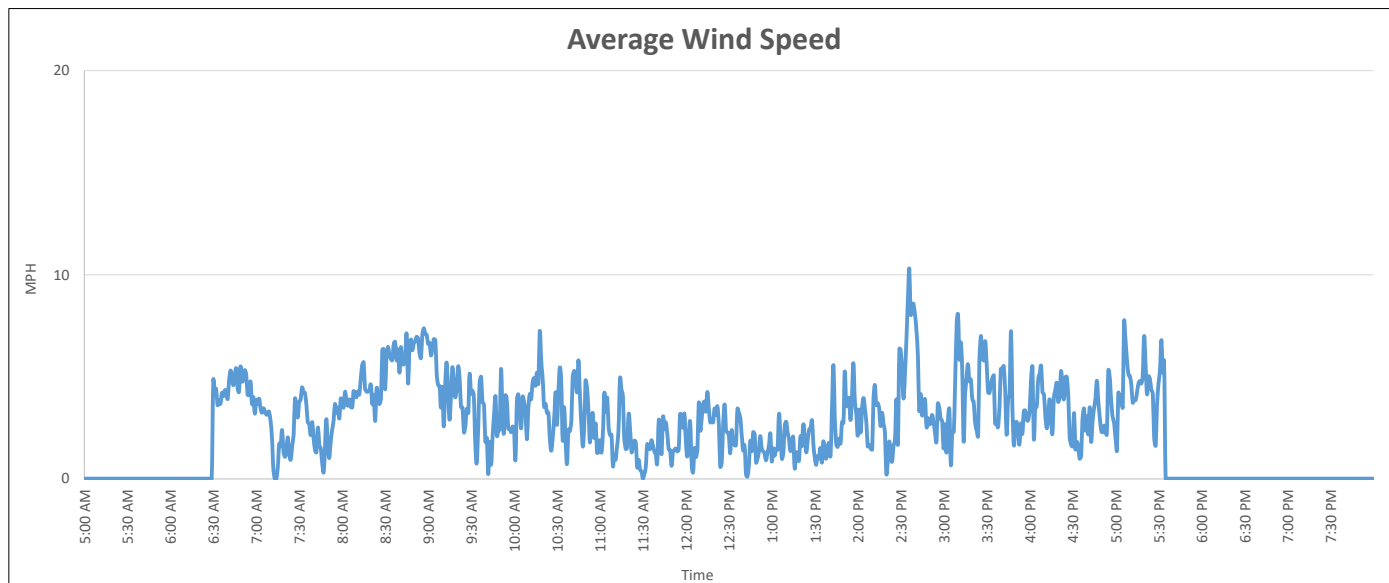
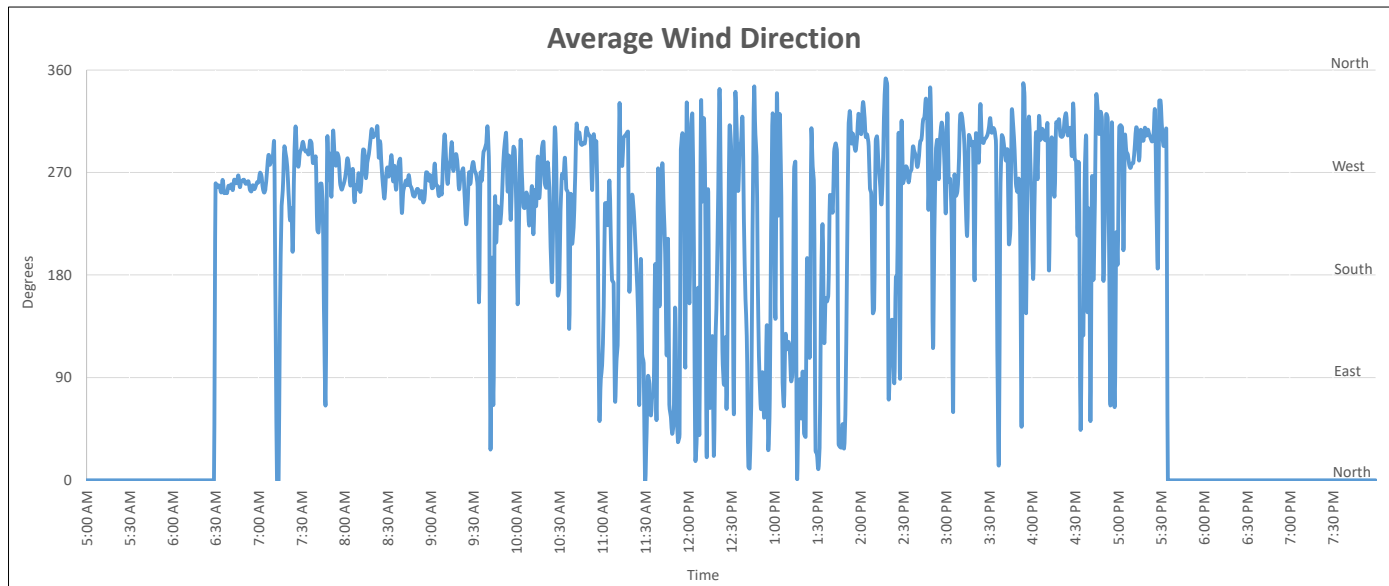


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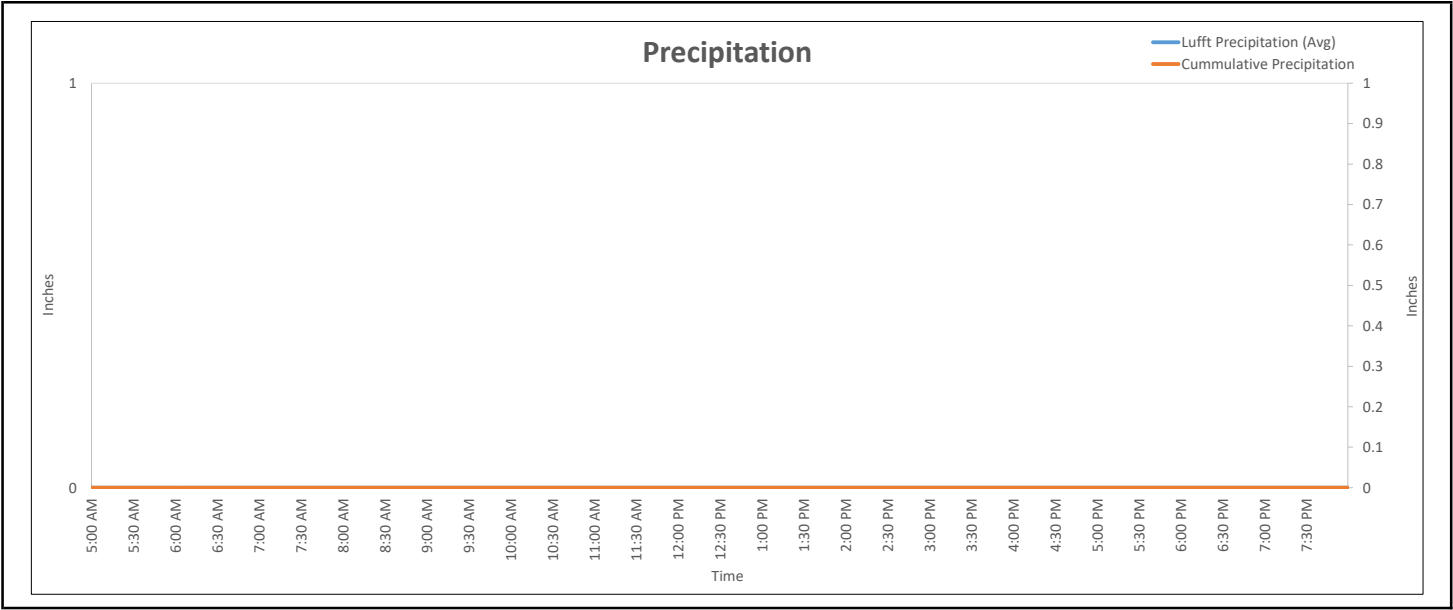
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:27 AM	5:34 PM	37.38	58.00	35.27	50.00



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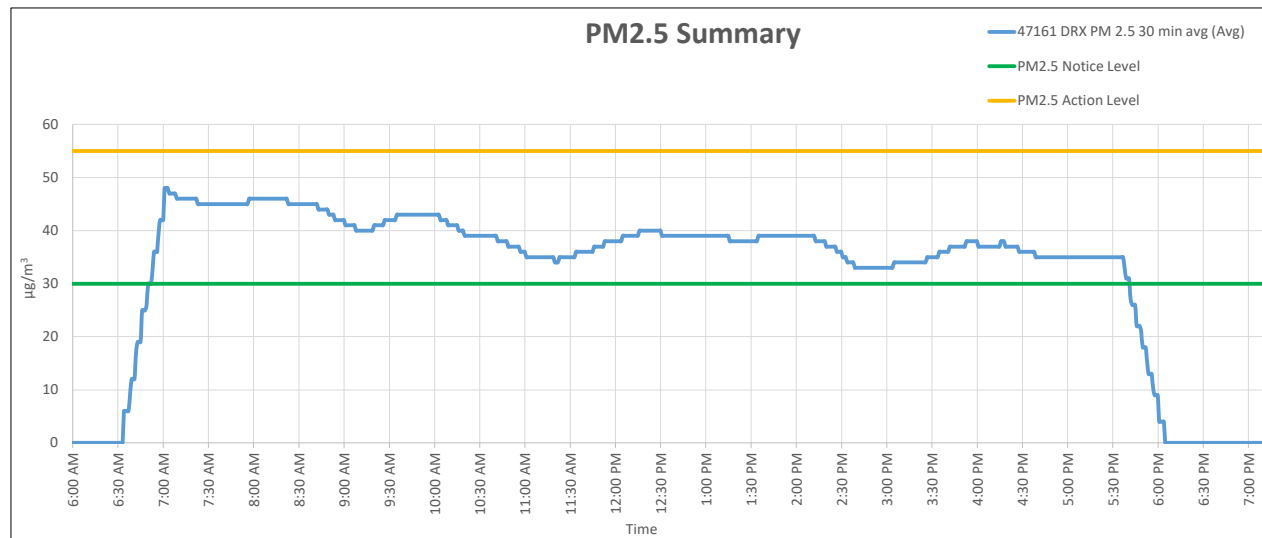
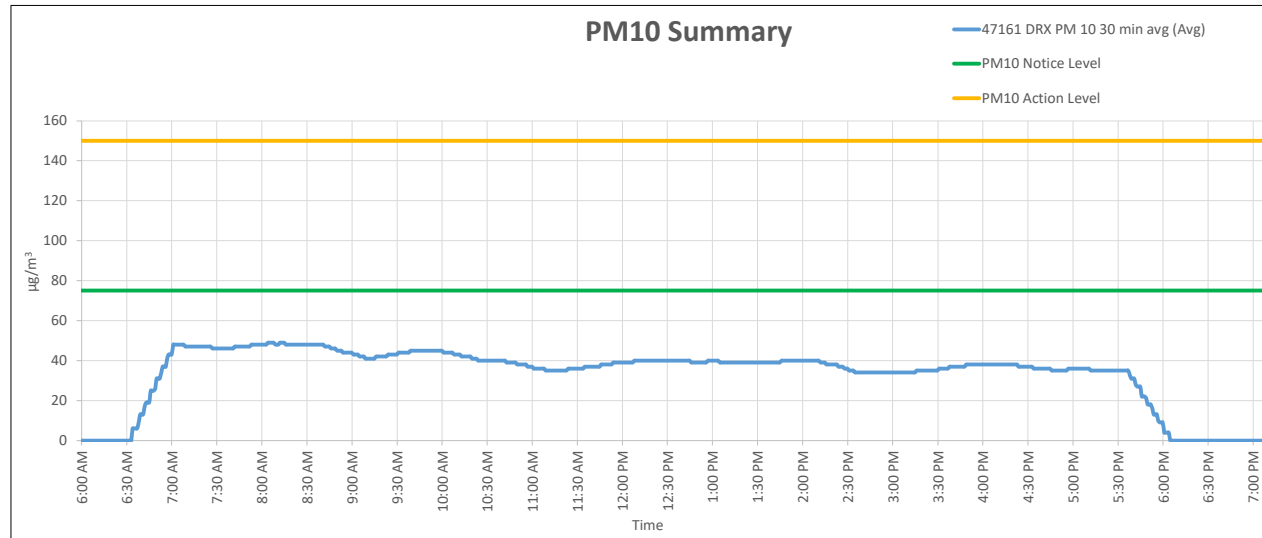


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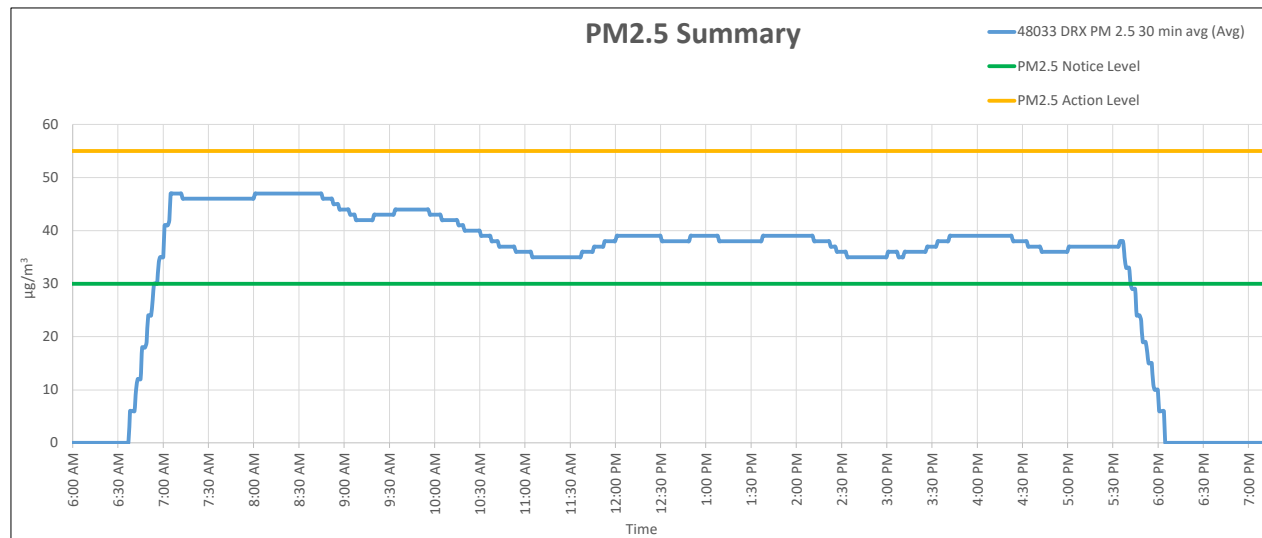
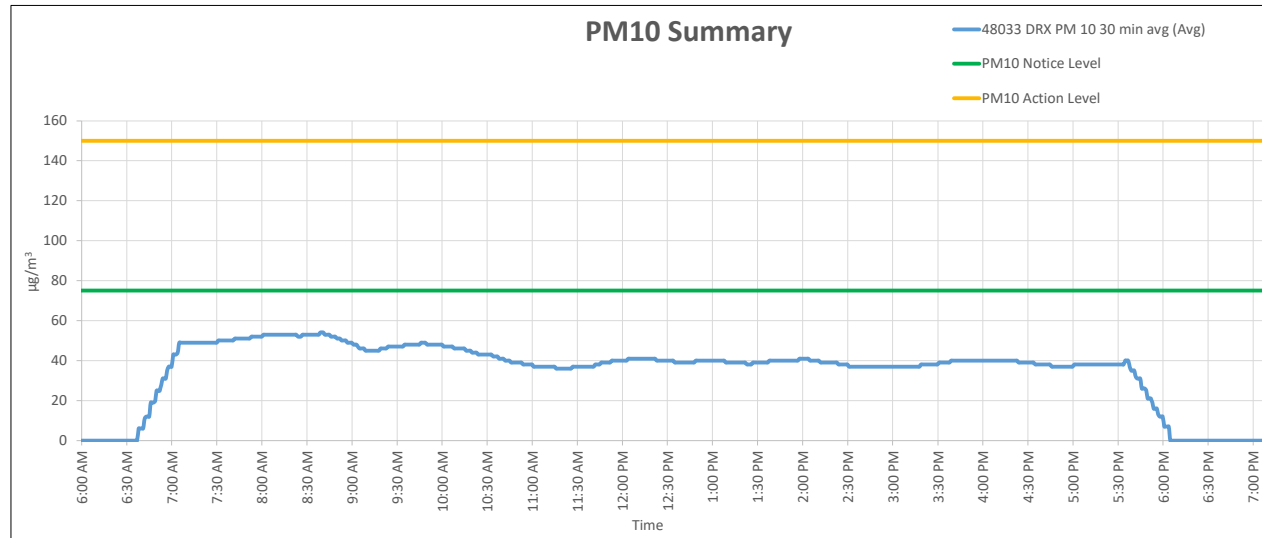
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:34 AM	6:04 PM	38.50	49.00	37.55	48.00



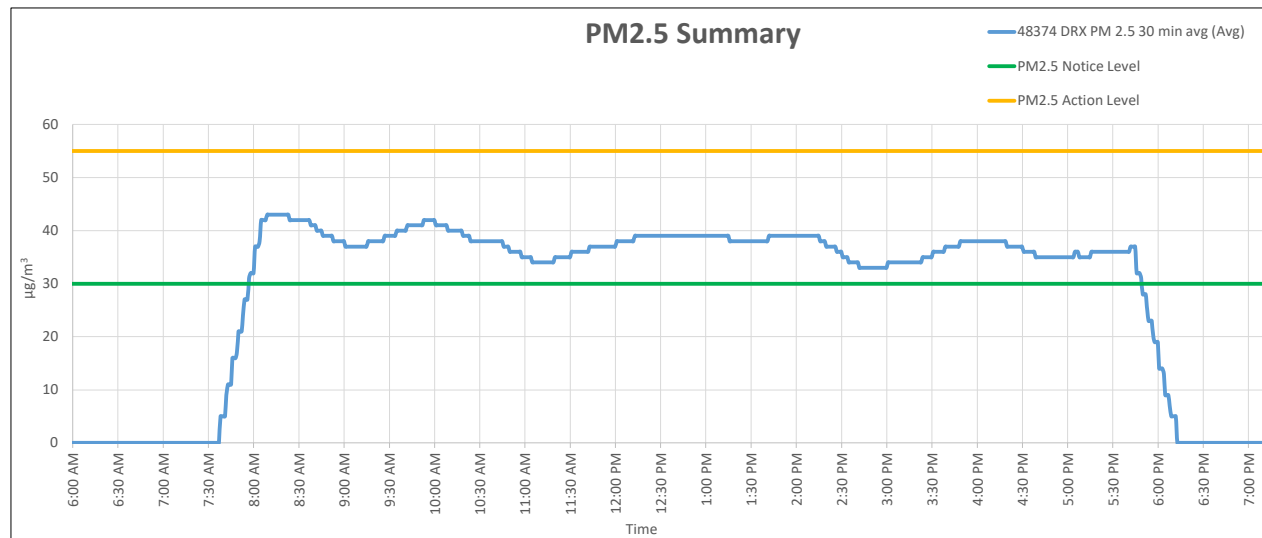
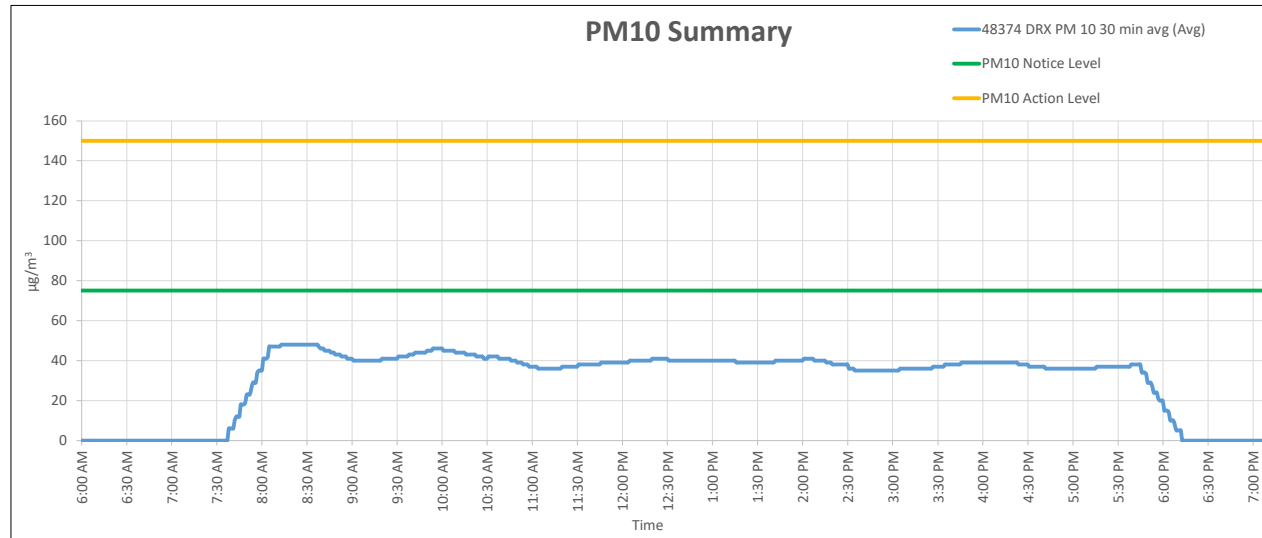
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 13, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:38 AM	6:04 PM	40.64	54.00	38.34	47.00



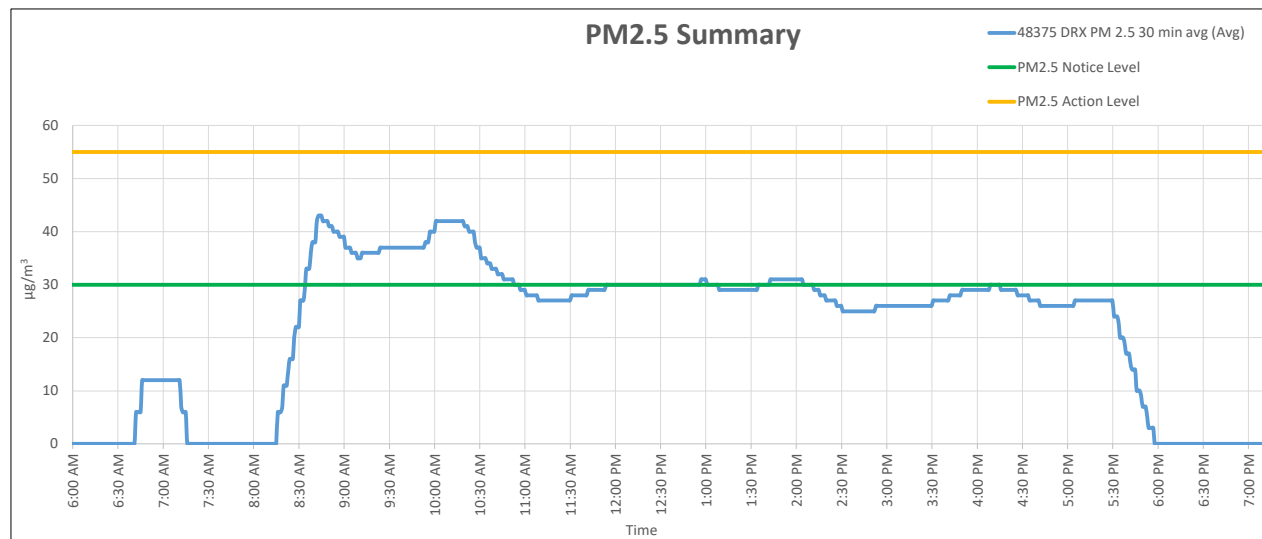
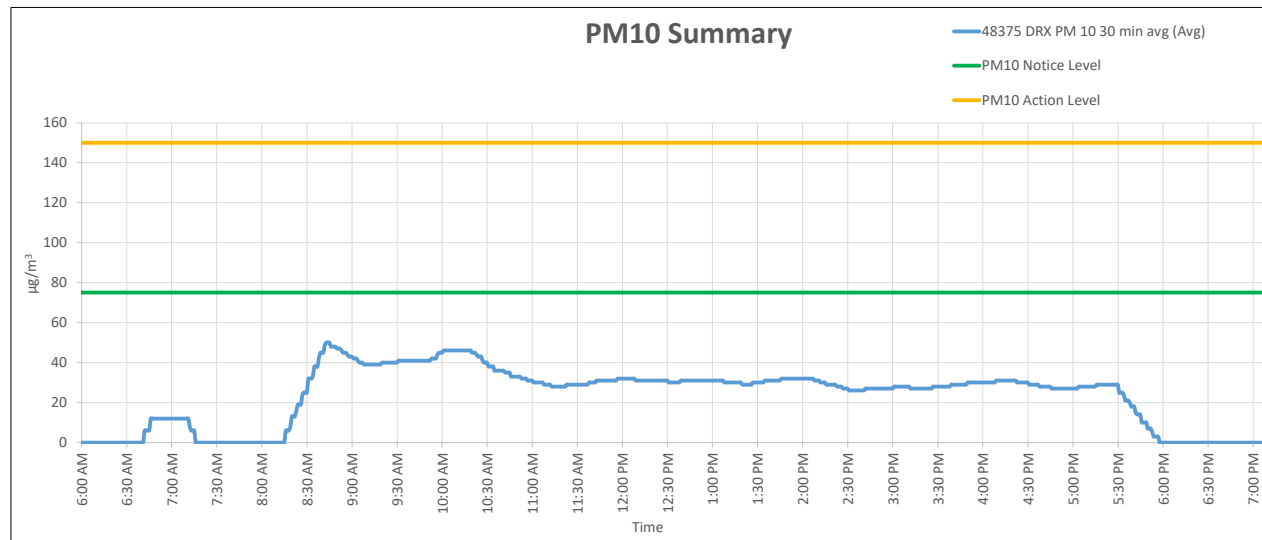
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 13, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	7:38 AM	6:12 PM	38.06	48.00	36.03	43.00



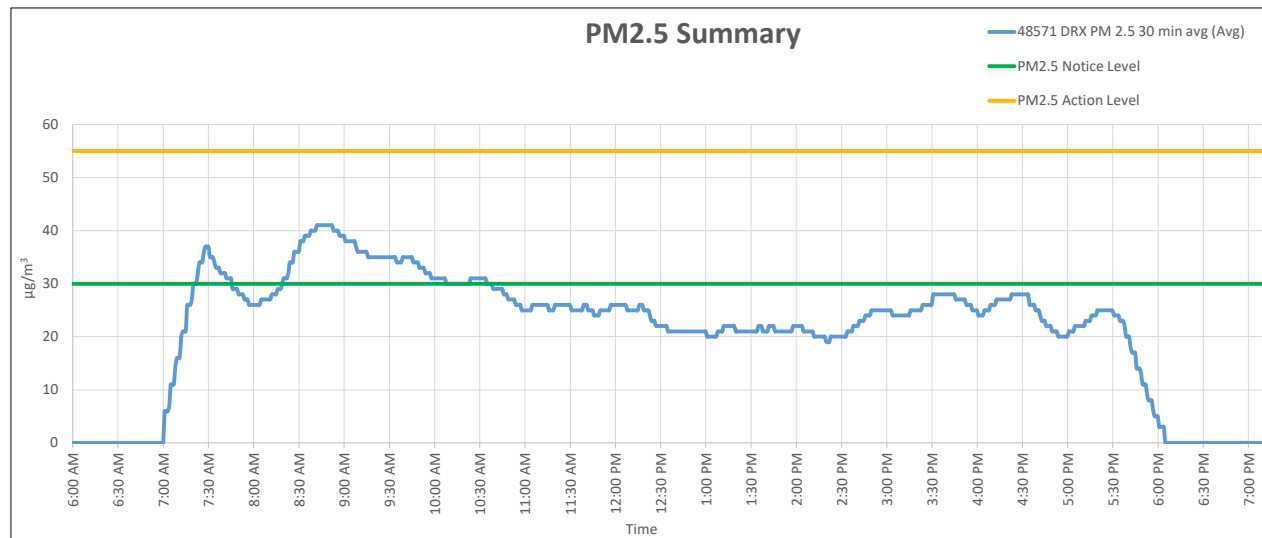
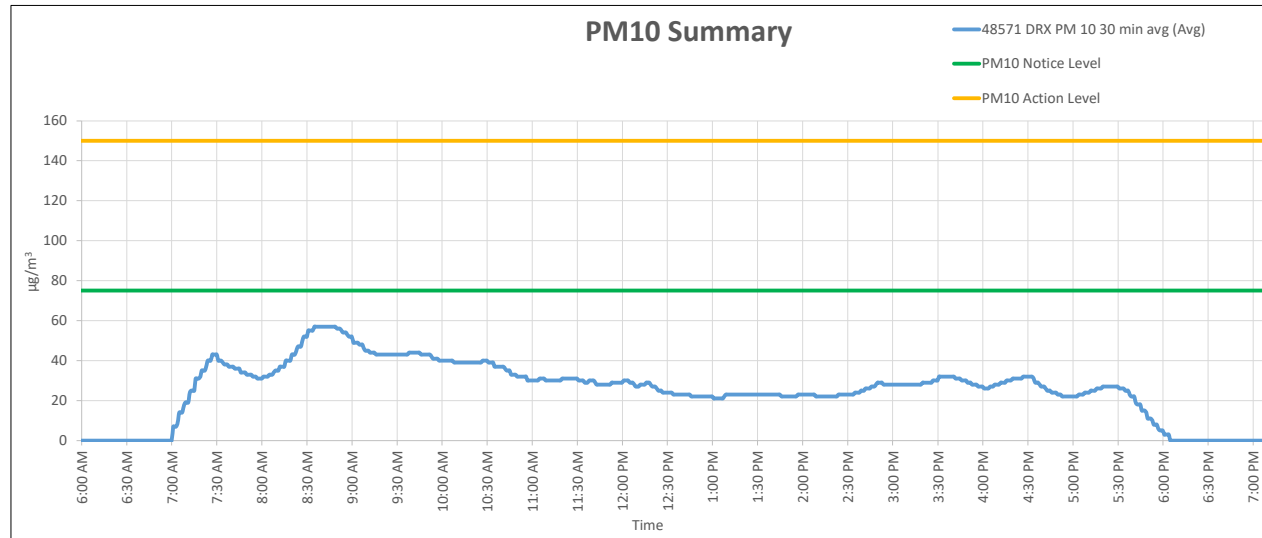
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 13, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:42 AM	5:57 PM	30.13	50.00	28.32	43.00



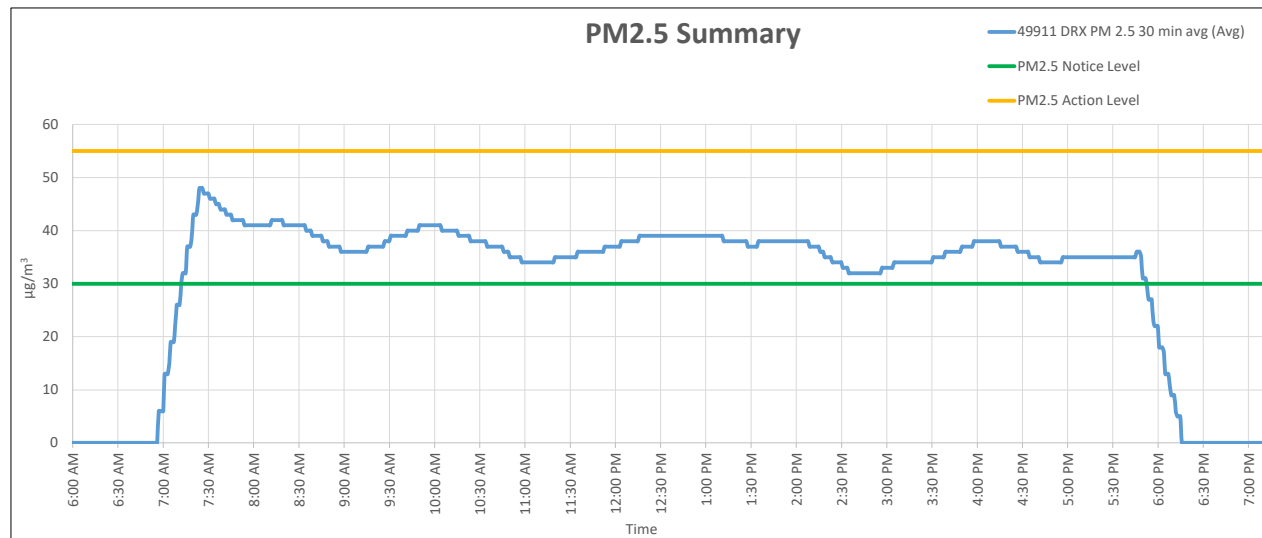
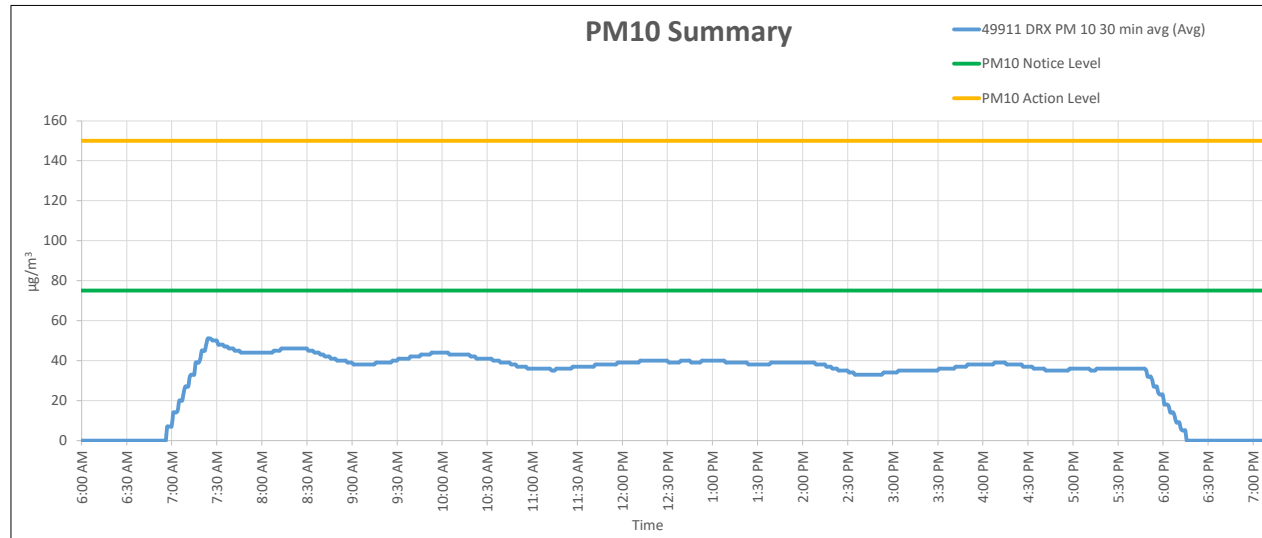
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 13, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:01 AM	6:04 PM	30.59	57.00	25.93	41.00



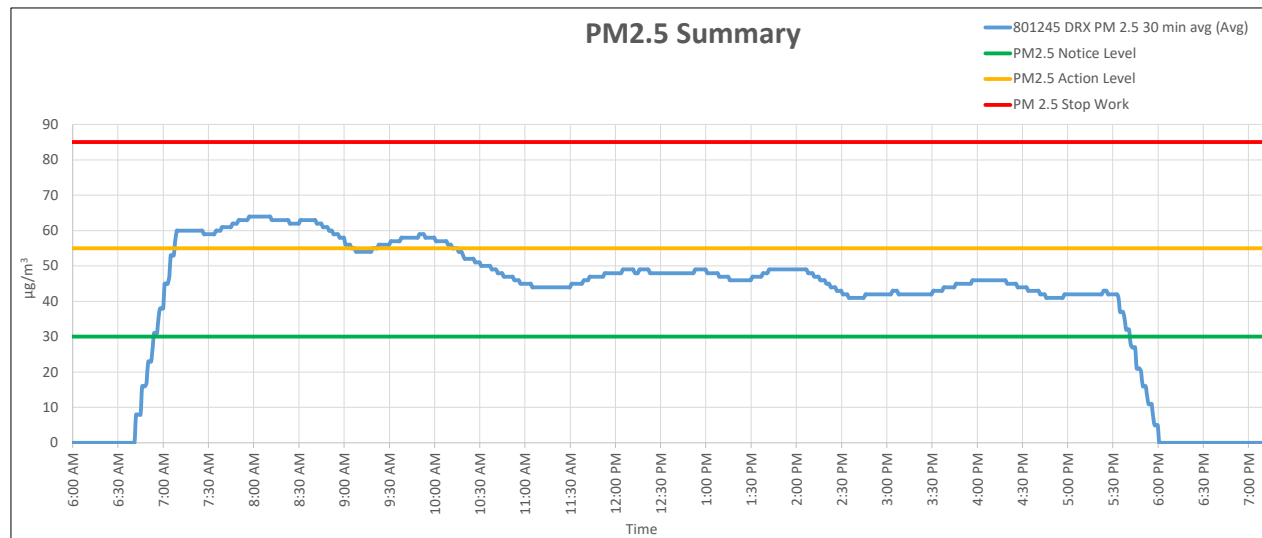
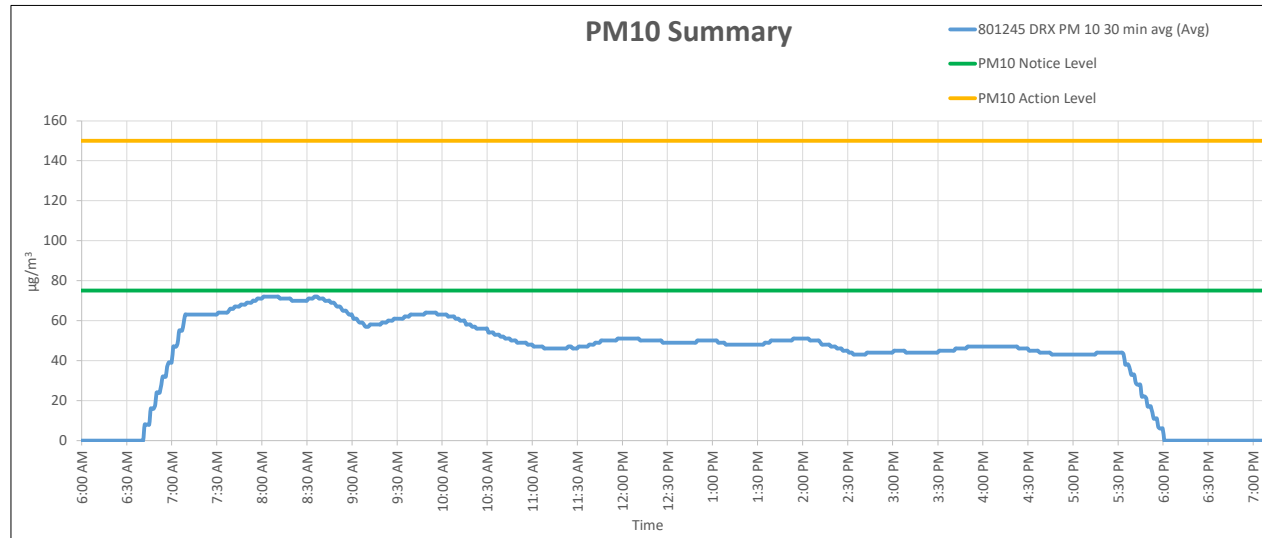
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 13, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	6:57 AM	6:15 PM	37.62	51.00	36.05	48.00

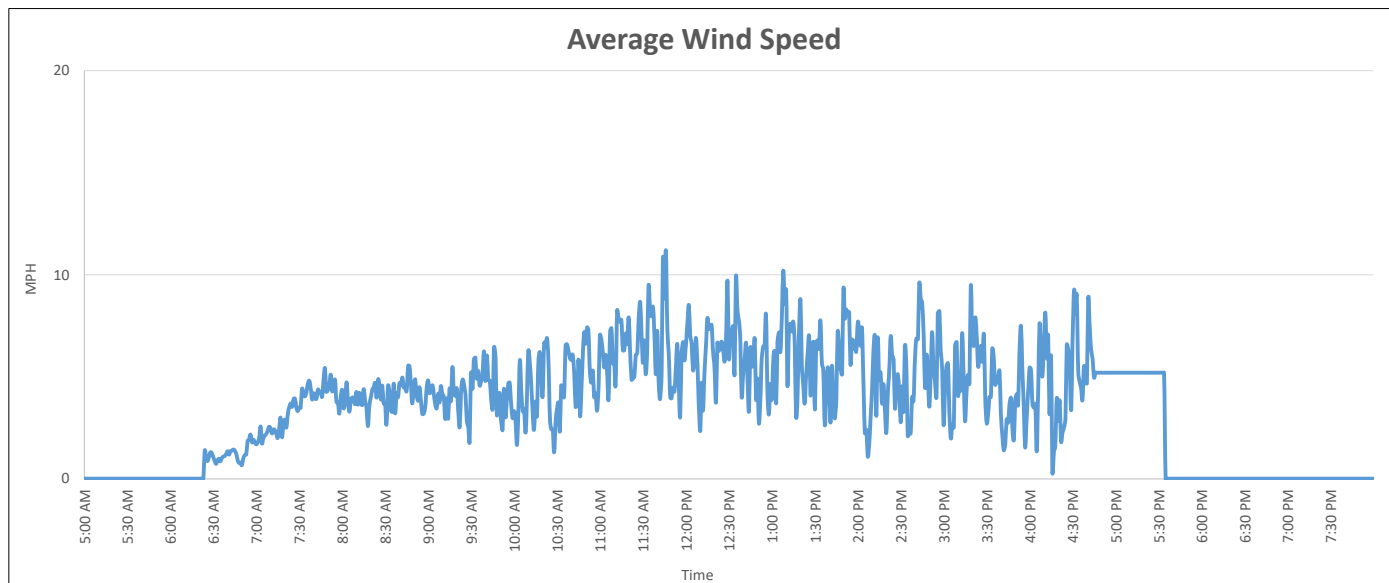
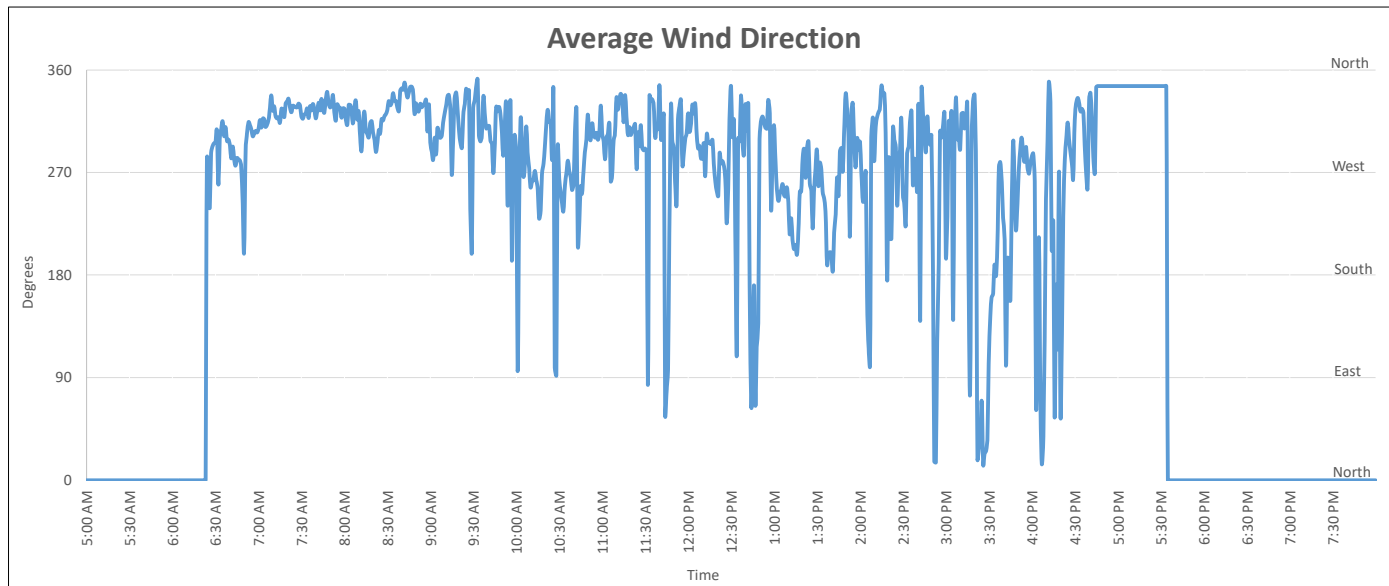


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 13, 2024

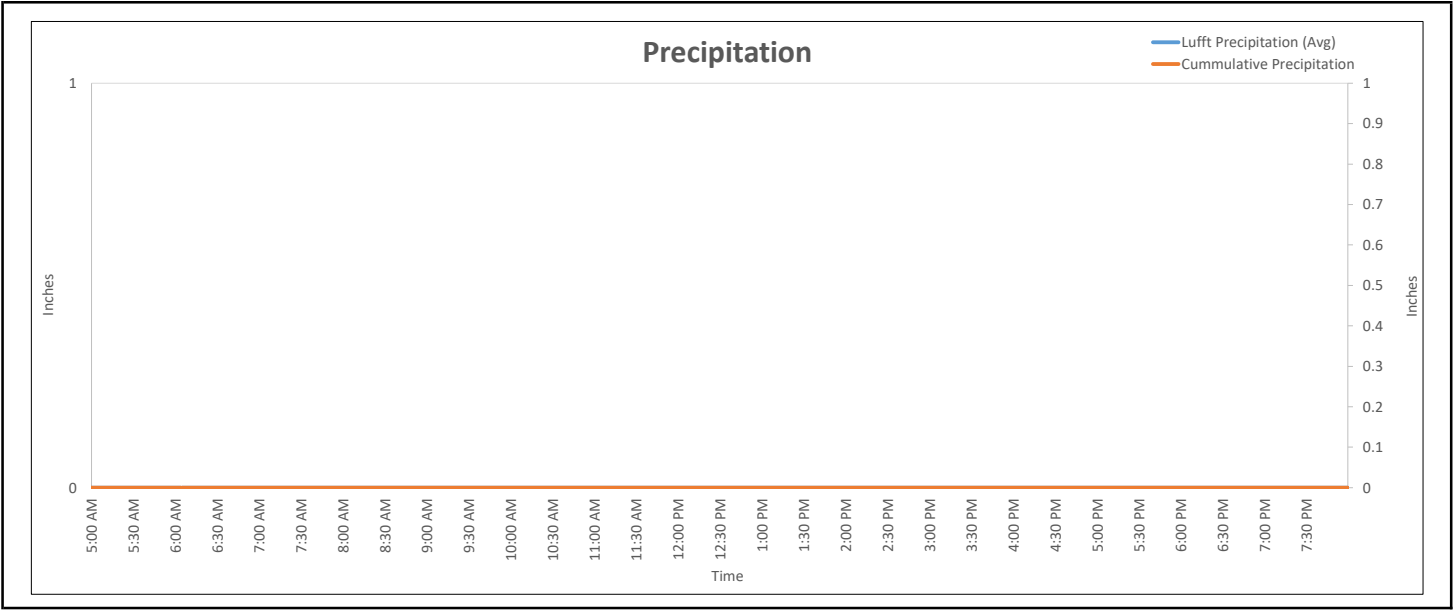
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:42 AM	6:00 PM	50.71	72.00	47.85	64.00



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Friday, June 14, 2024

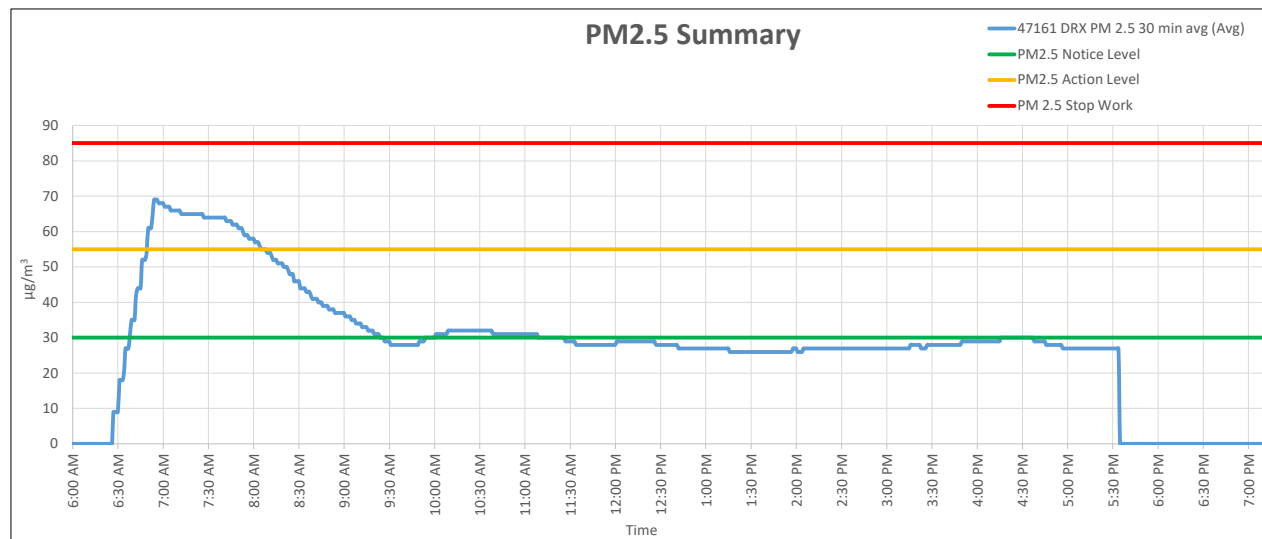
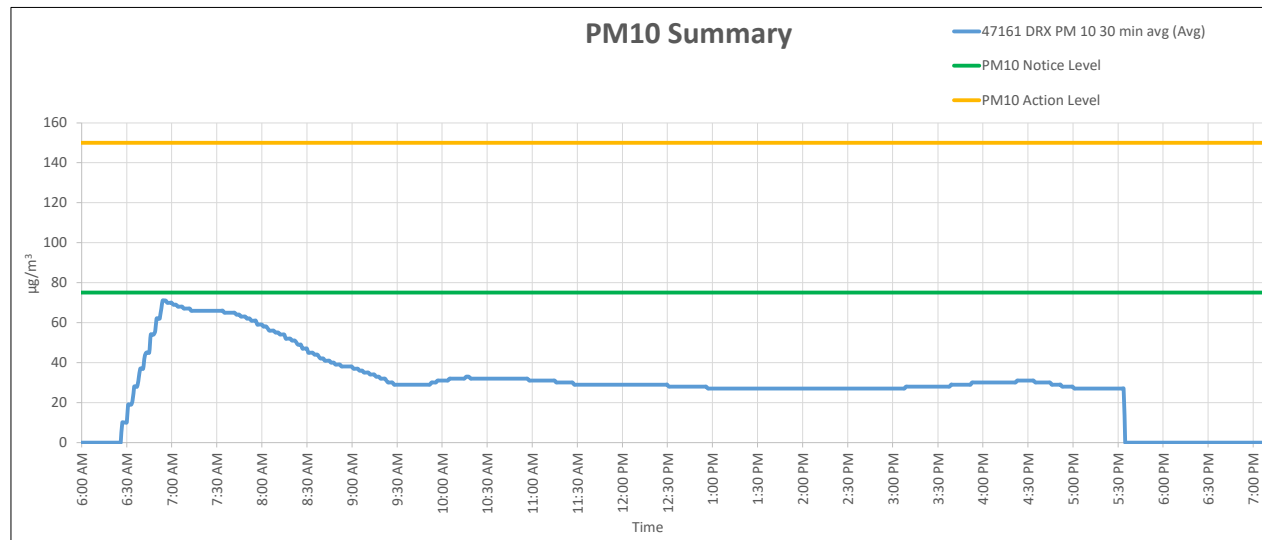


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Friday, June 14, 2024



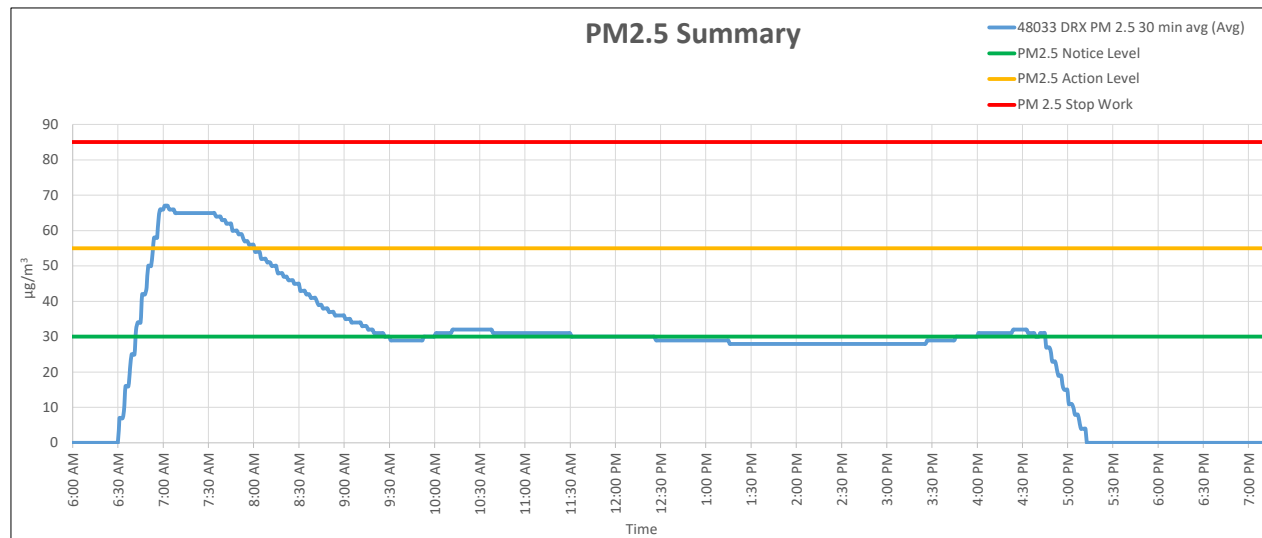
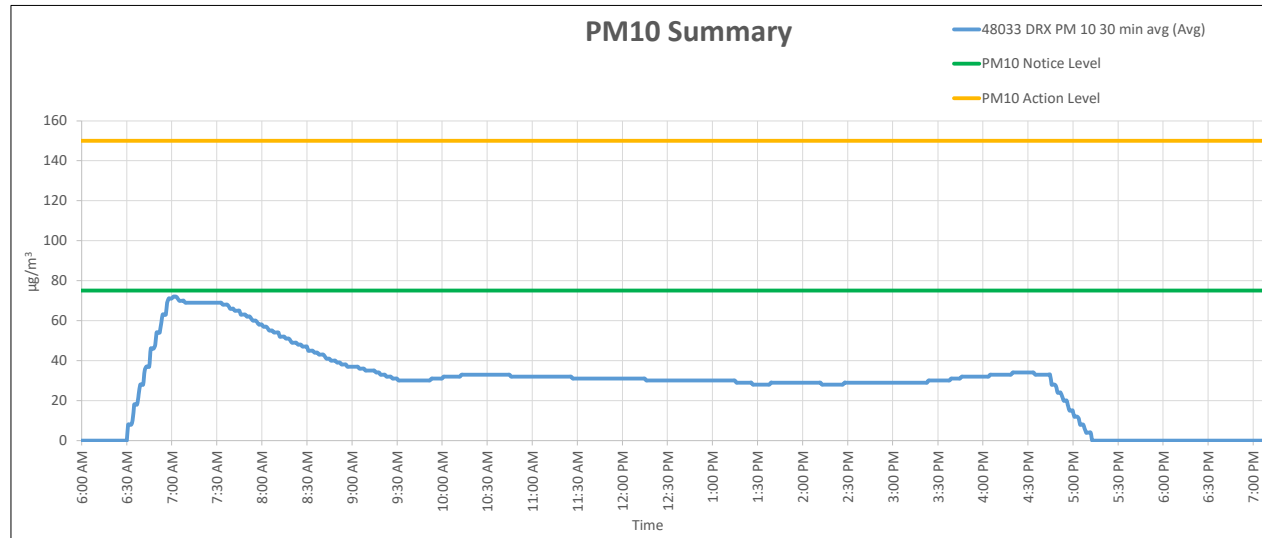
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 14, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:27 AM	5:34 PM	34.61	71.00	33.96	69.00



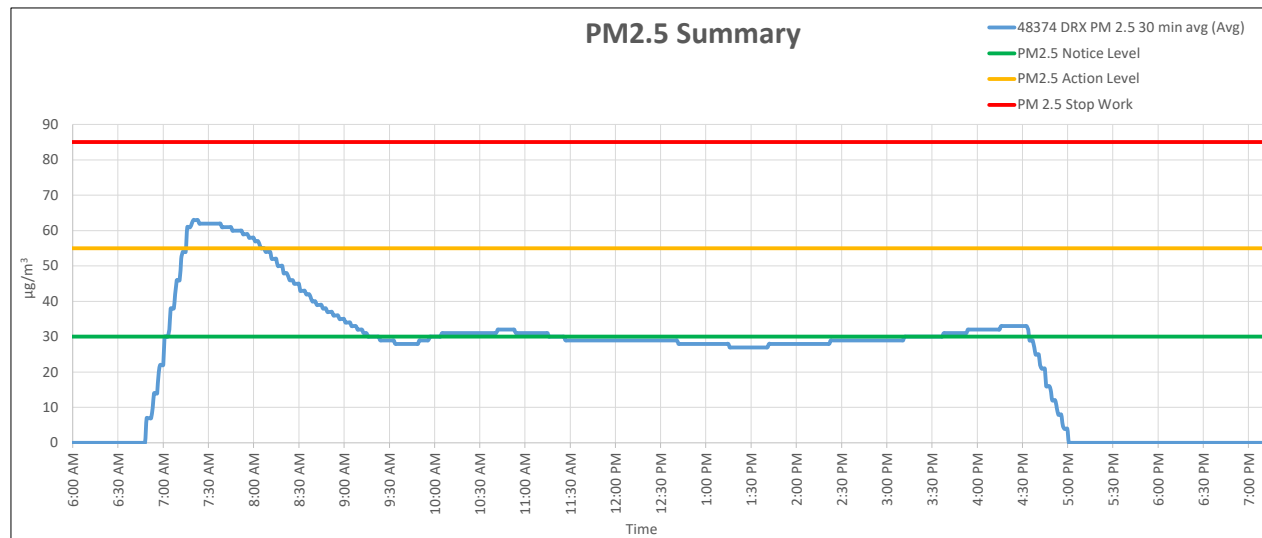
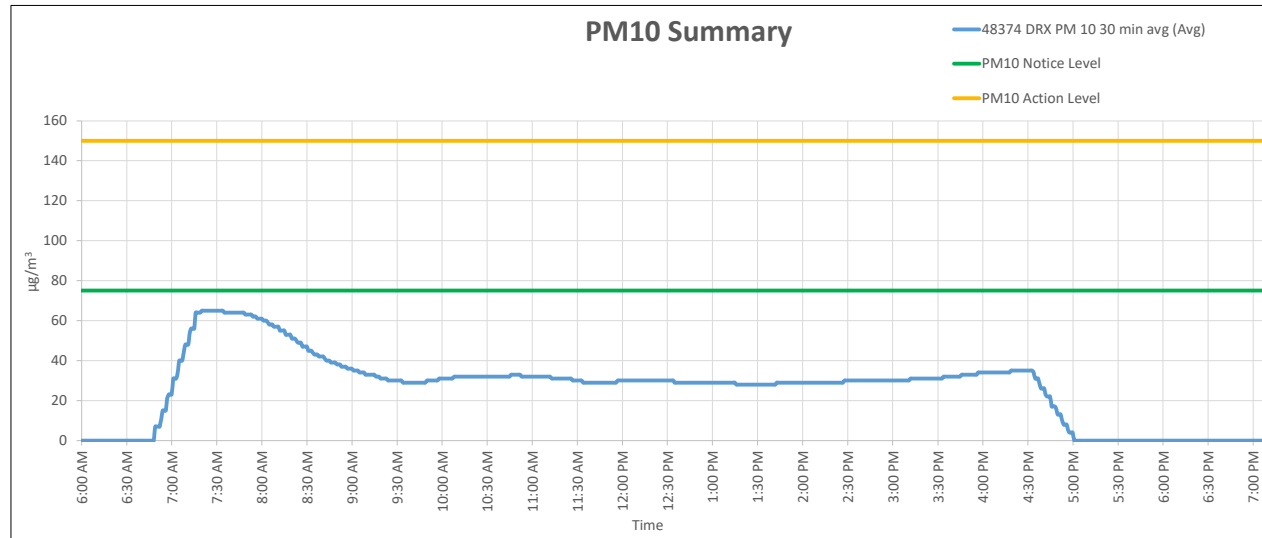
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 14, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:31 AM	5:12 PM	35.48	72.00	33.94	67.00



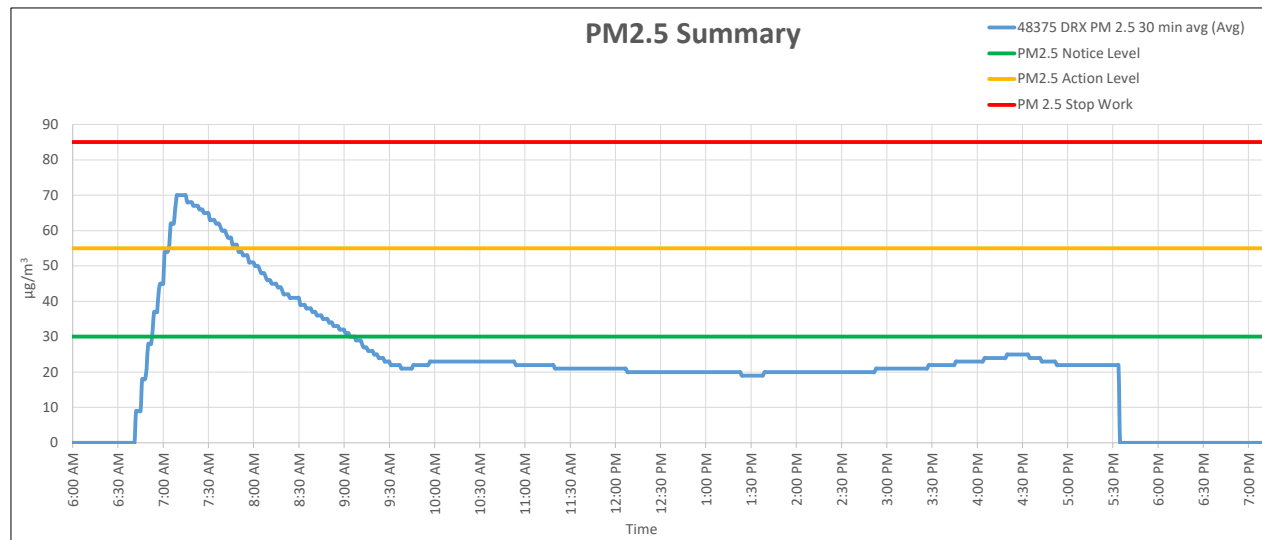
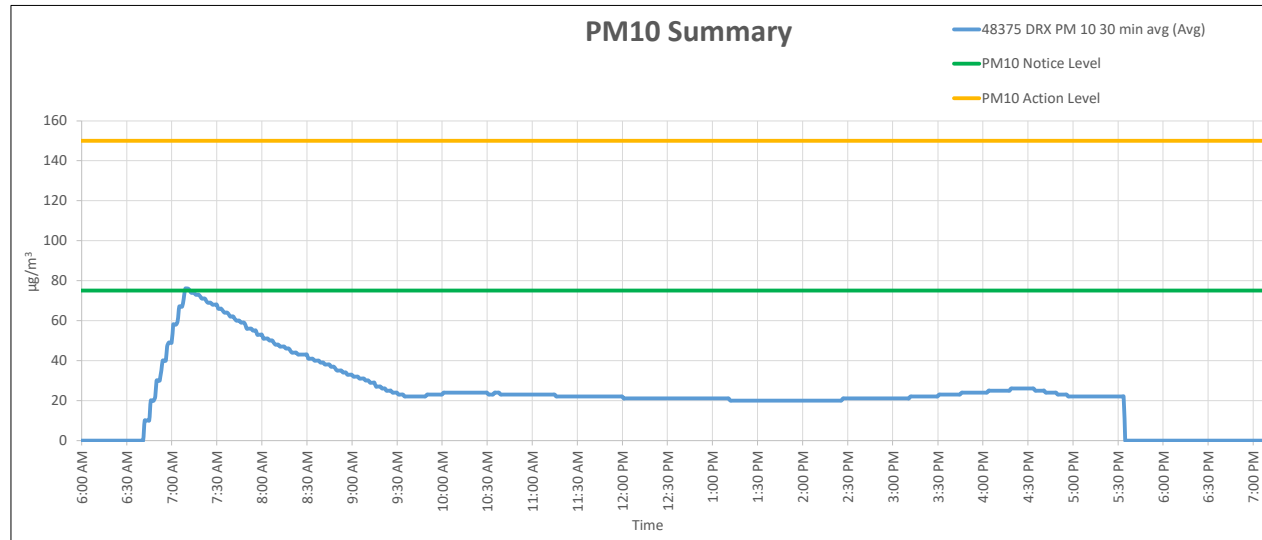
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 14, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	6:49 AM	5:00 PM	34.11	65.00	32.85	63.00



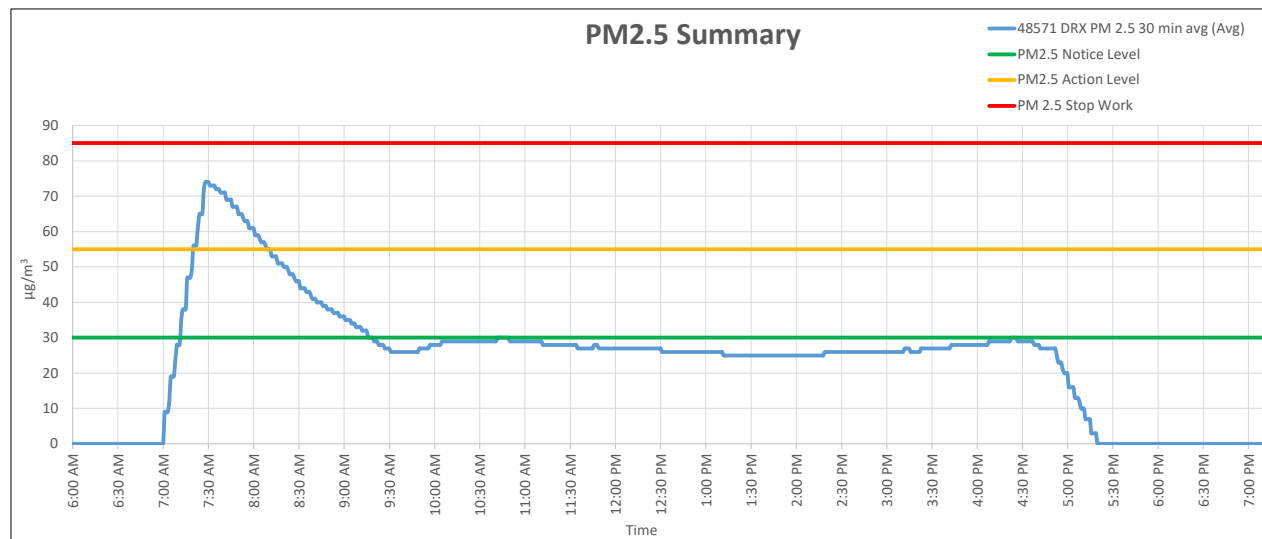
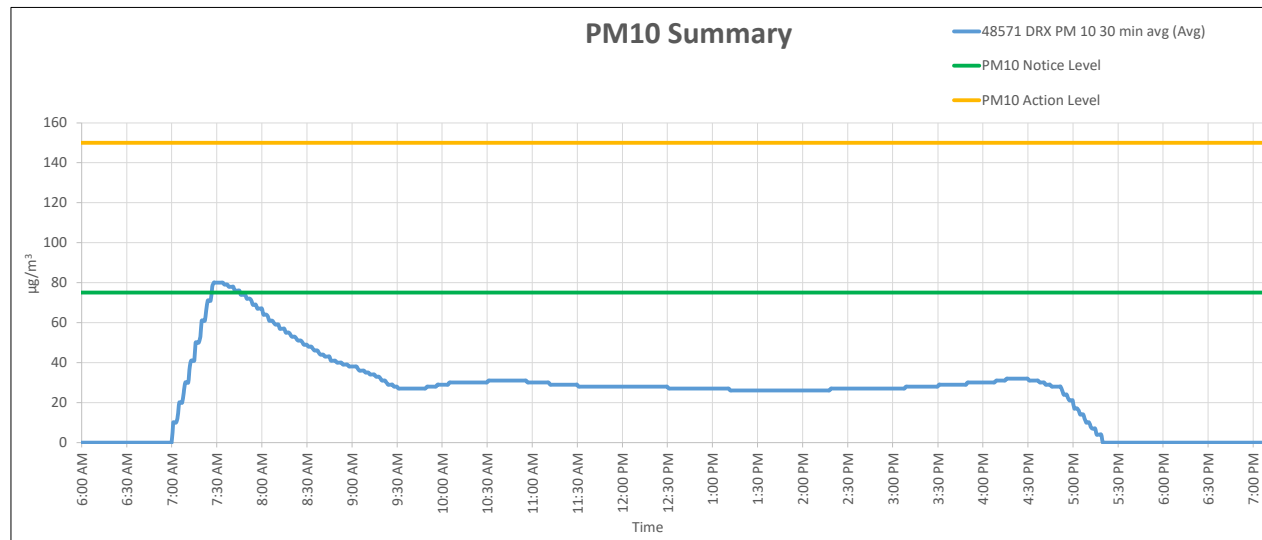
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 14, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:42 AM	5:34 PM	28.31	76.00	27.24	70.00



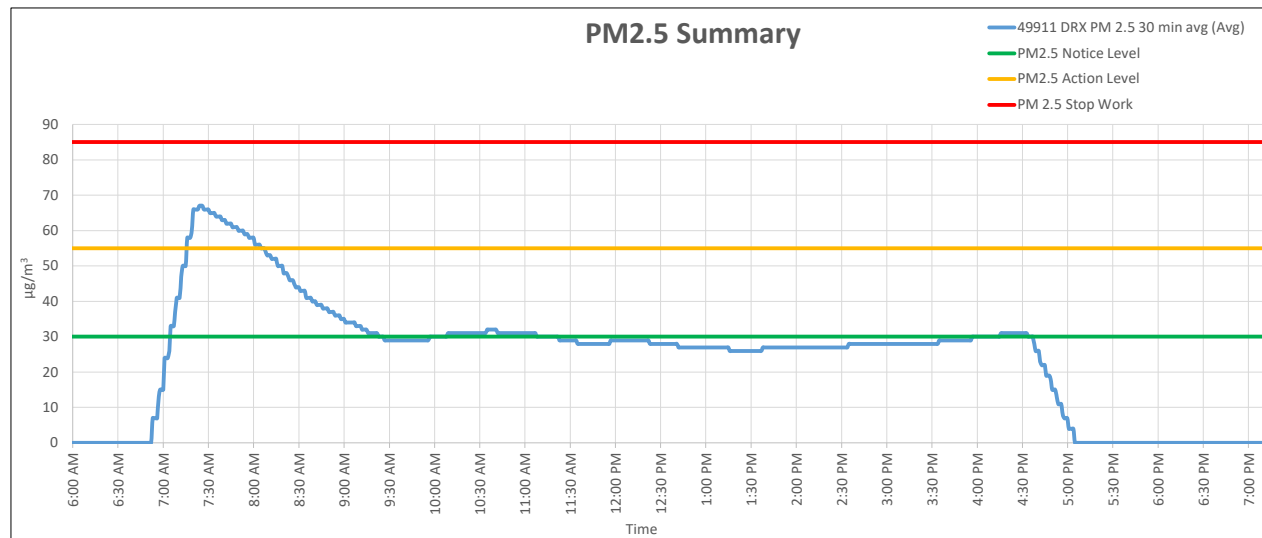
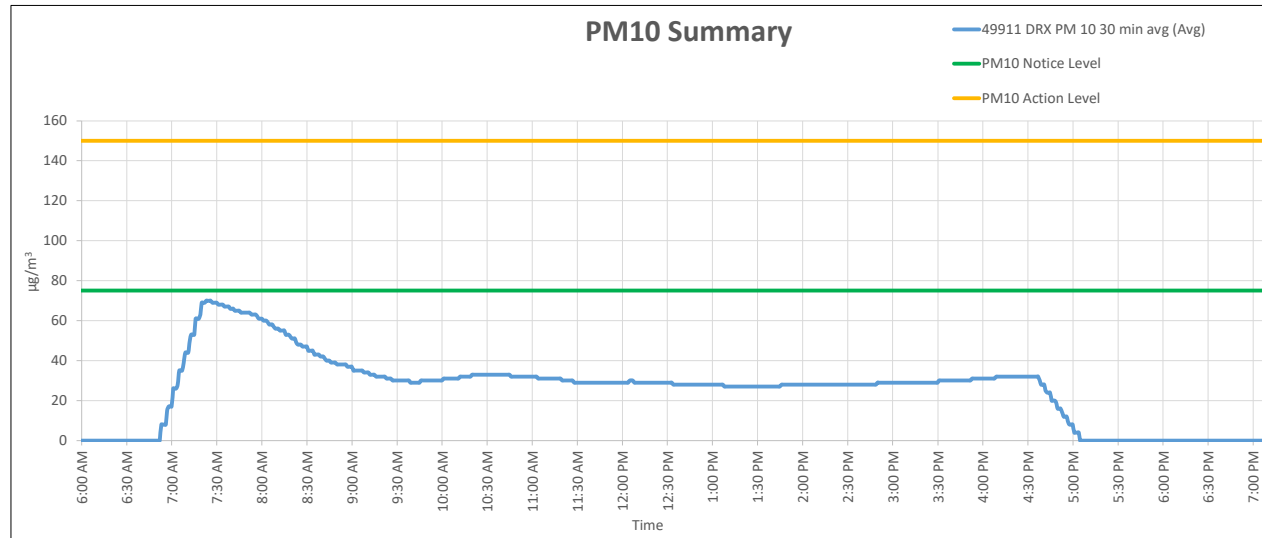
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 14, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:01 AM	5:19 PM	32.97	80.00	31.16	74.00



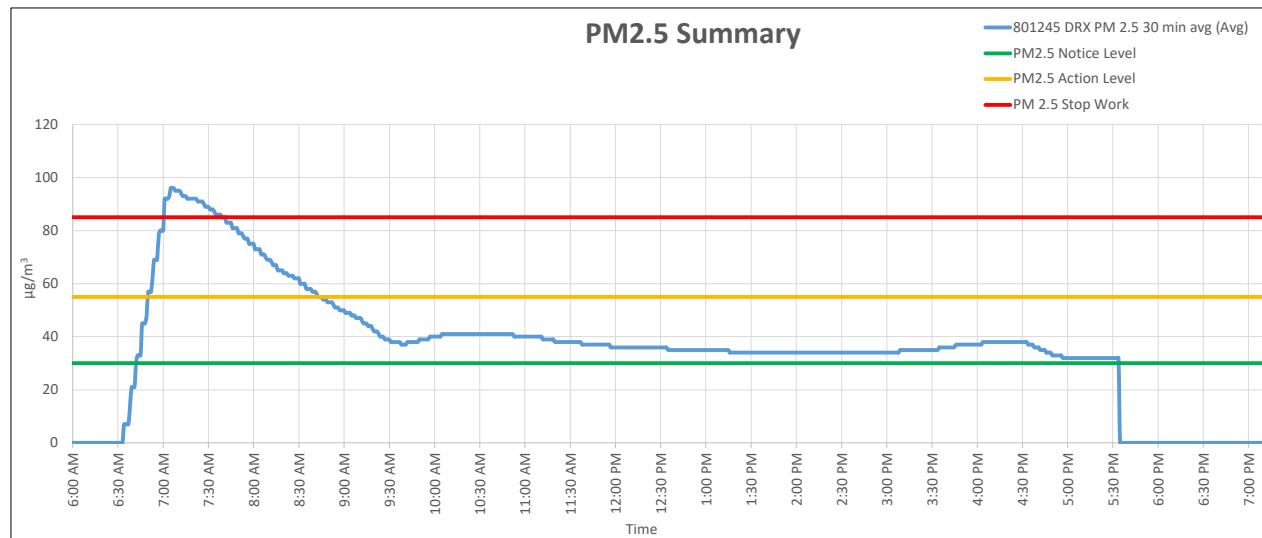
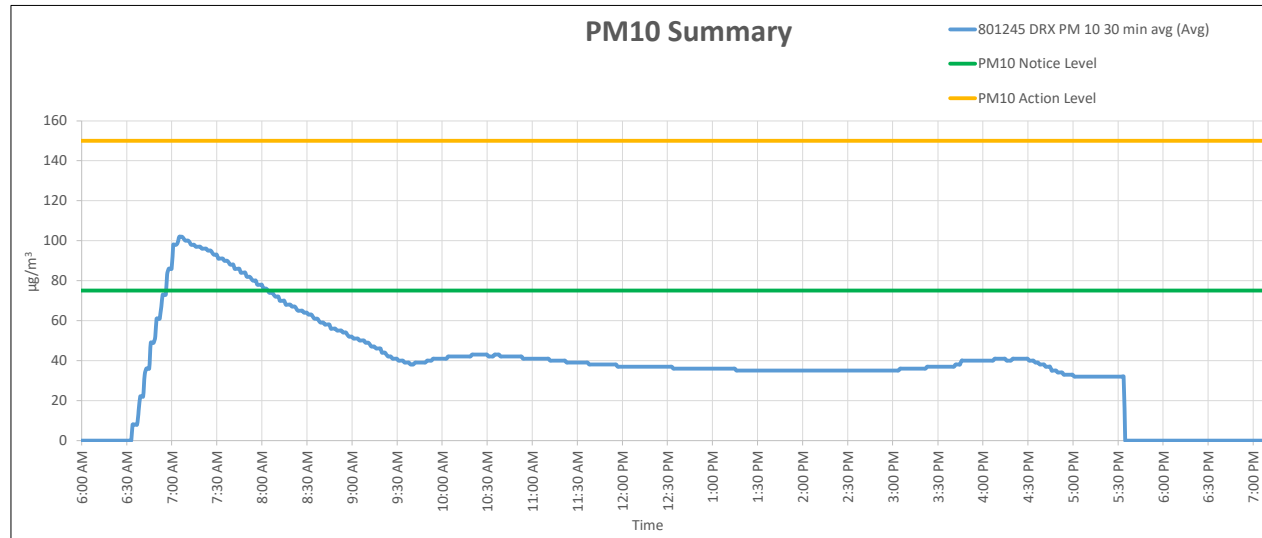
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 14, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	6:53 AM	5:04 PM	33.48	70.00	32.24	67.00



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 14, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:34 AM	5:34 PM	45.43	102.00	43.70	96.00



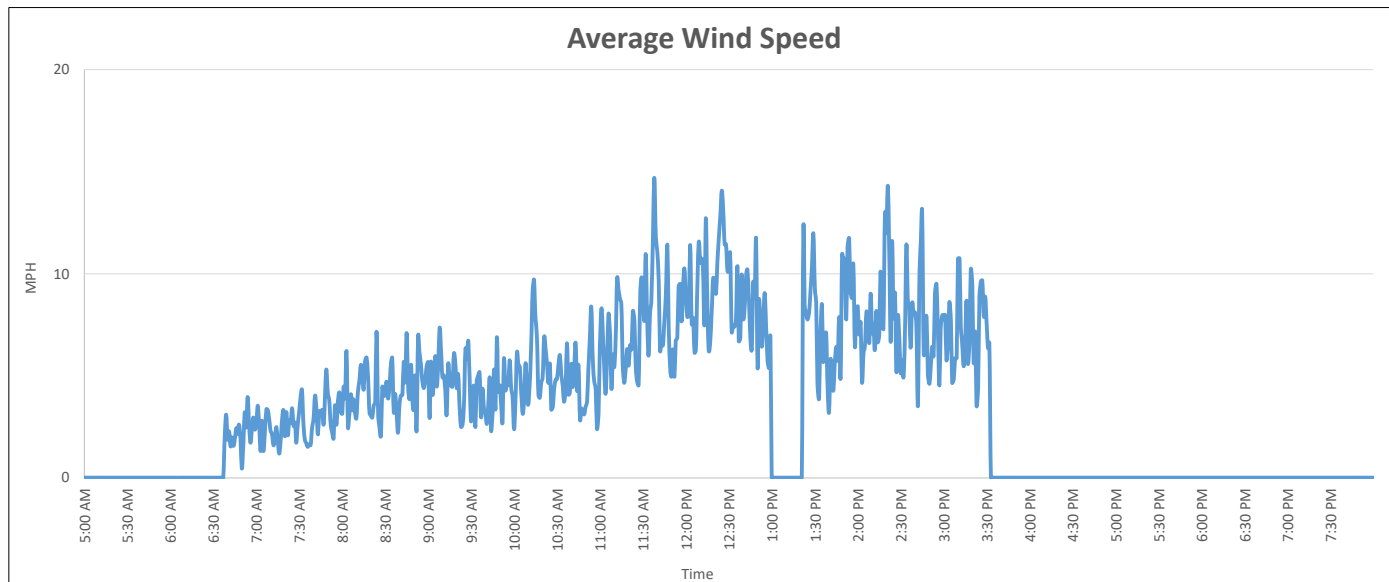
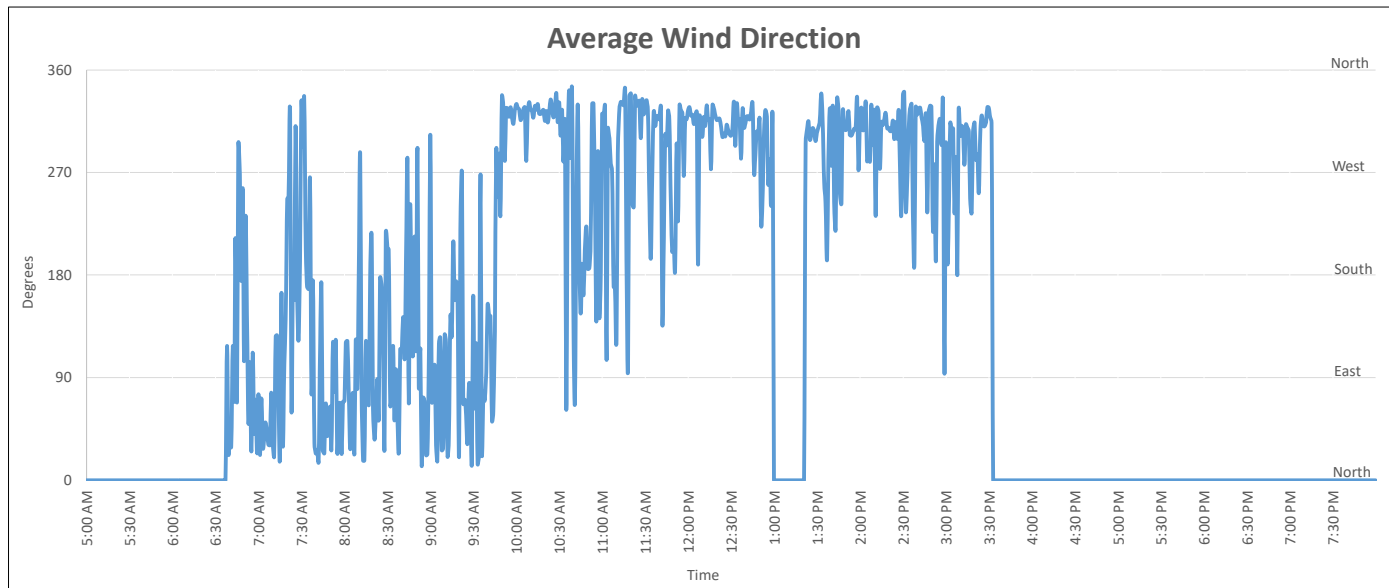
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston, Texas
TCEQ Air Monitor Values
Houston North Wayside C405/C1033
June 14, 2024

Parameter Measured	Morning												Afternoon												Parameter Measured	POC
	Mid	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	Noon	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00		
PM-10 (Standard Conditions)	34.2	40.4	91.6	92.2	<u>206.7</u>	205.6	162.5	97.2	63.4	39.3	35.6	37	30.8	33.7	35.9	39.1	39.6	45.3	54.4	73.7	57.2	29.4	23.6	28.5	PM-10 (Standard Conditions)	<u>2</u> N MDL
PM-2.5 (Local Conditions)	22	23	30	25	<u>68</u>	26	39	17	24	20	20	17	14	12	14	20	15	15	18	17	27	18	20	18	PM-2.5 (Local Conditions)	<u>1</u> R MDL
Parameter Measured	Mid	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	Noon	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	Parameter Measured	POC
	Morning												Afternoon													

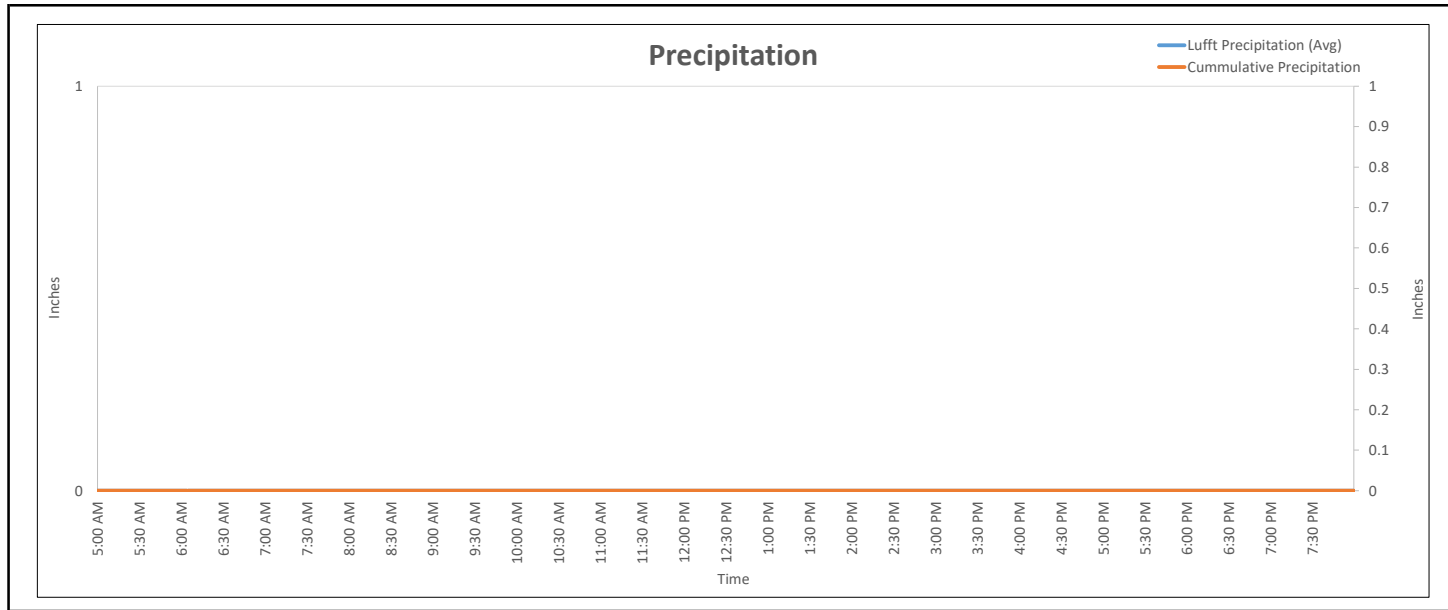
Table 5 – Direct Read Summary
Union Pacific Houston Wood Preserving Works
Houston, Texas

Date	Modem #	PM ₁₀ Concentration (µg/m ³)			PM _{2.5} Concentration (µg/m ³)		
		Min	Max	Average	Min	Max	Average
Week 8							
6/17/2024	48374	2.00	28.00	14.97	1.00	23.00	12.79
	47161	1.00	27.00	11.63	1.00	25.00	10.92
	48033	1.00	31.00	14.88	1.00	26.00	13.19
	48571	-62.00	27.00	-2.46	-63.00	22.00	-4.38
	48375	0.00	27.00	10.28	0.00	25.00	8.86
	801245	1.00	43.00	18.22	1.00	33.00	15.52
	49911	1.00	28.00	12.49	1.00	26.00	11.56
6/18/2024	48374	3.00	22.00	12.39	2.00	19.00	10.93
	47161	1.00	22.00	12.23	1.00	19.00	11.30
	48033	1.00	24.00	14.30	1.00	20.00	12.83
	48571	1.00	26.00	11.55	1.00	20.00	9.47
	48375	2.00	30.00	15.21	1.00	26.00	13.71
	801245	2.00	30.00	17.36	1.00	26.00	15.30
	49911	1.00	24.00	12.18	1.00	18.00	10.04
6/20/2024	47161	1.00	25.00	17.19	1.00	25.00	16.83
	48033	2.00	29.00	18.99	2.00	27.00	18.26
	48571	1.00	25.00	16.37	1.00	23.00	15.32
	48375	1.00	29.00	12.65	1.00	26.00	11.80
	801245	2.00	38.00	24.30	2.00	35.00	23.16
	49911	1.00	24.00	16.06	1.00	22.00	15.03
	6/21/2024	48374	3.00	27.00	15.48	3.00	23.00
47161		3.00	24.00	11.15	3.00	24.00	10.89
48033		1.00	24.00	14.20	1.00	22.00	13.29
48571		3.00	22.00	9.89	3.00	19.00	9.10
48375		3.00	25.00	8.01	3.00	23.00	7.35
801245		4.00	30.00	15.47	4.00	28.00	14.64
49911		3.00	22.00	12.09	3.00	20.00	11.37
Note:							
1. Values shown in GREEN are above the Notice Level Threshold.							
2. Values shown in ORANGE are above the Action Level Threshold.							
3. Values shown in RED are above the Stop-Work Level Threshold.							

Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Monday, June 17, 2024

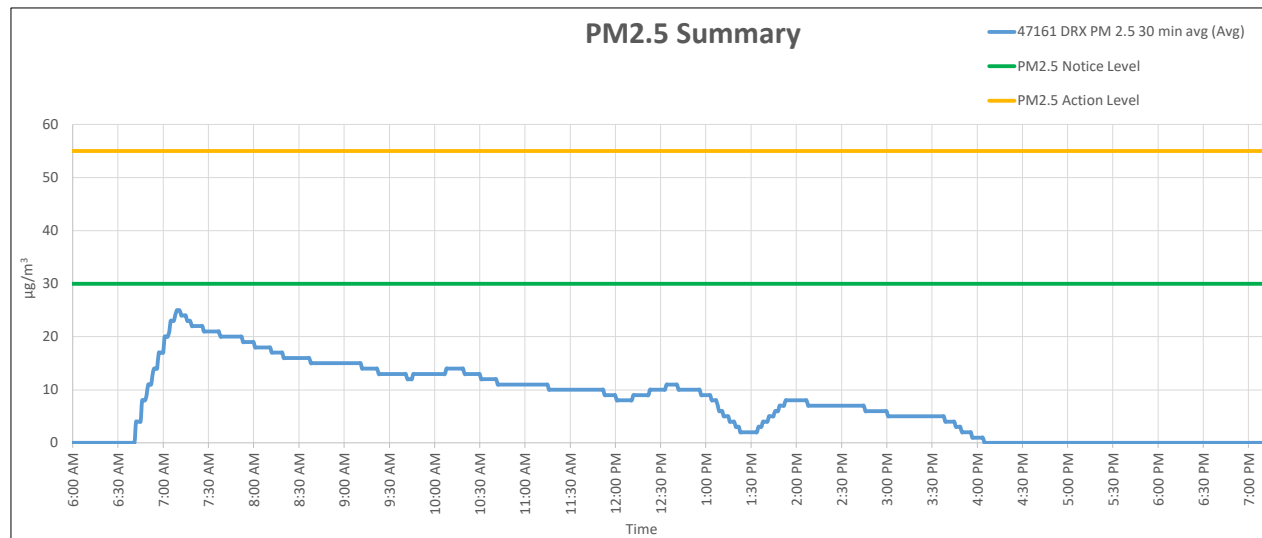
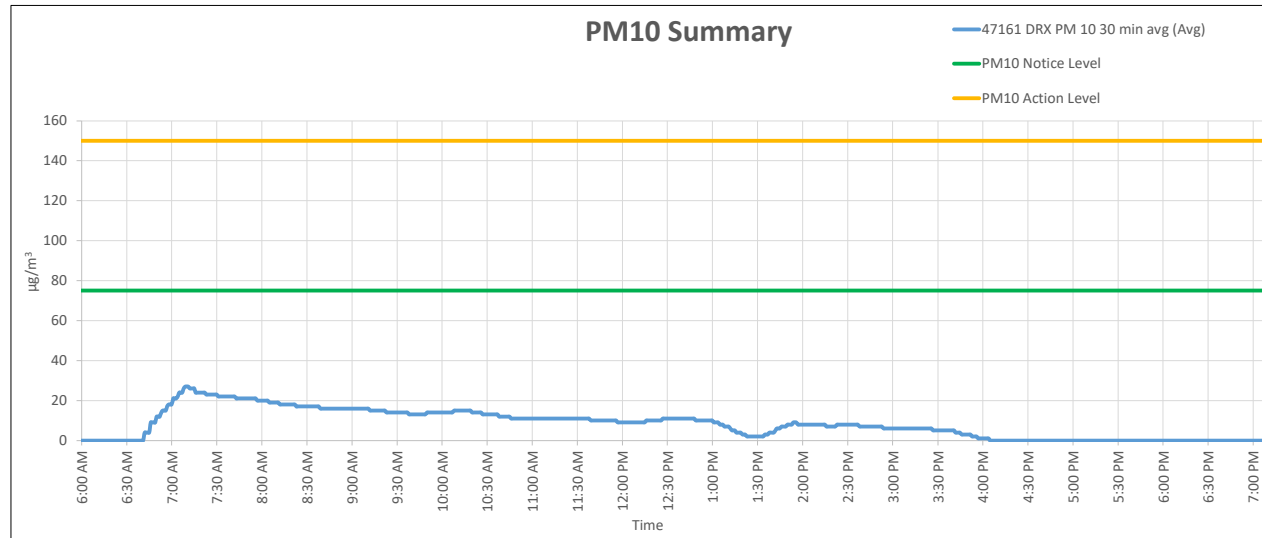


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Monday, June 17, 2024



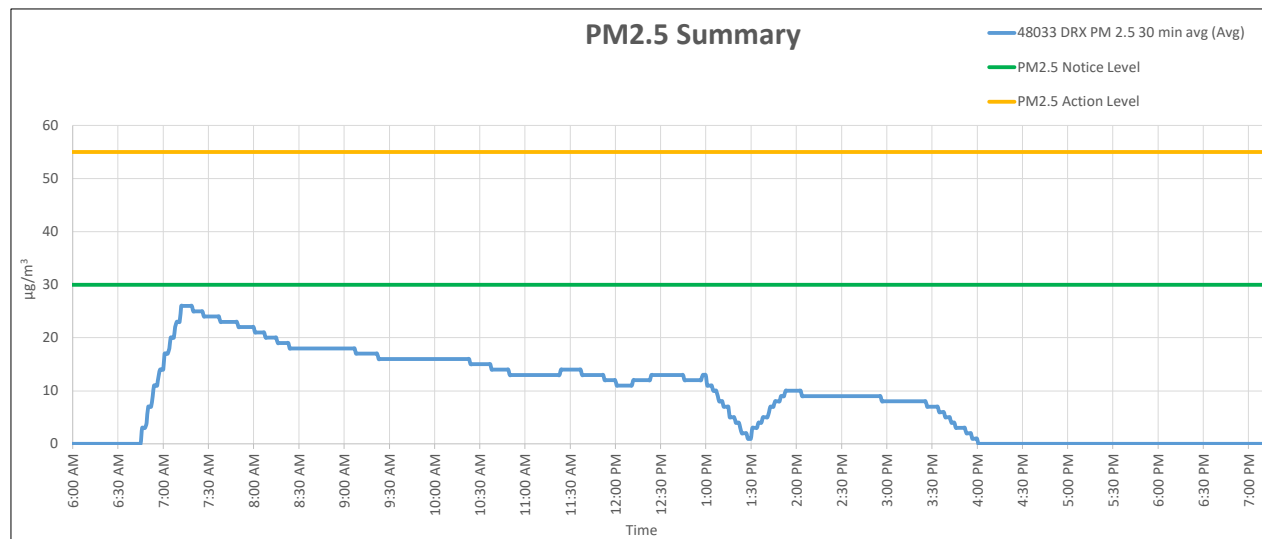
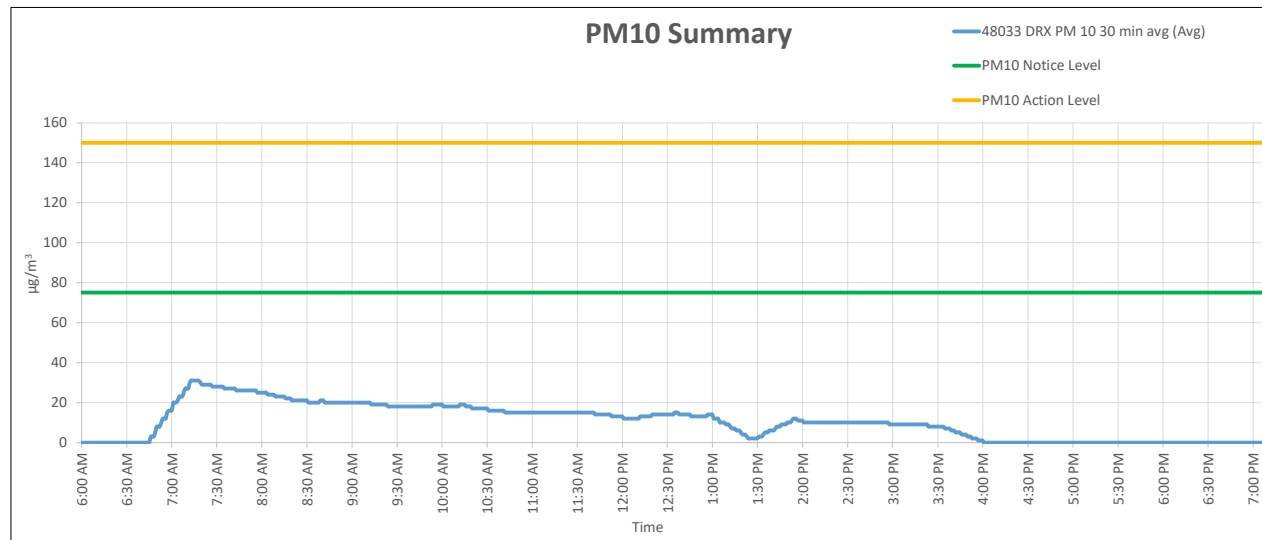
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 17, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:42 AM	3:56 PM	11.63	27.00	10.92	25.00



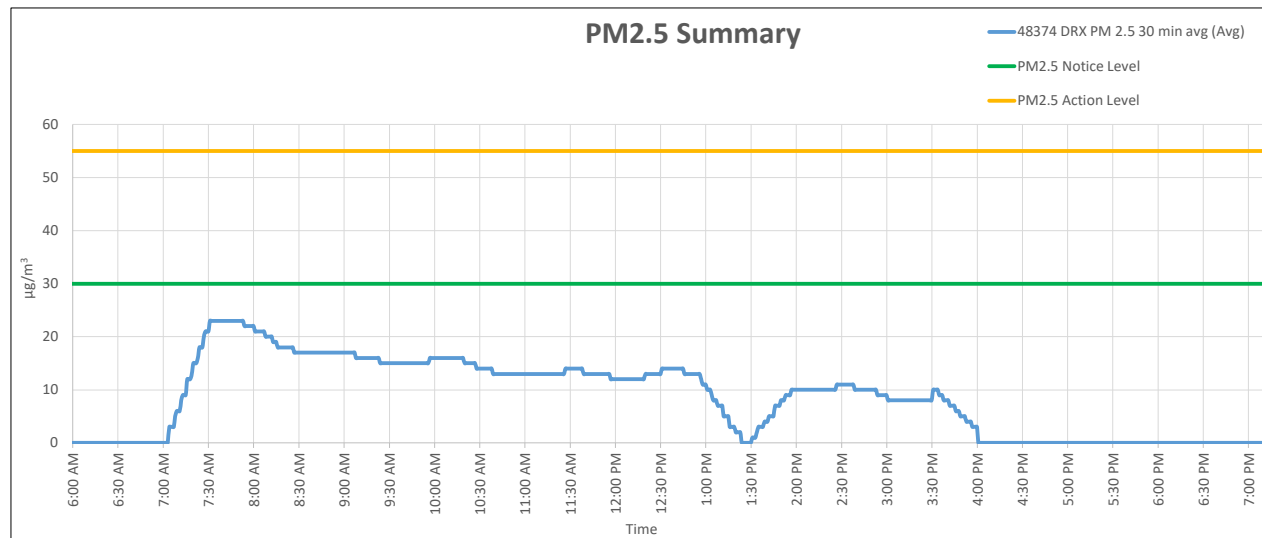
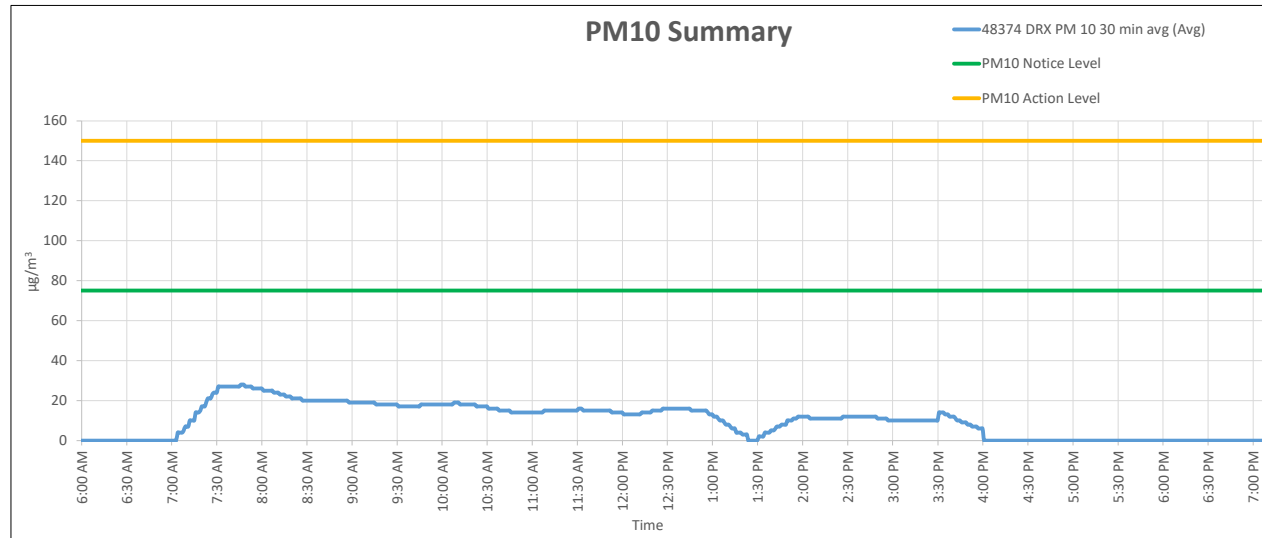
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 17, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:46 AM	3:56 PM	14.88	31.00	13.19	26.00



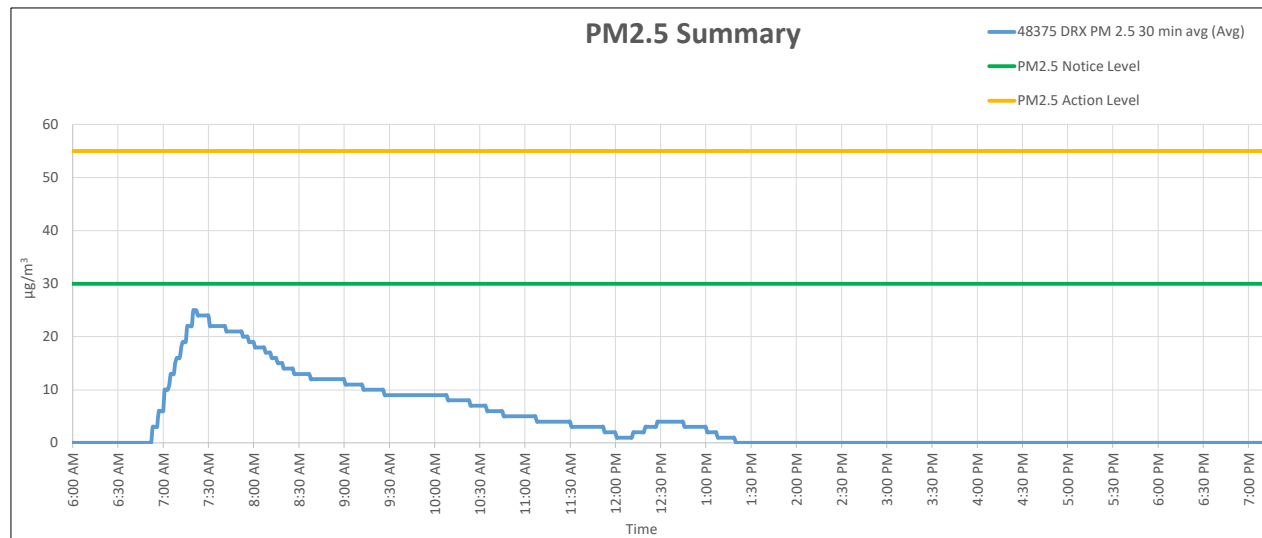
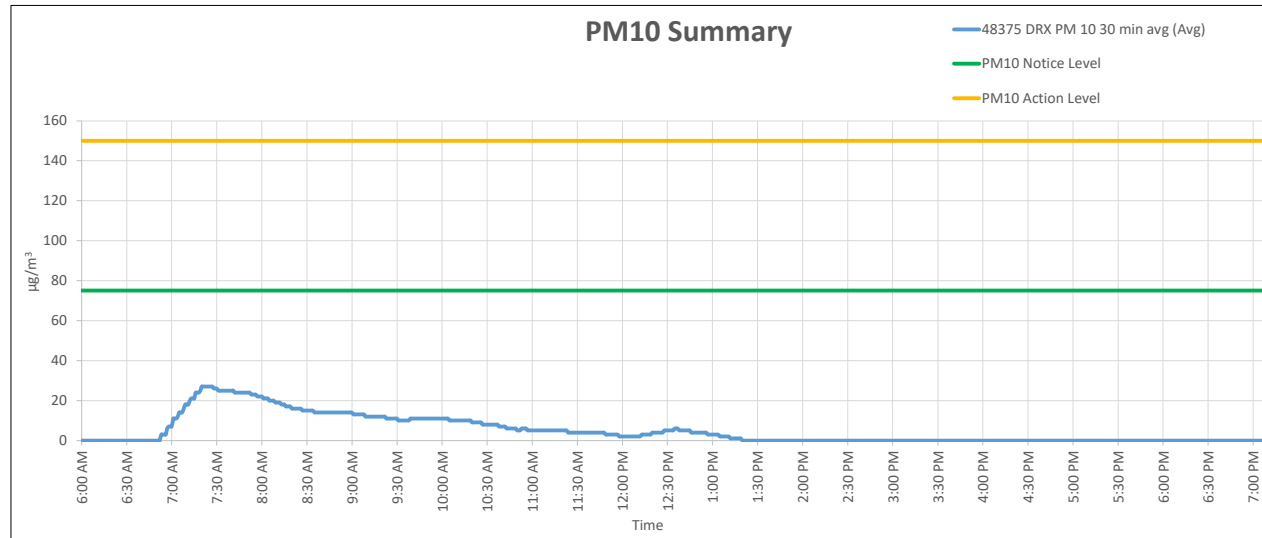
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 17, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	7:04 AM	4:00 PM	14.97	28.00	12.79	23.00



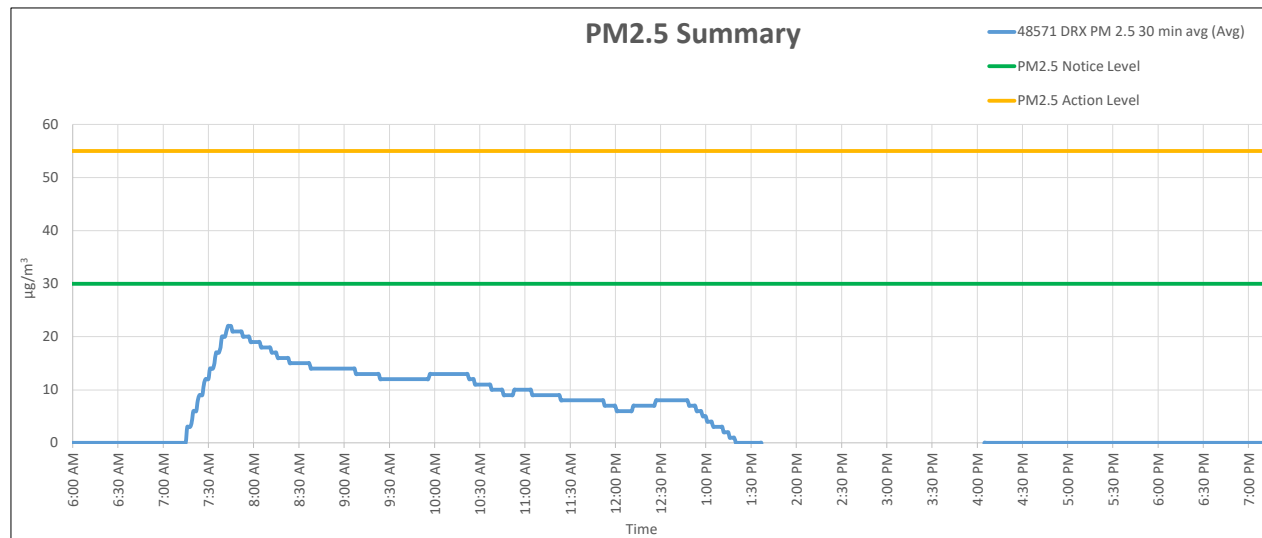
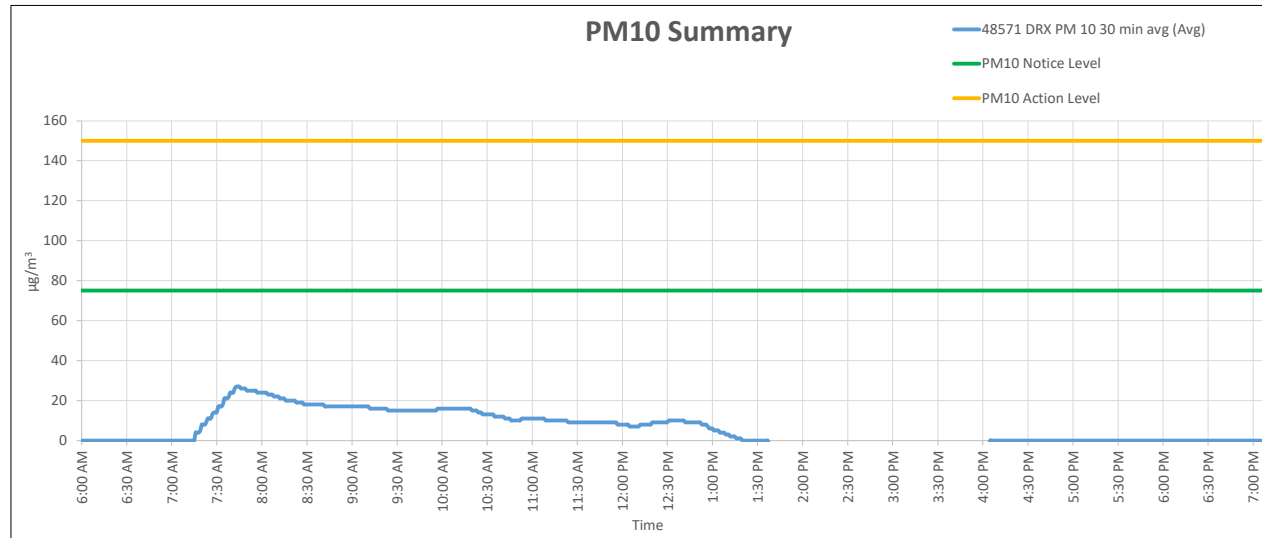
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 17, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:53 AM	1:11 PM	10.38	27.00	8.95	25.00



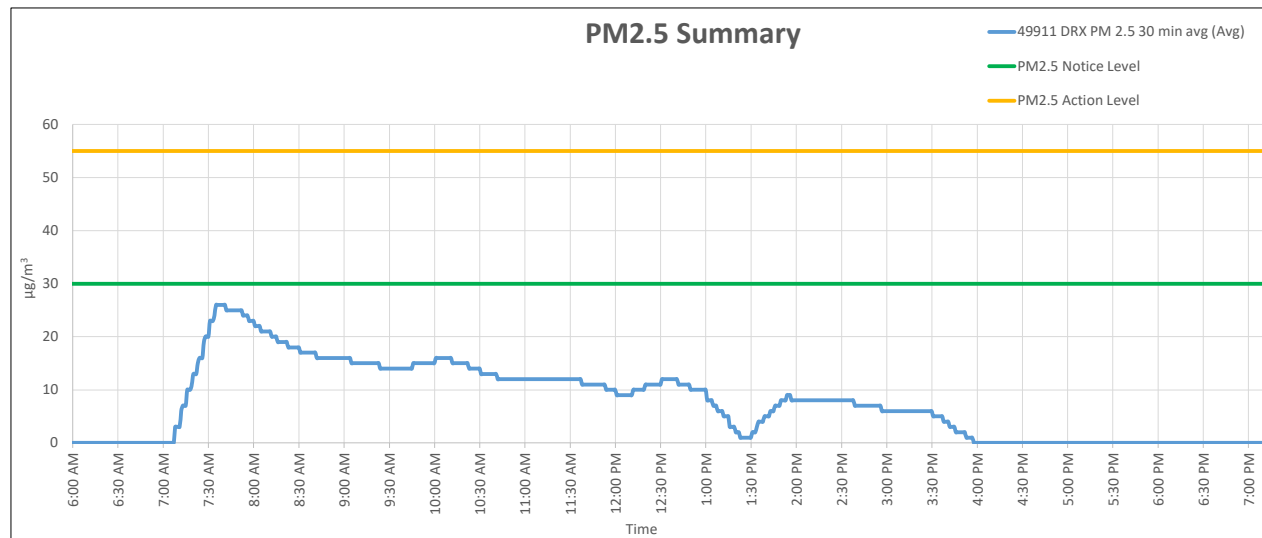
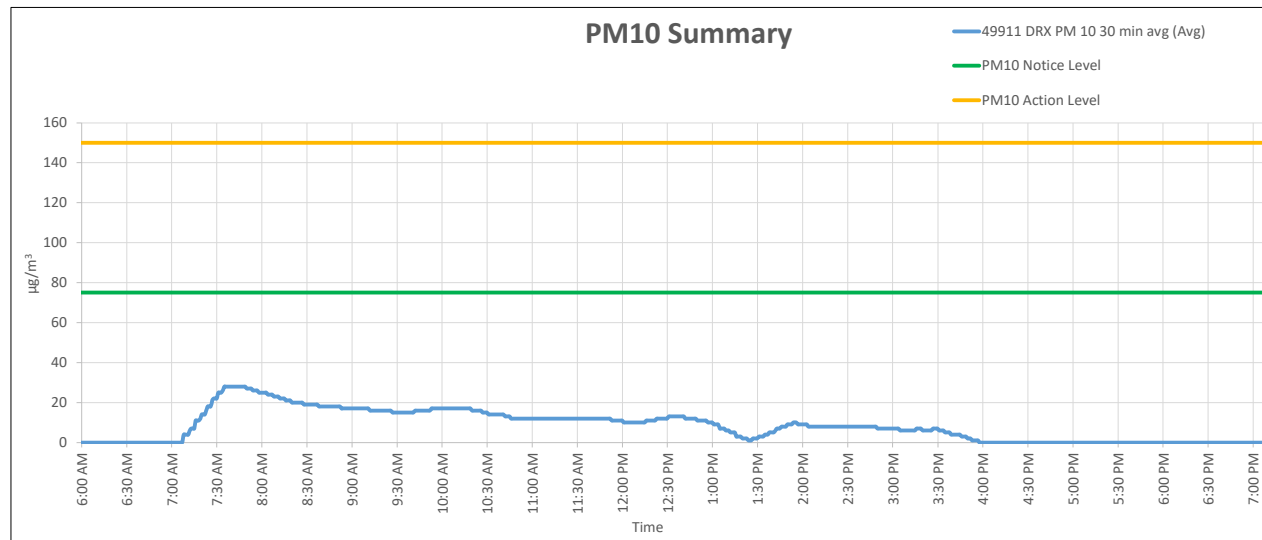
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 17, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:16 AM	1:15 PM	-2.46	27.00	-4.38	22.00



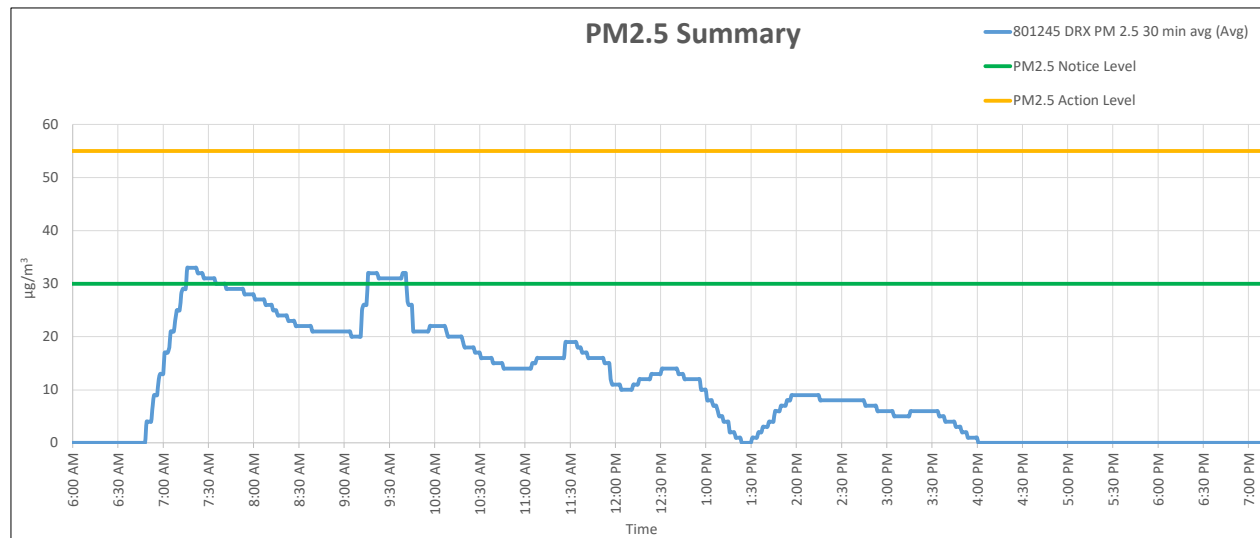
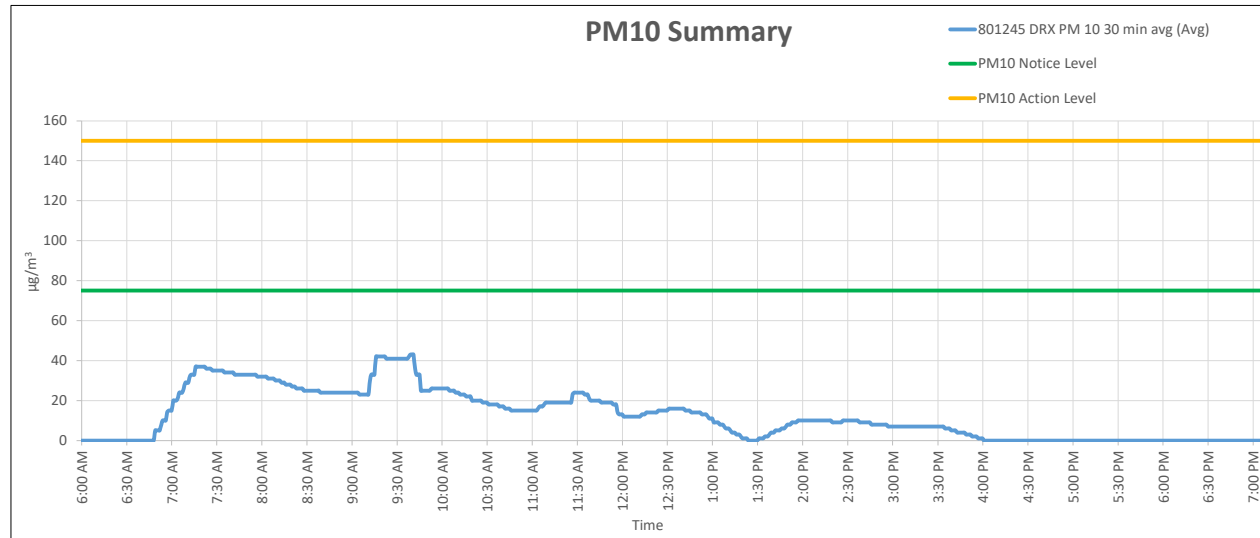
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 17, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	7:08 AM	3:52 PM	12.49	28.00	11.56	26.00

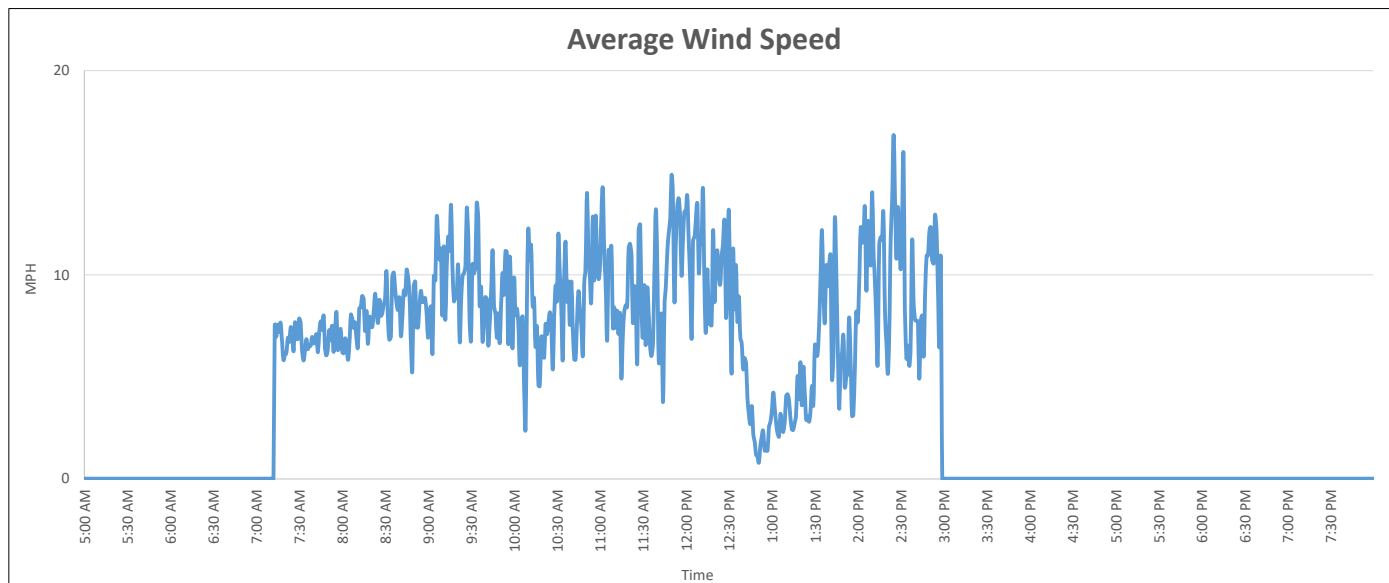
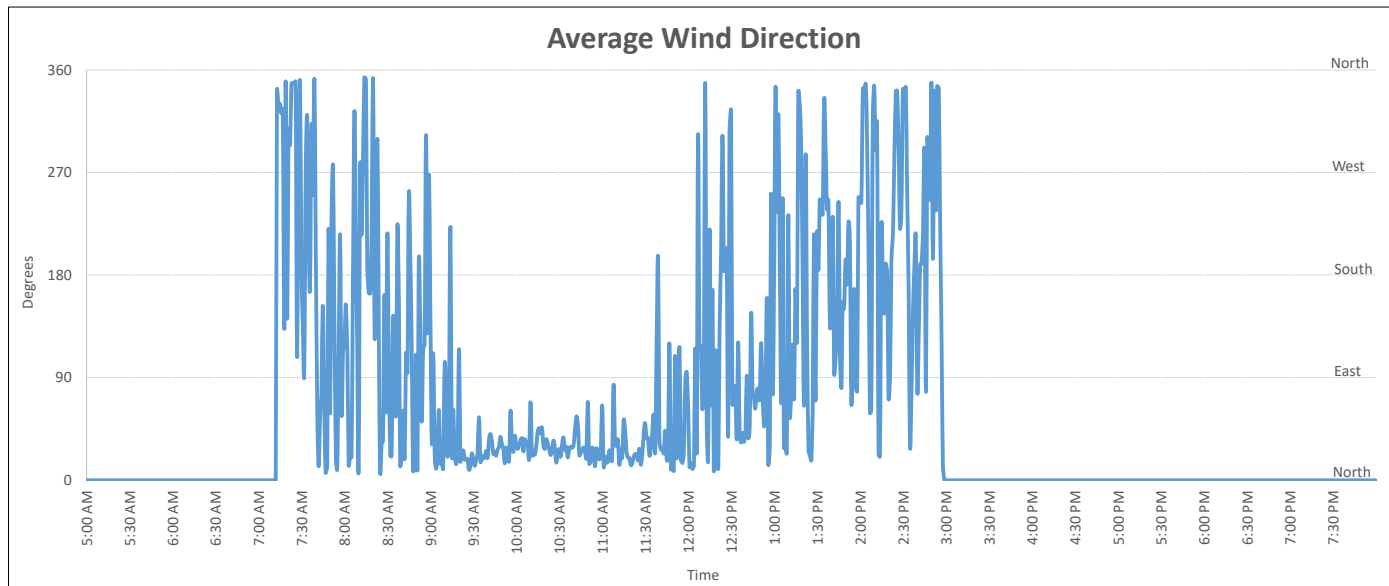


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Monday, June 17, 2024

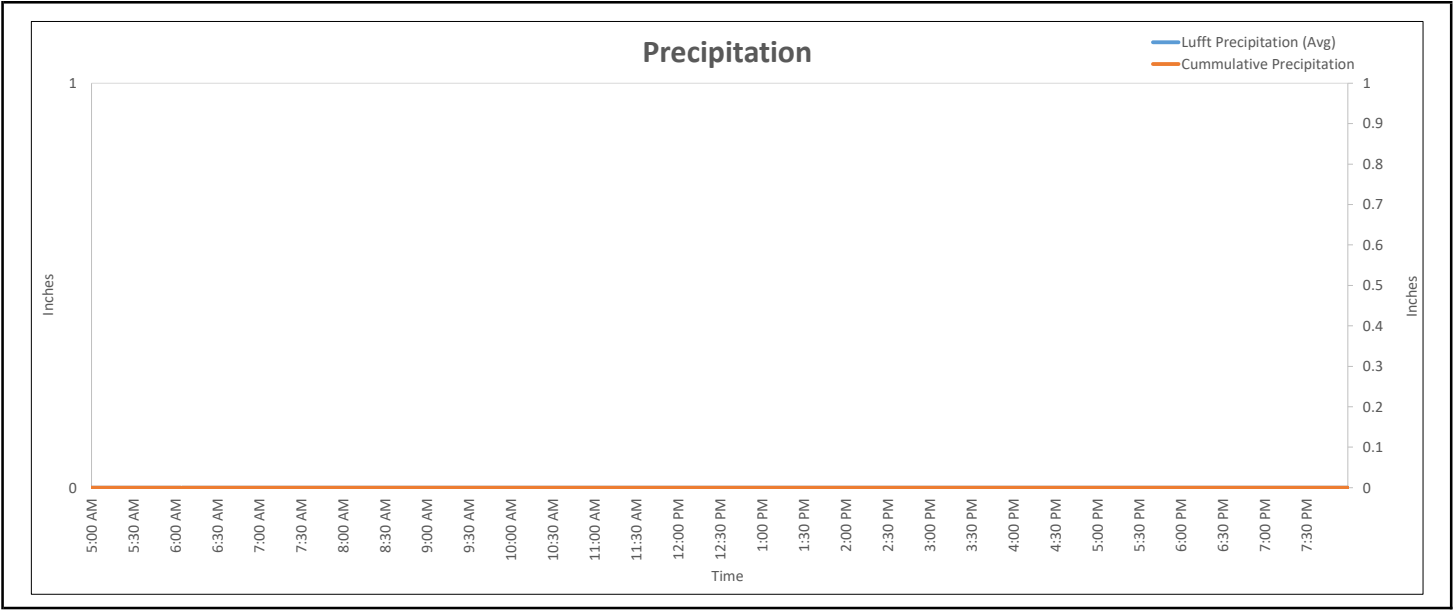
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:49 AM	3:56 PM	18.22	43.00	15.52	33.00



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Tuesday, June 18, 2024

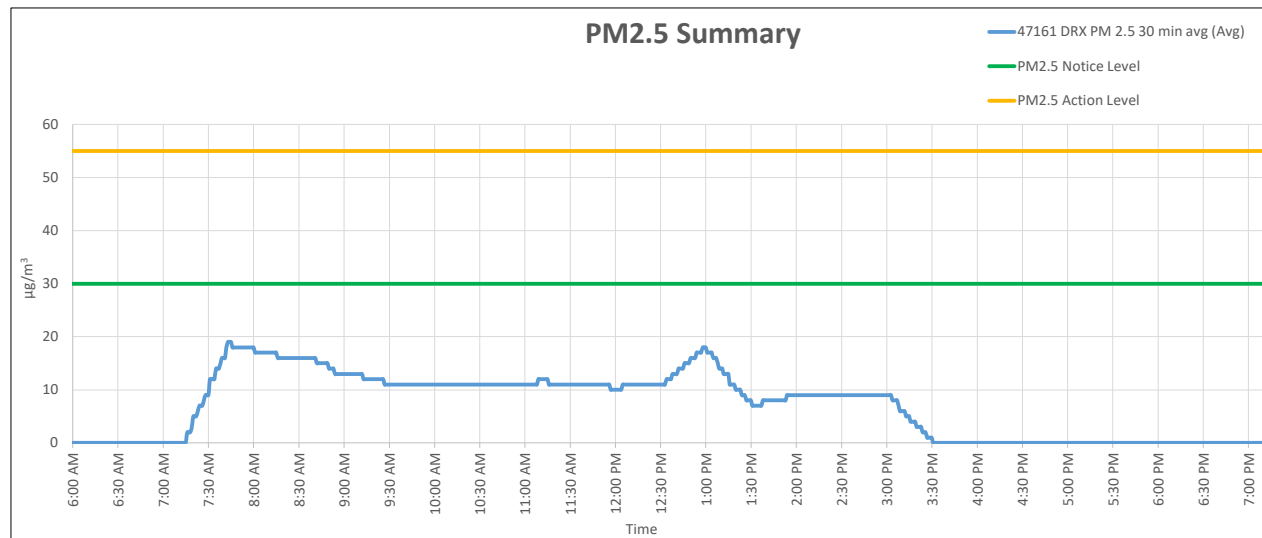
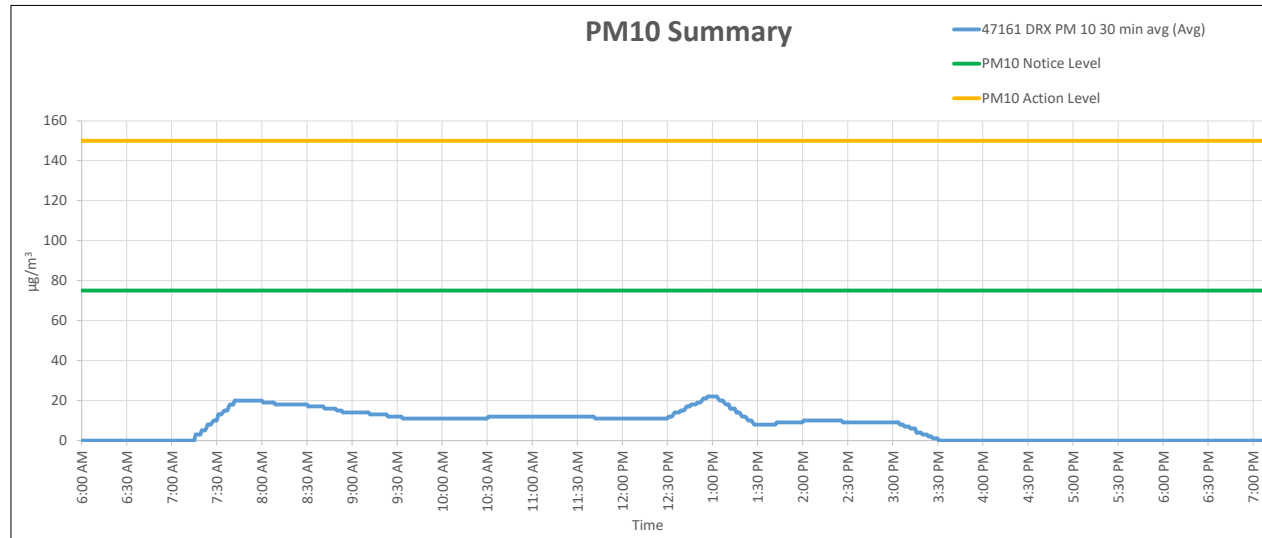


Union Pacific Railroad
Houston Wood Preserving Works Site
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Weather Daily Summary
Tuesday, June 18, 2024



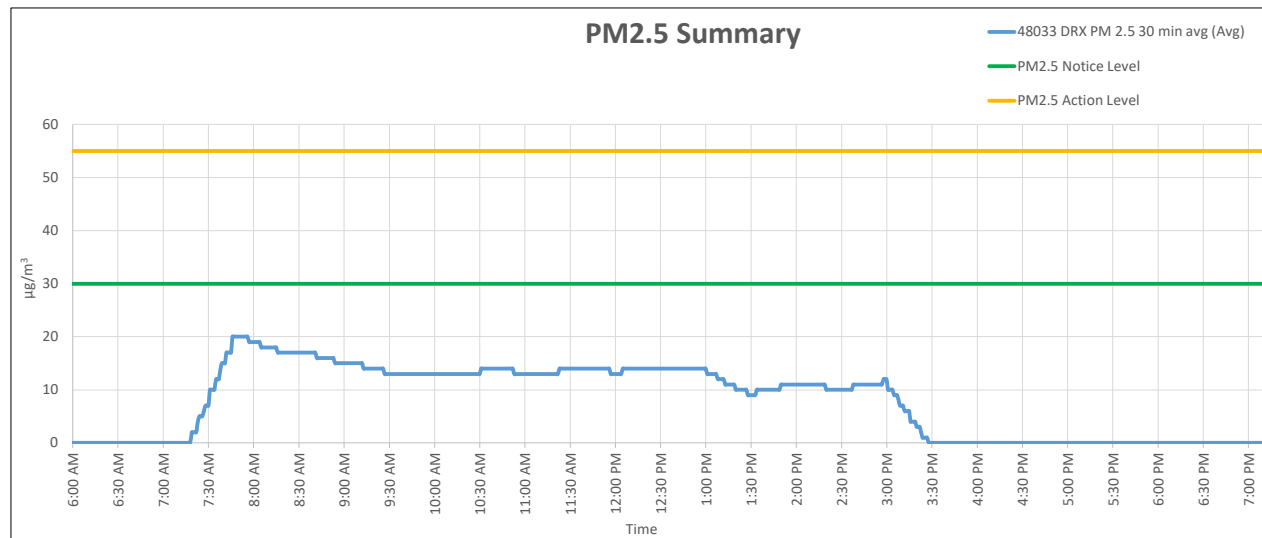
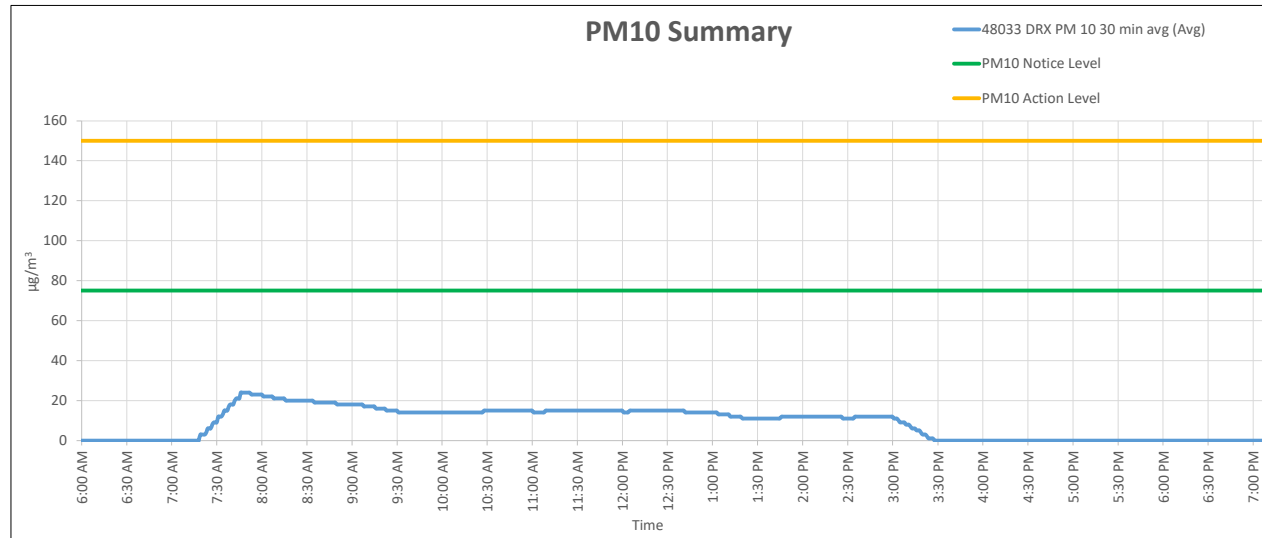
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Tuesday, June 18, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	7:16 AM	3:26 PM	12.23	22.00	11.30	19.00



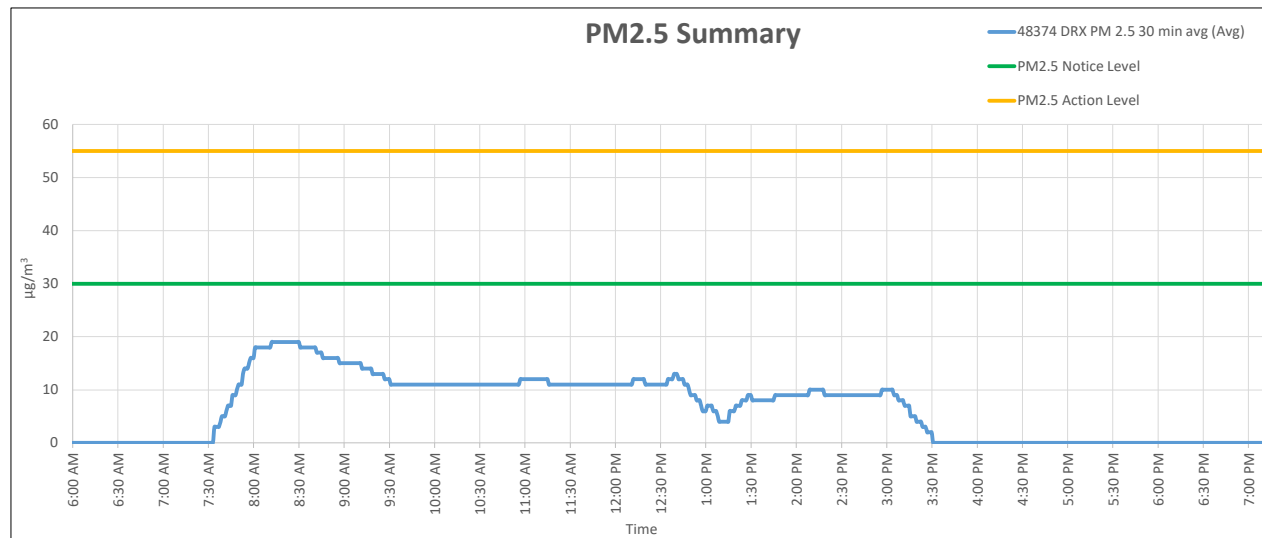
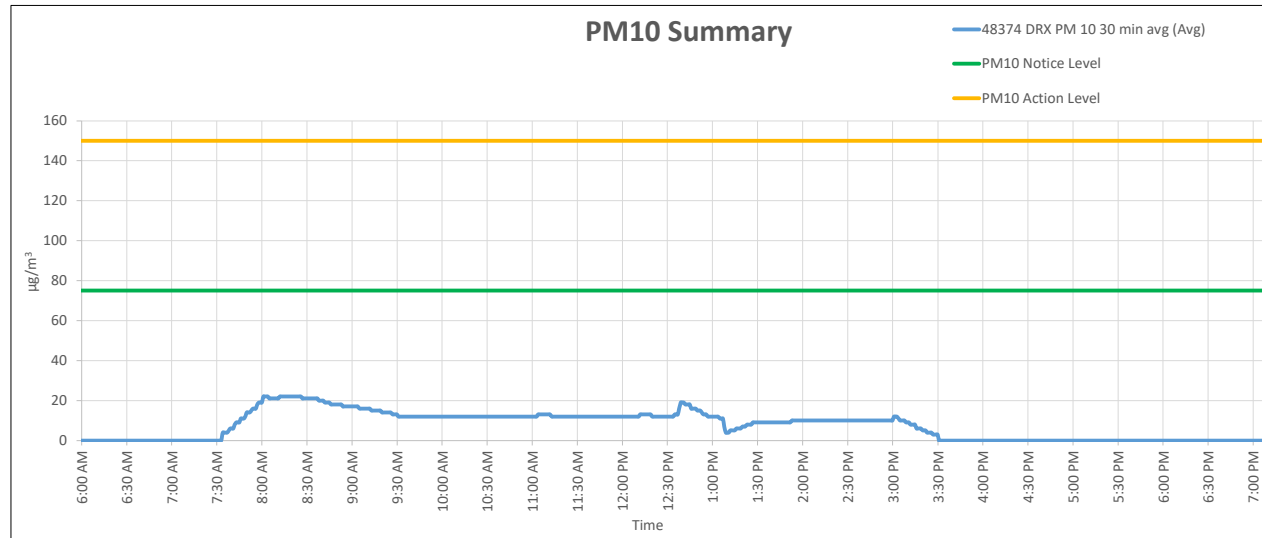
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Tuesday, June 18, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	7:19 AM	3:23 PM	14.30	24.00	12.83	20.00



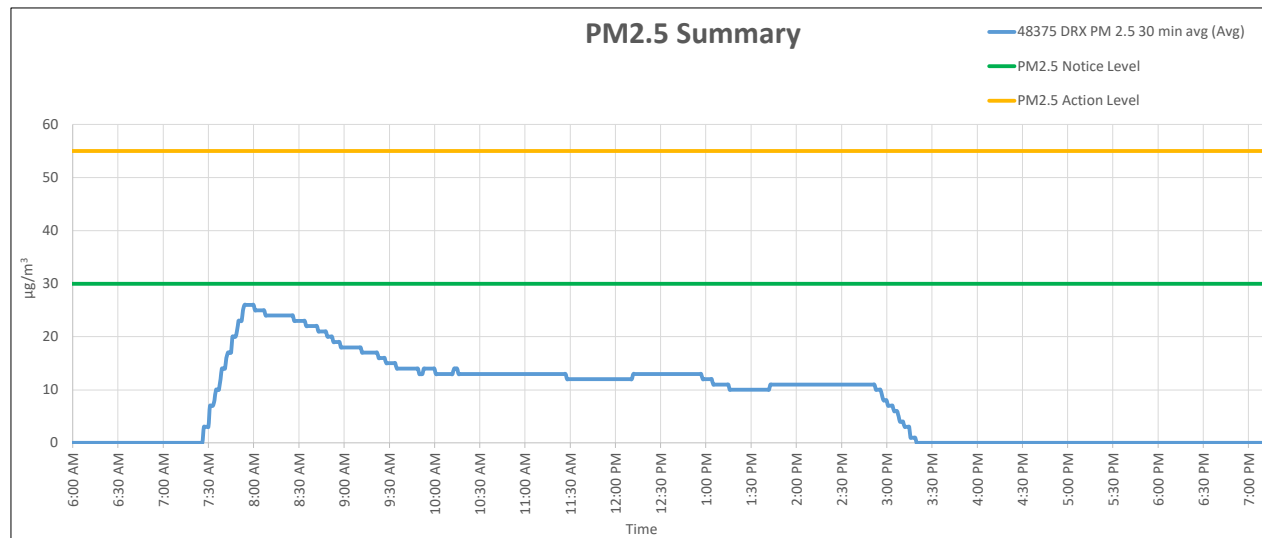
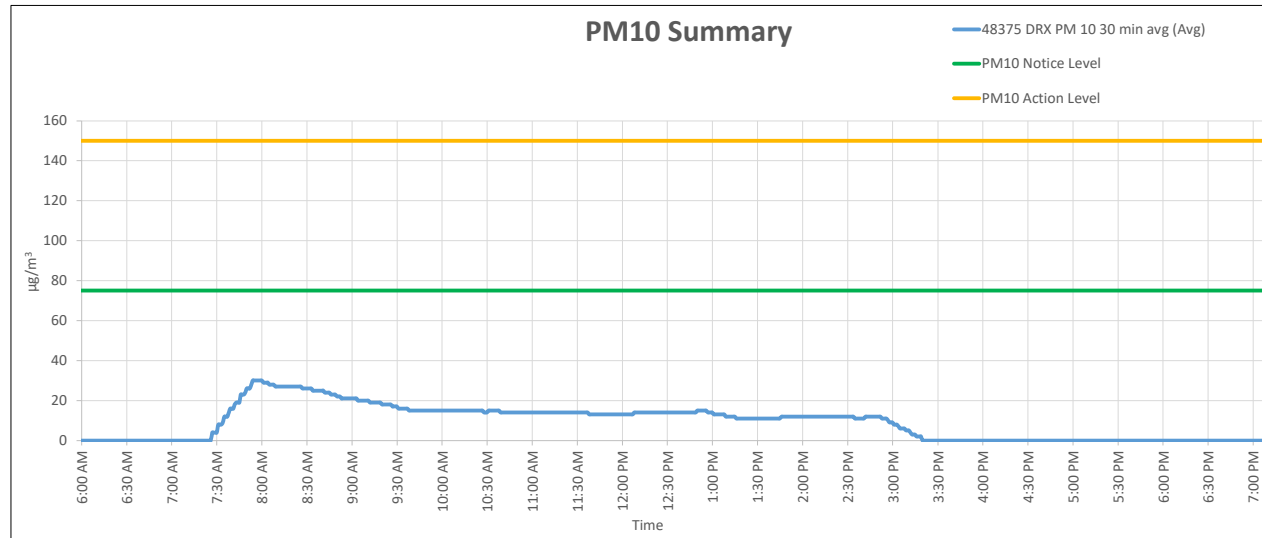
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Tuesday, June 18, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	7:34 AM	3:30 PM	12.39	22.00	10.93	19.00



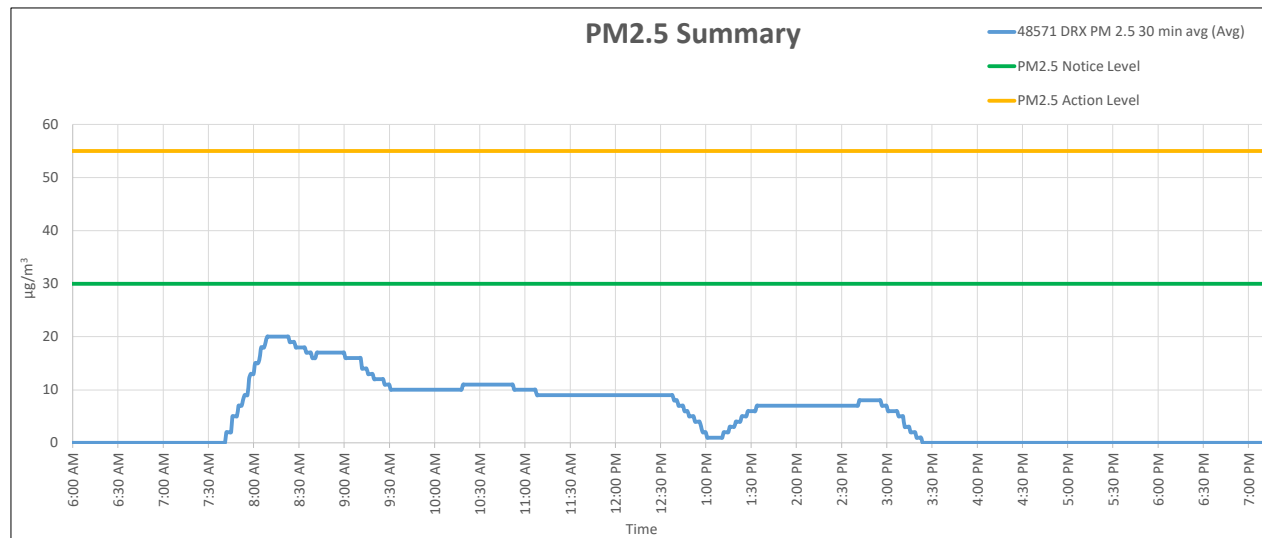
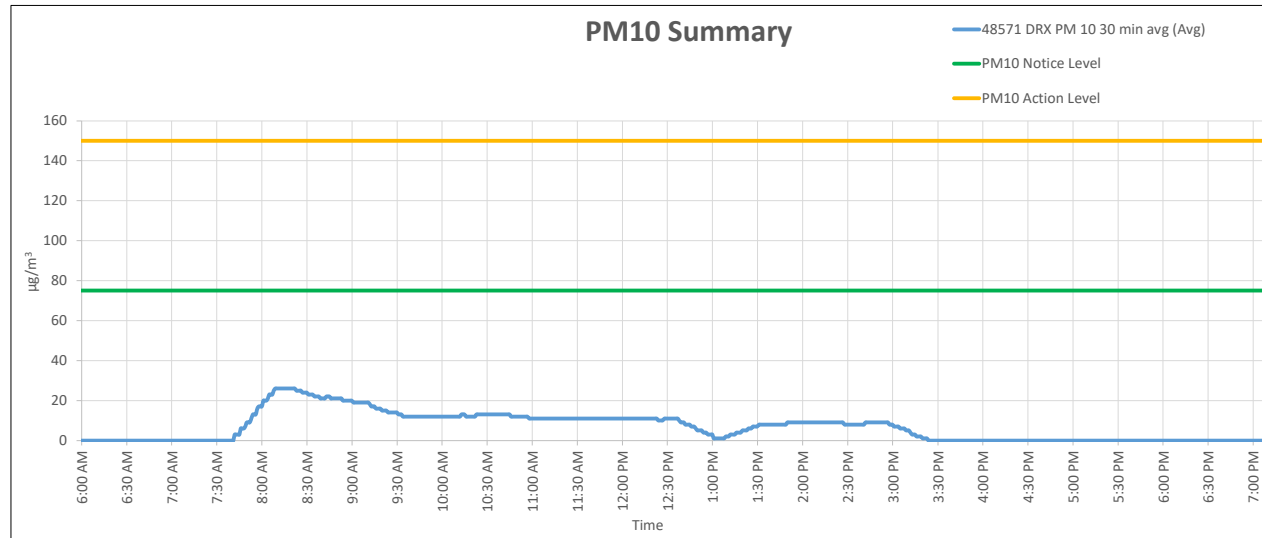
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Tuesday, June 18, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	7:27 AM	3:19 PM	15.21	30.00	13.71	26.00



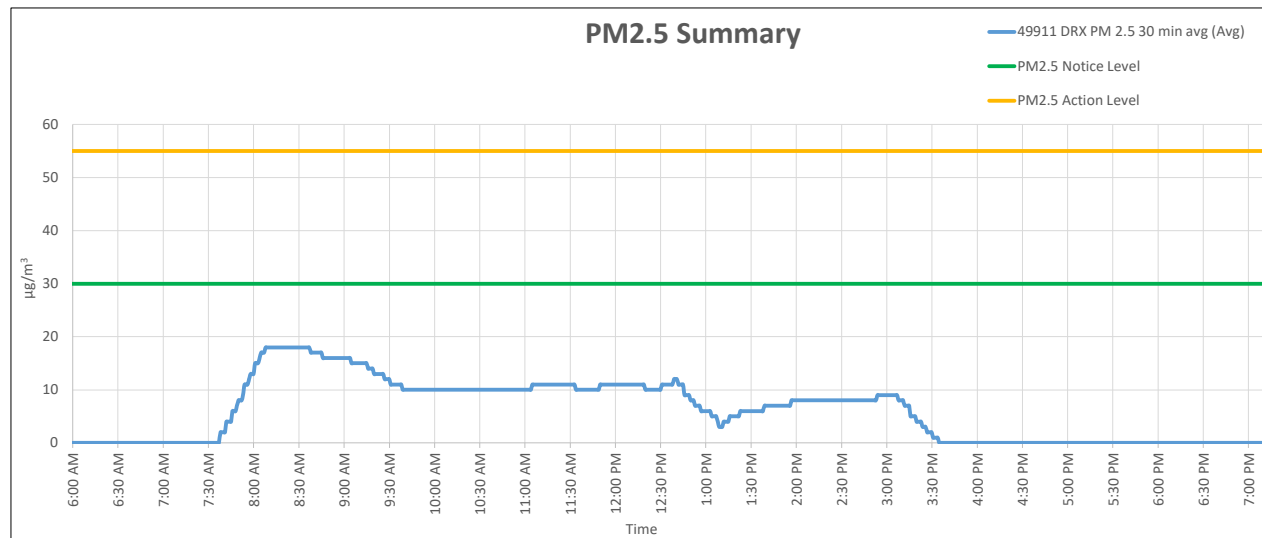
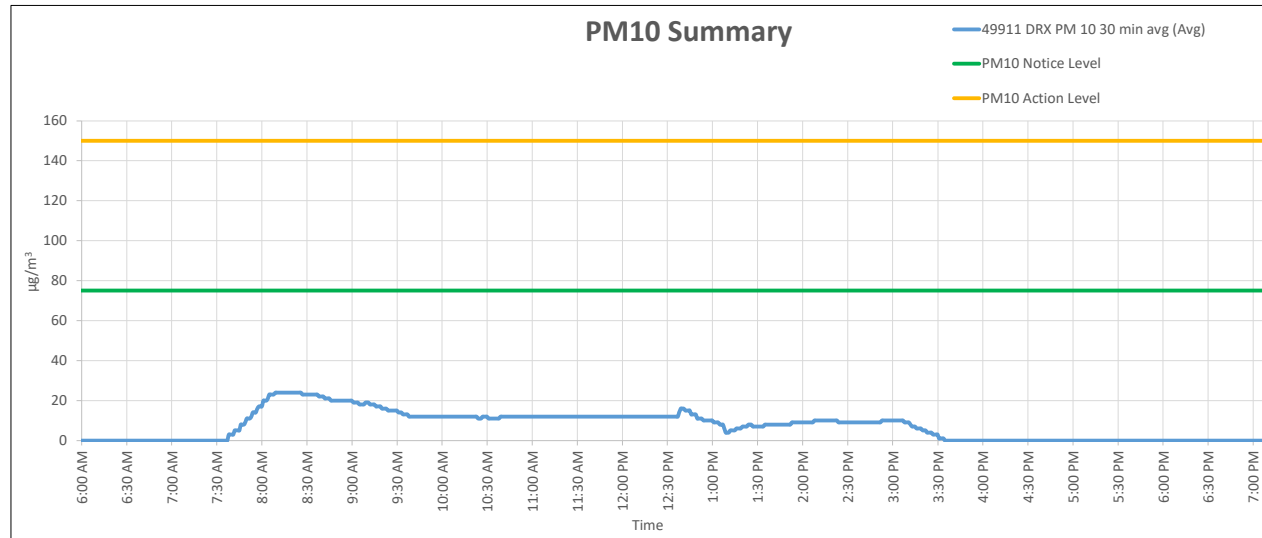
Union Pacific Railroad
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:42 AM	3:19 PM	11.55	26.00	9.47	20.00



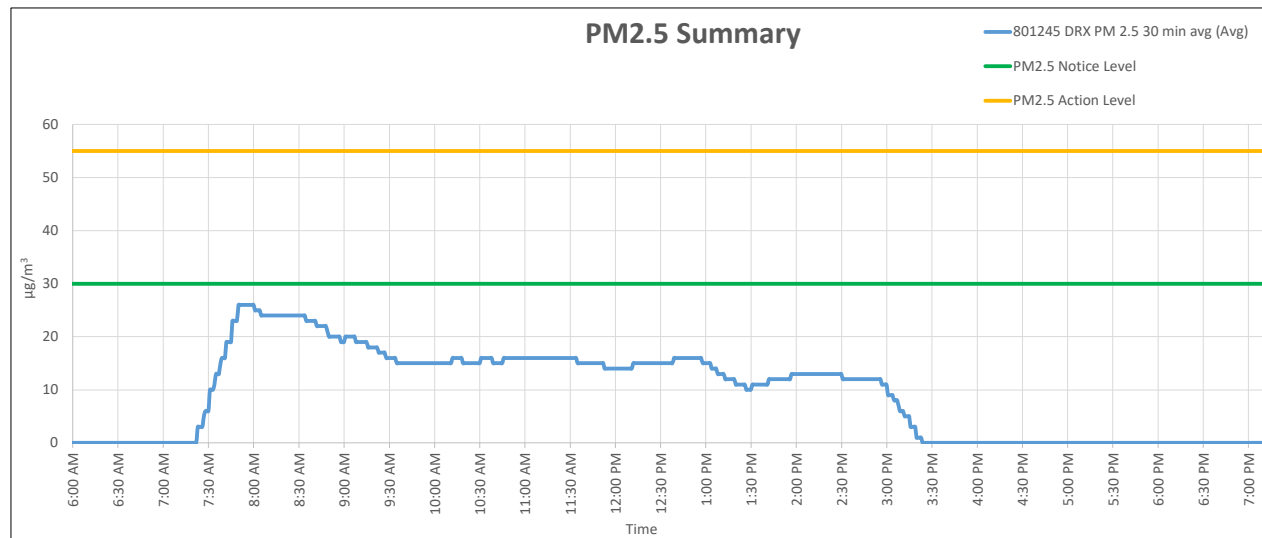
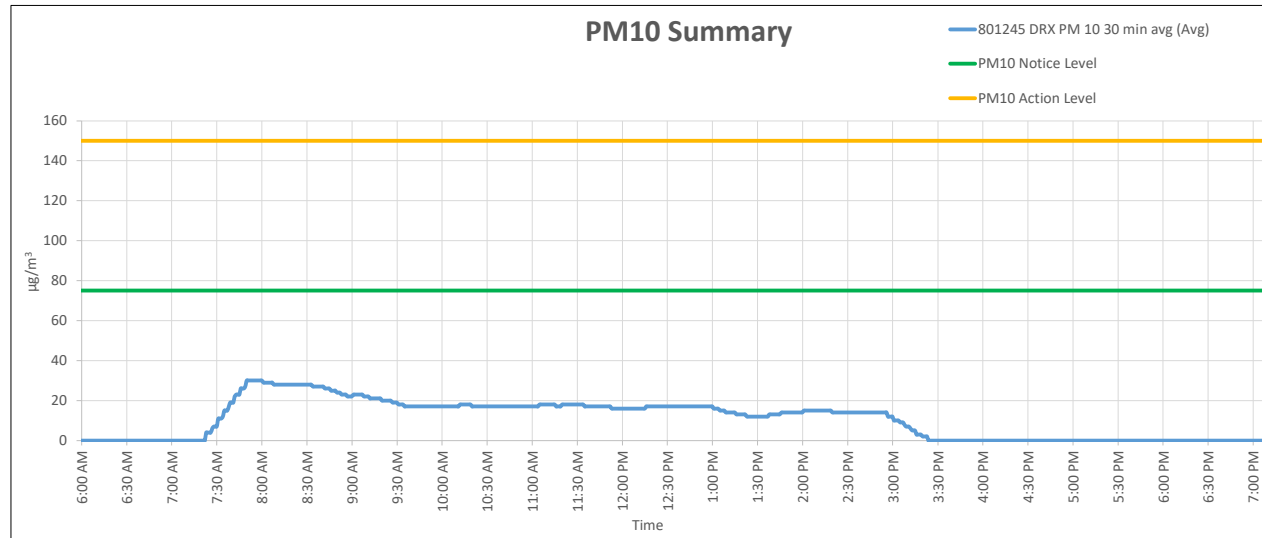
Union Pacific Railroad
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	7:38 AM	3:30 PM	12.18	24.00	10.04	18.00

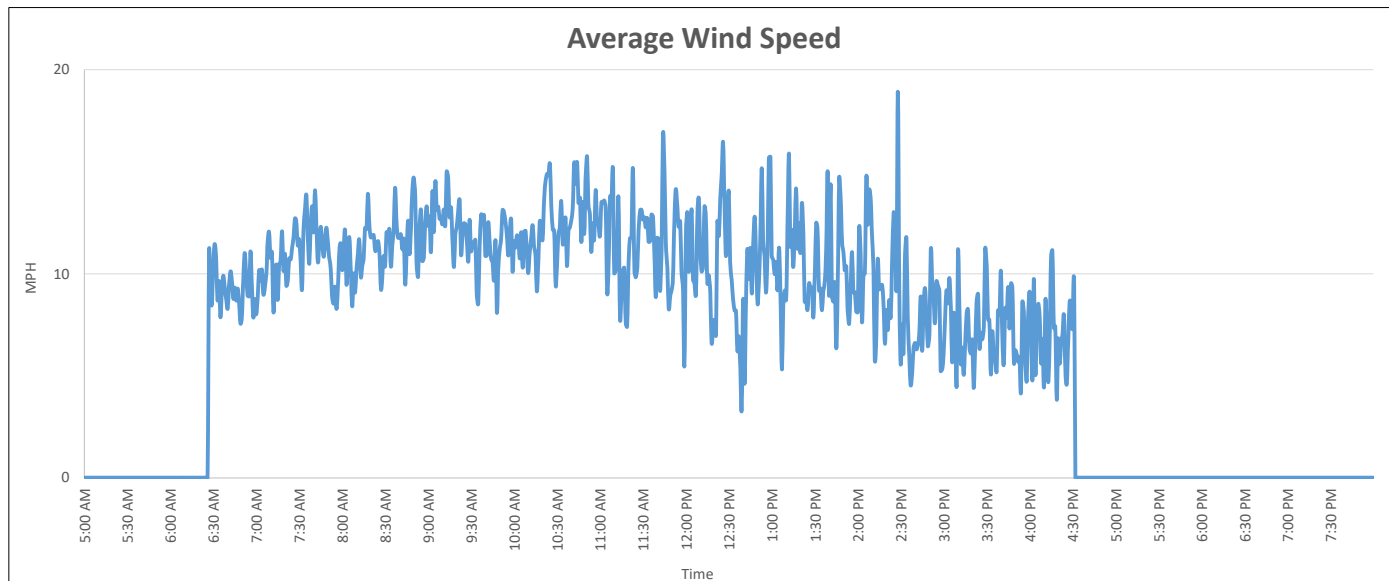
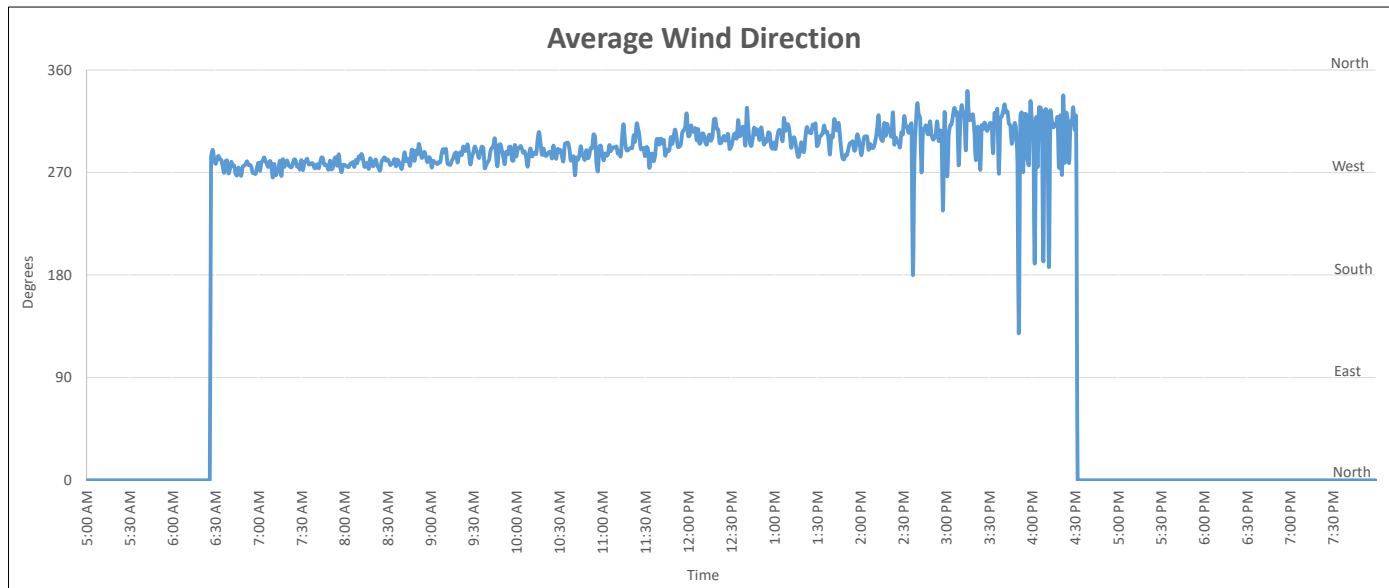


Union Pacific Railroad
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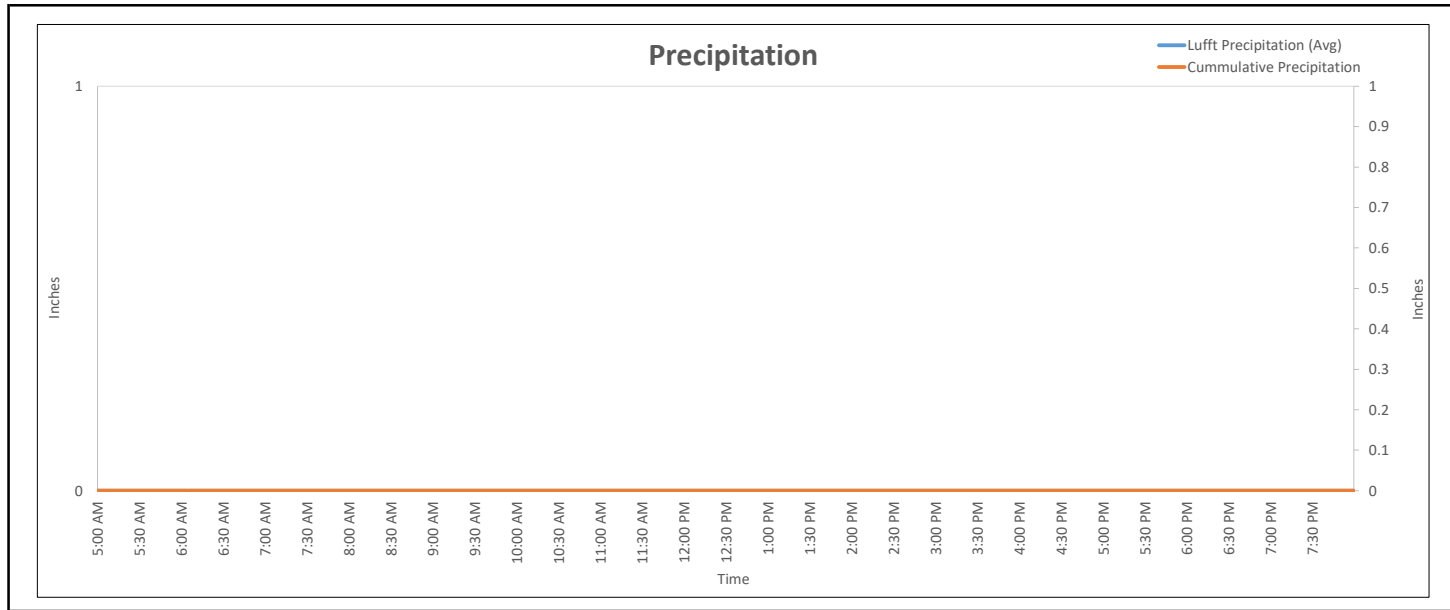
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	7:23 AM	3:23 PM	17.36	30.00	15.30	26.00



Union Pacific Railroad
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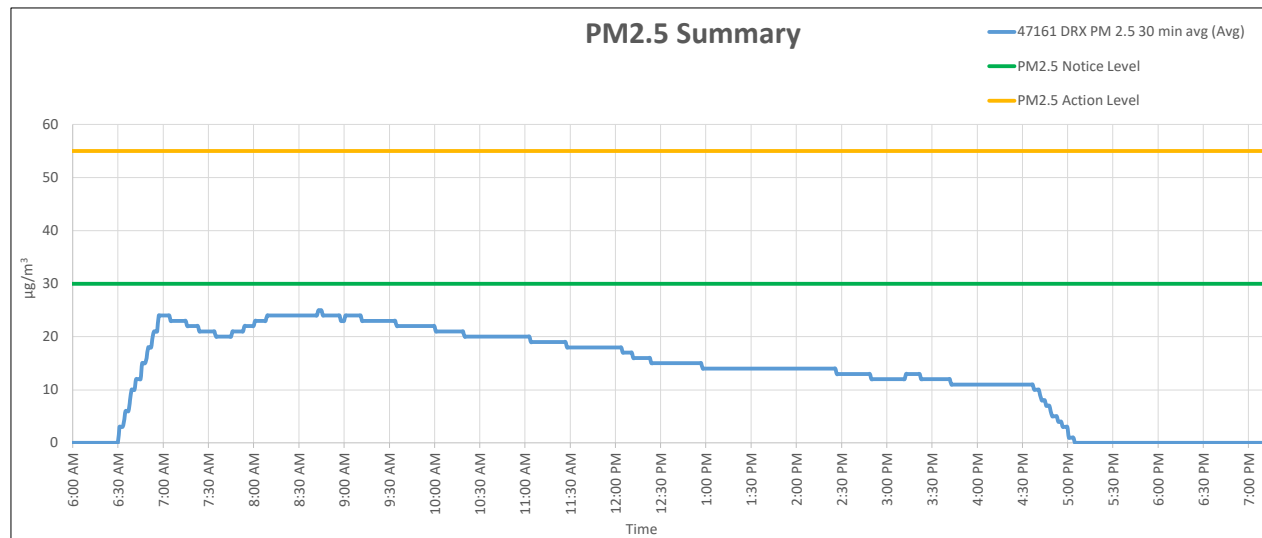
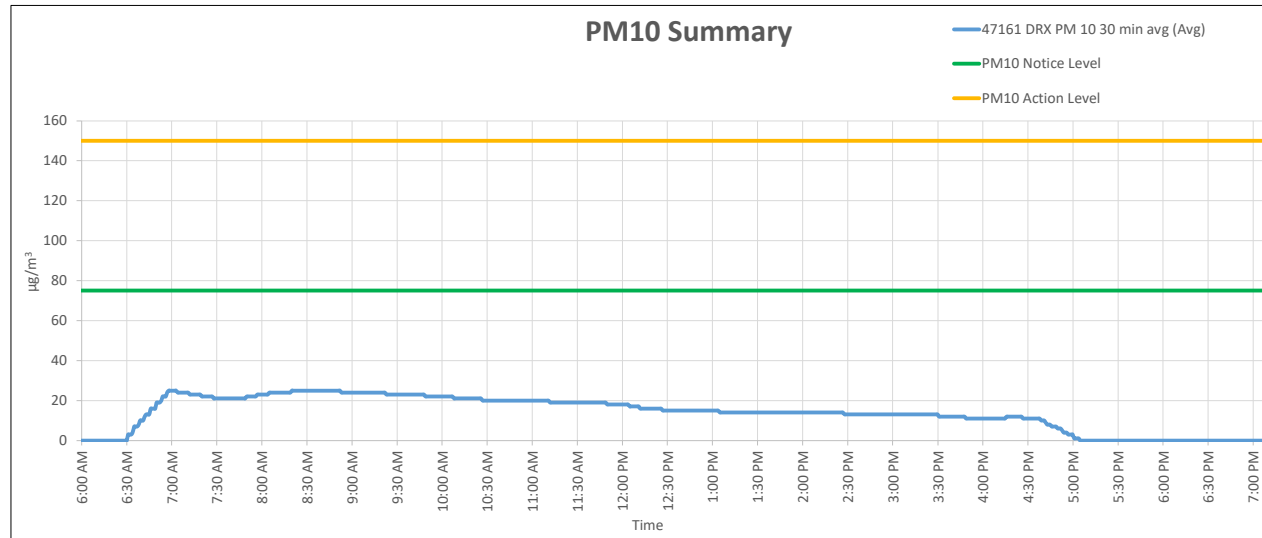


Union Pacific Railroad
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Thursday, June 20, 2024



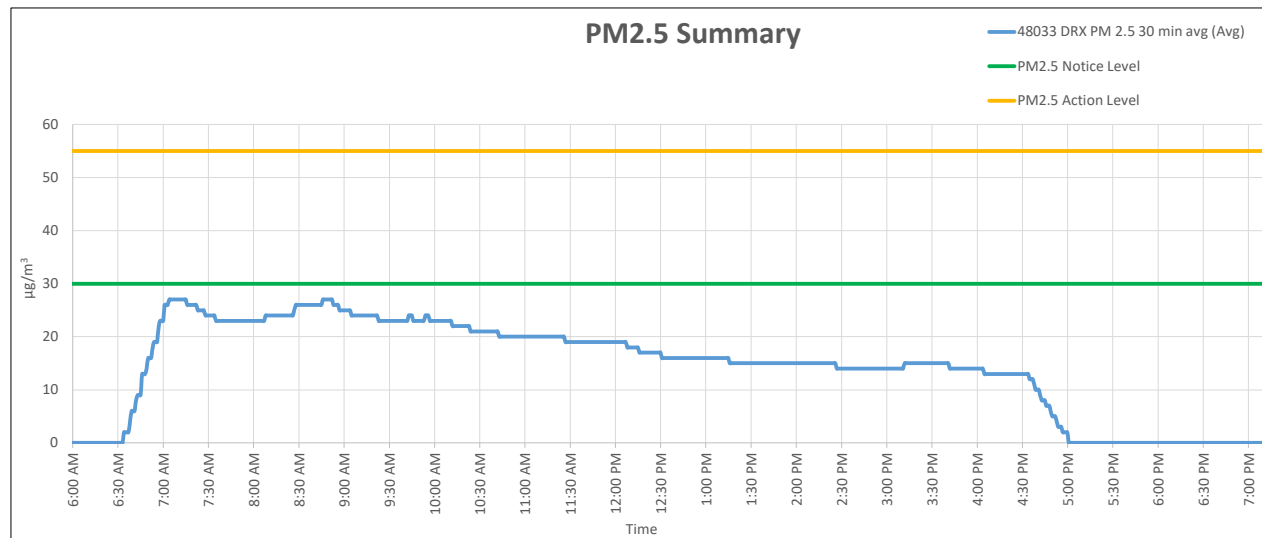
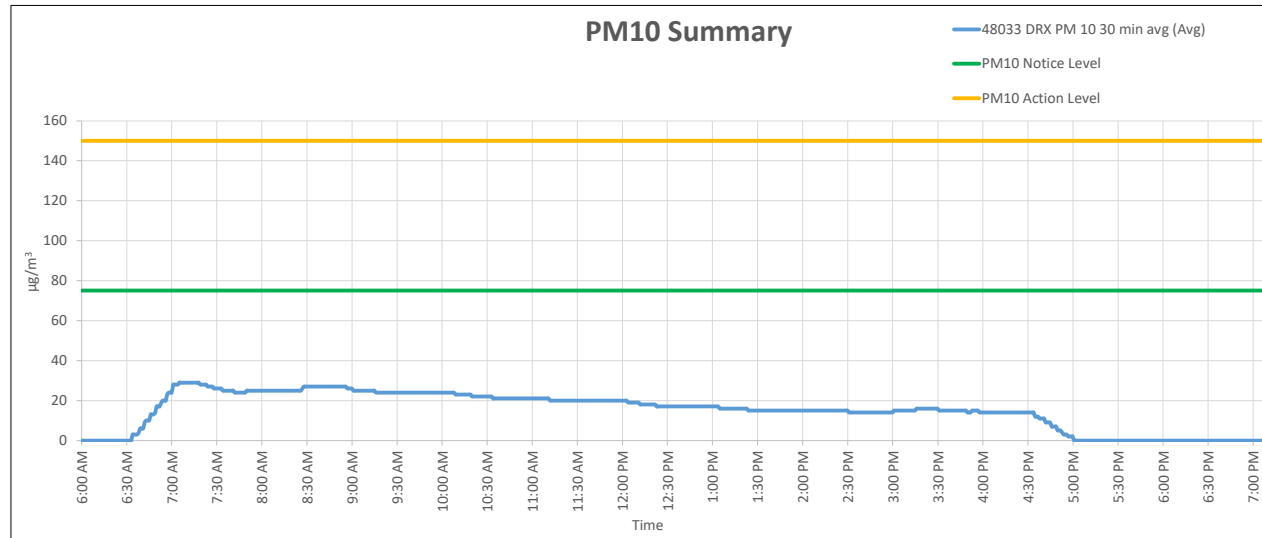
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 20, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:31 AM	5:00 PM	17.19	25.00	16.83	25.00



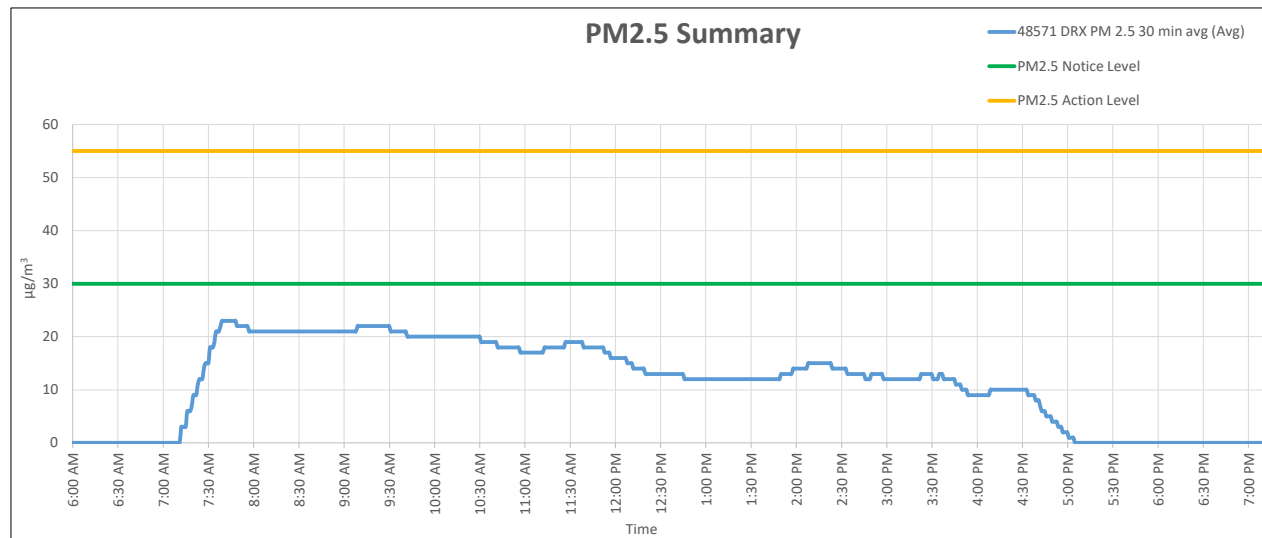
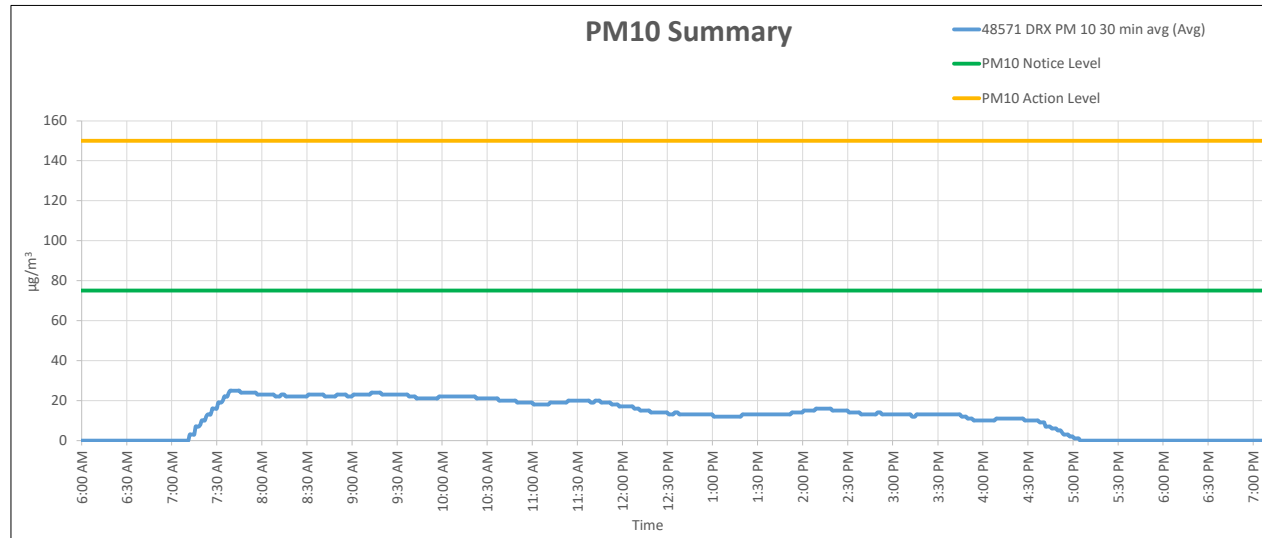
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 20, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:34 AM	5:00 PM	18.99	29.00	18.26	27.00



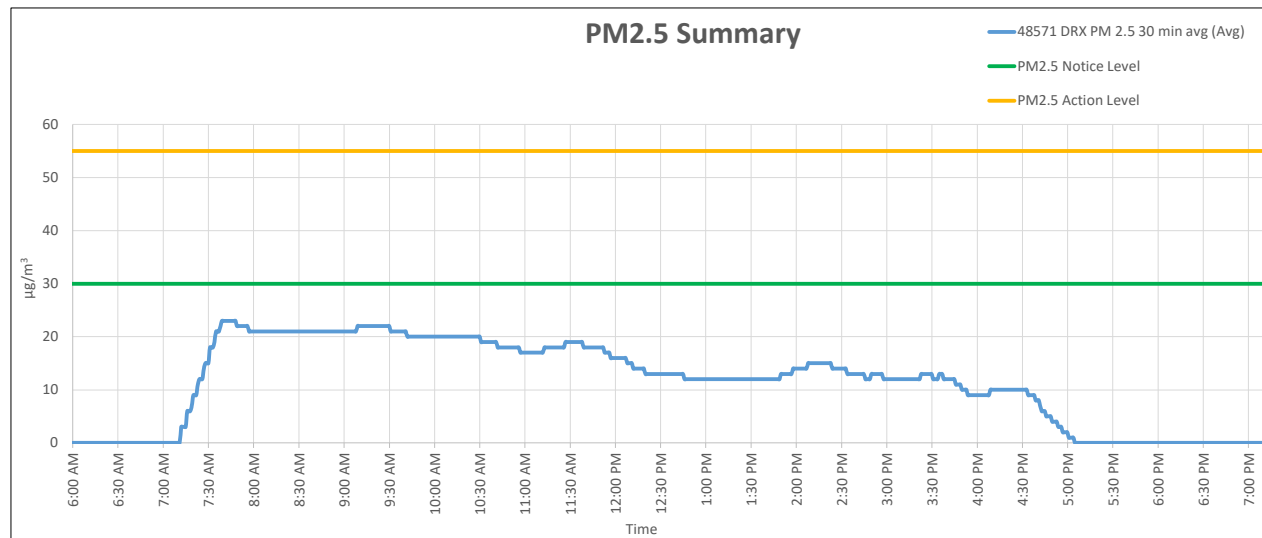
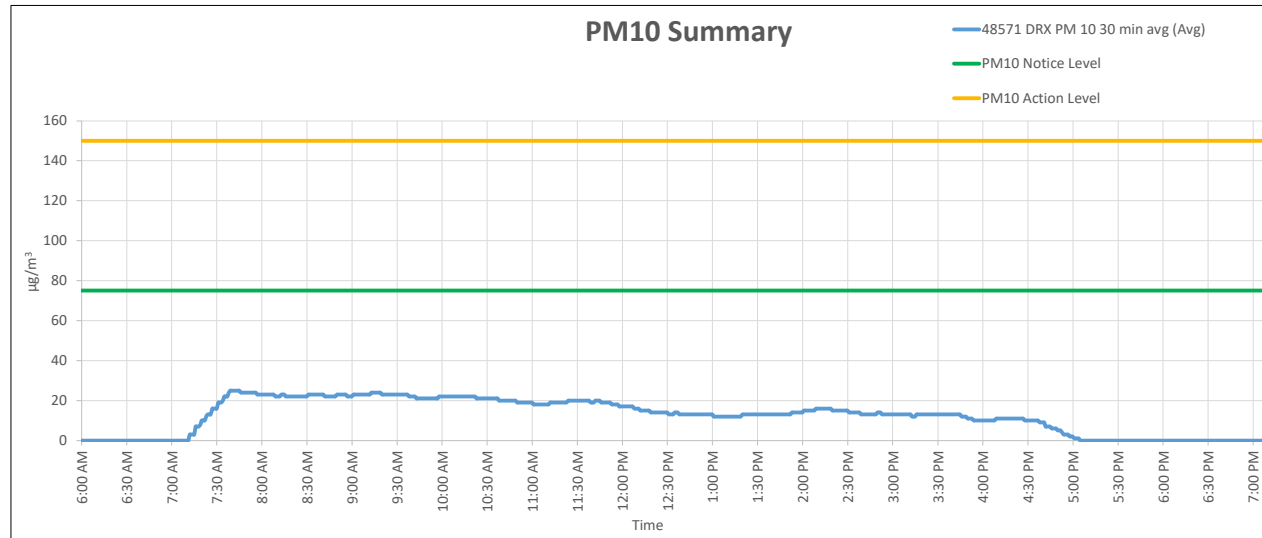
Union Pacific Railroad
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Houston Texas
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Thursday, June 20, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:12 AM	5:00 PM	16.37	25.00	15.32	23.00



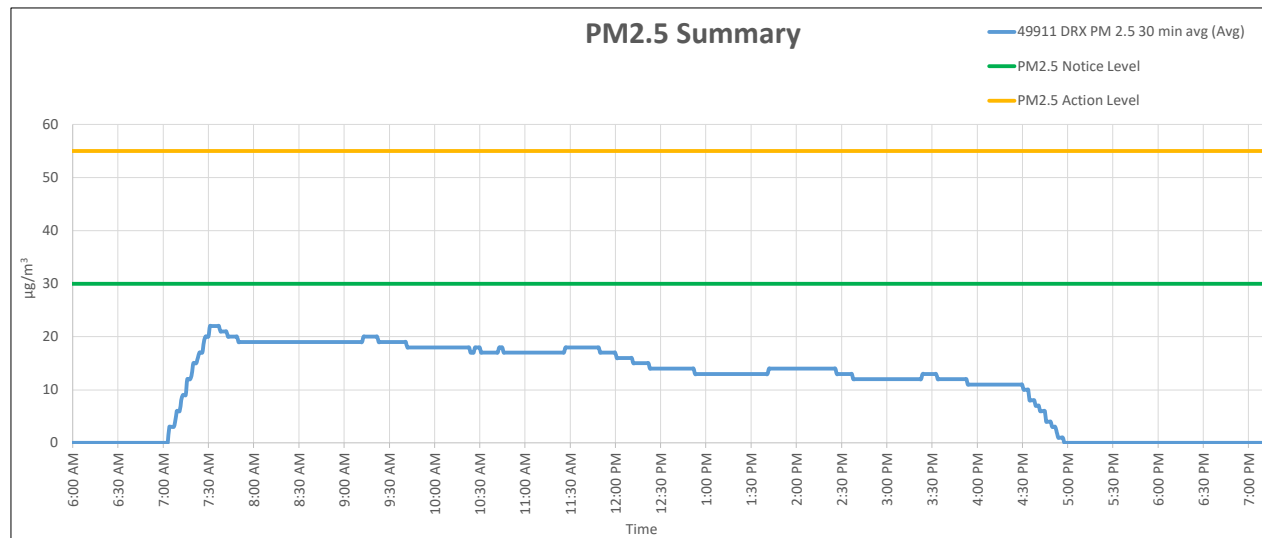
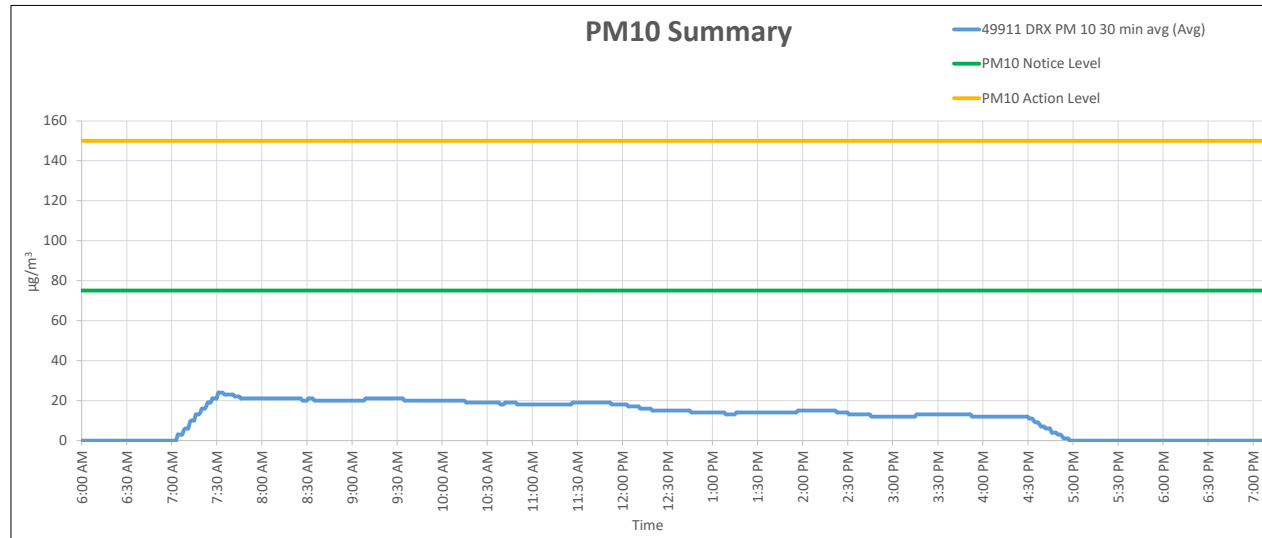
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 20, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:12 AM	5:00 PM	16.37	25.00	15.32	23.00



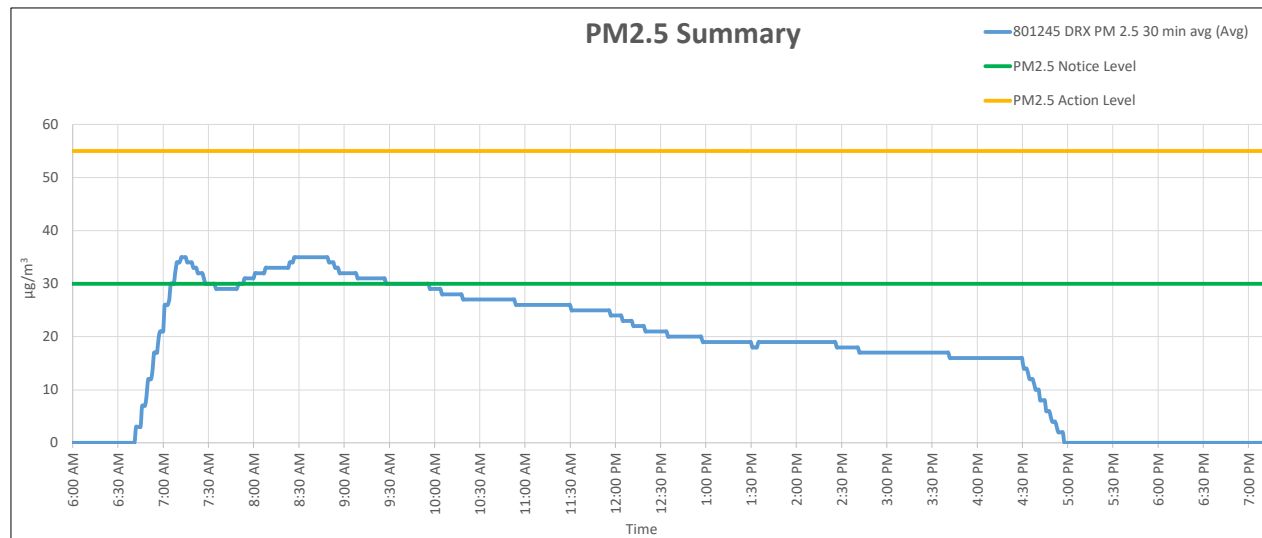
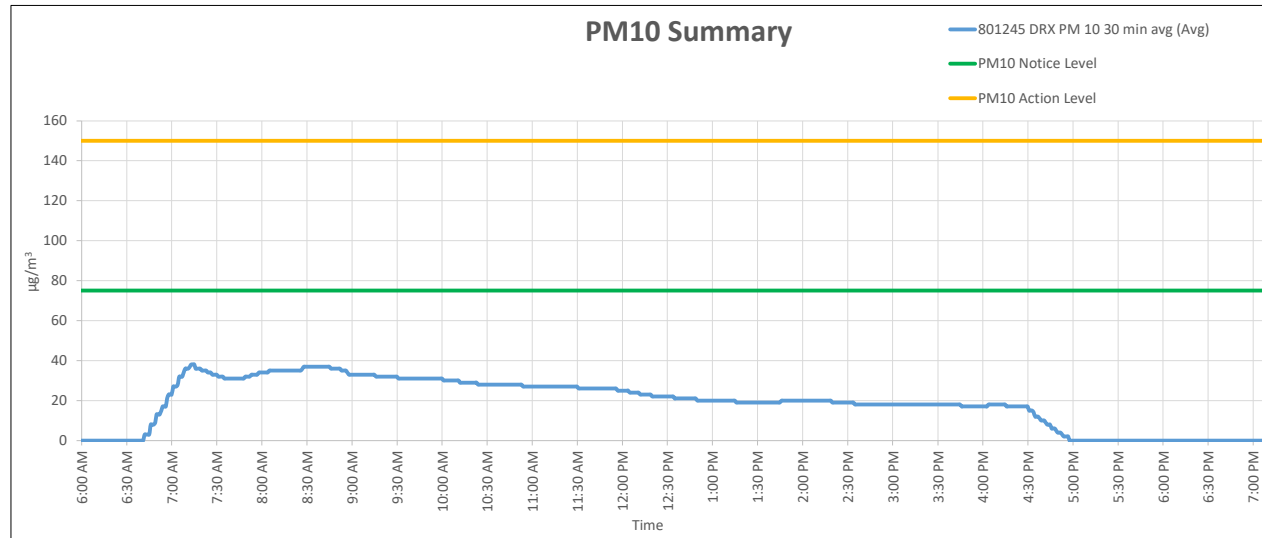
Union Pacific Railroad
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Houston Texas
Air Monitoring Values
Thursday, June 20, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	7:04 AM	4:53 PM	16.06	24.00	15.03	22.00

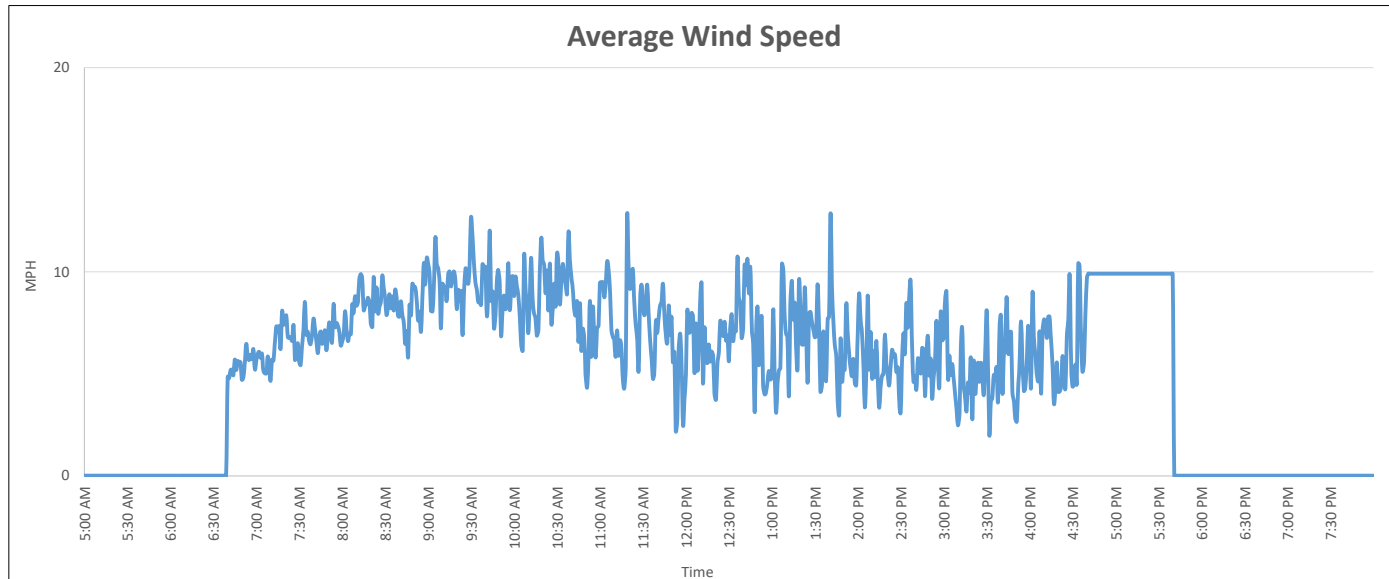
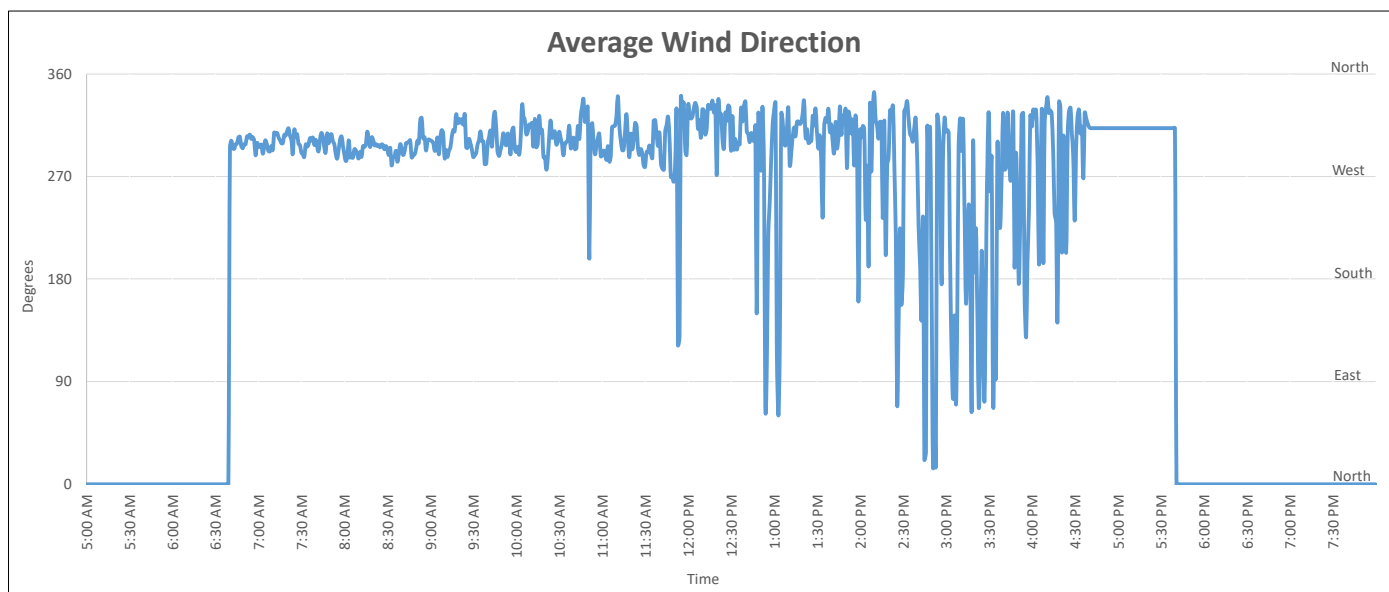


Union Pacific Railroad
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Thursday, June 20, 2024

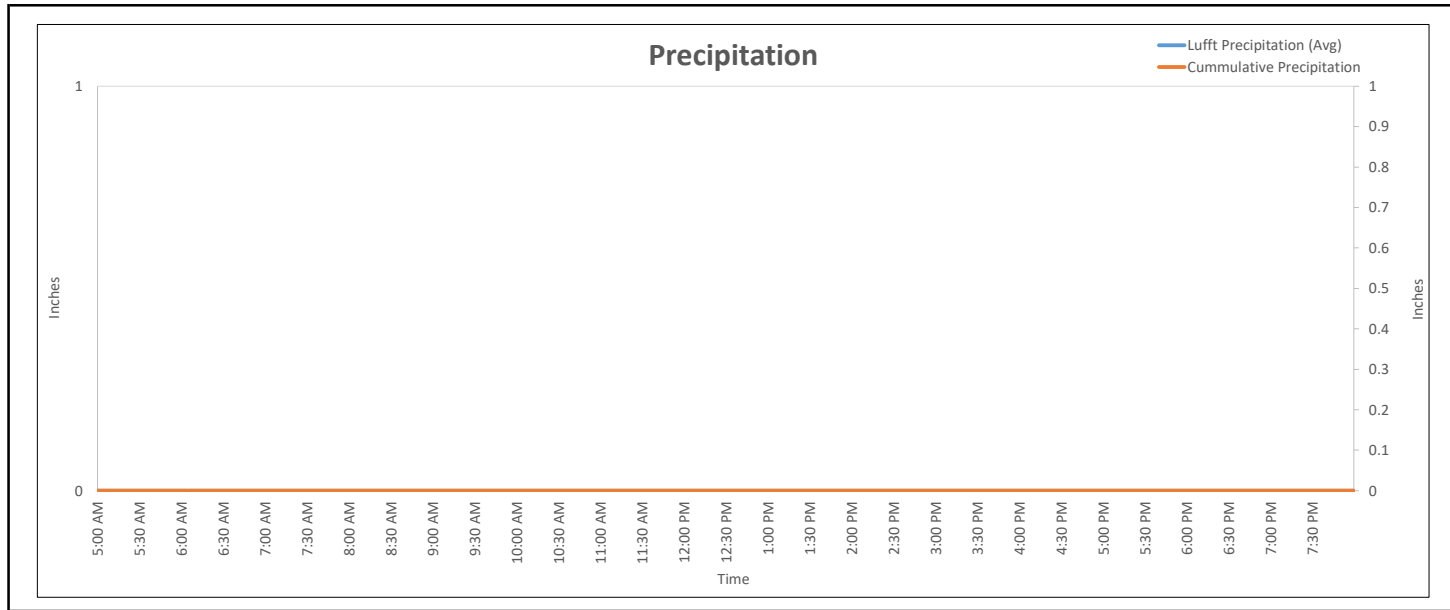
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:42 AM	4:57 PM	24.30	38.00	23.16	35.00



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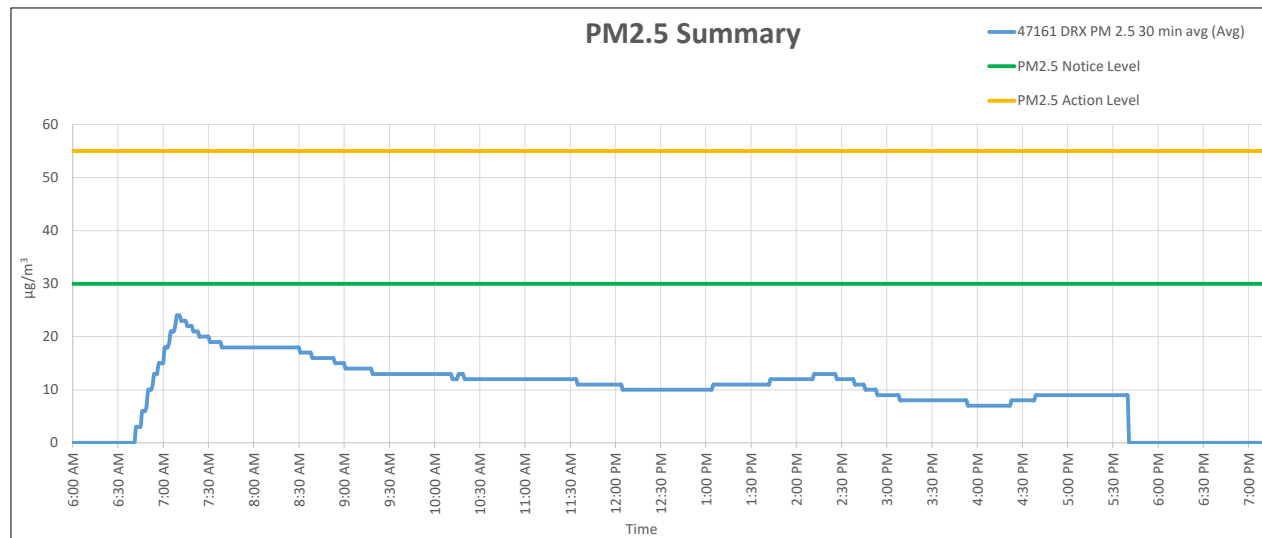
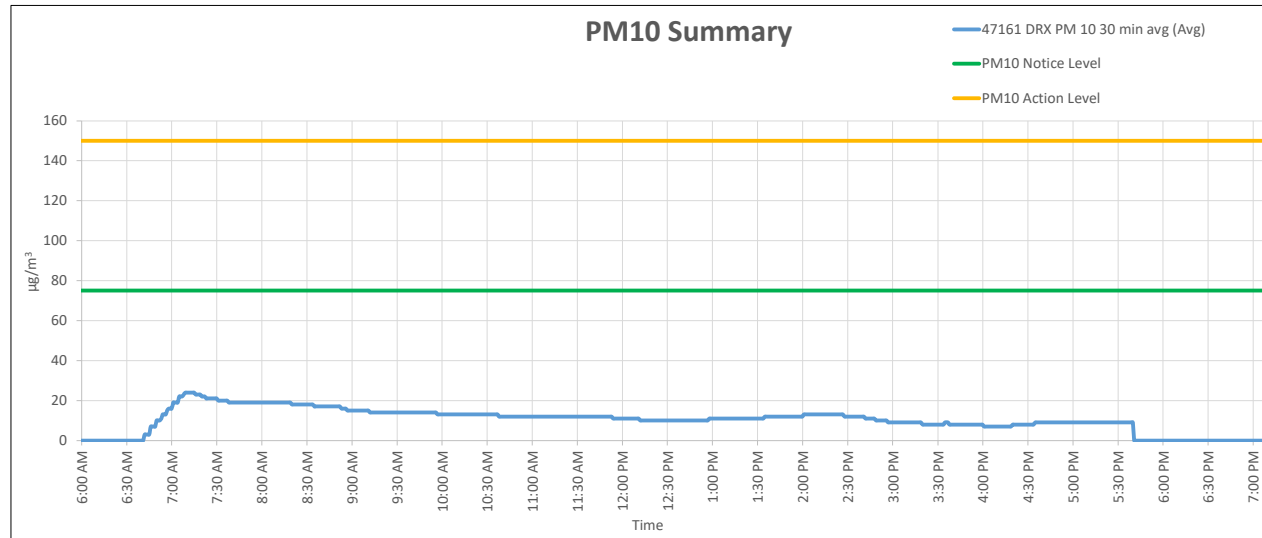


Union Pacific Railroad
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Friday, June 21, 2024



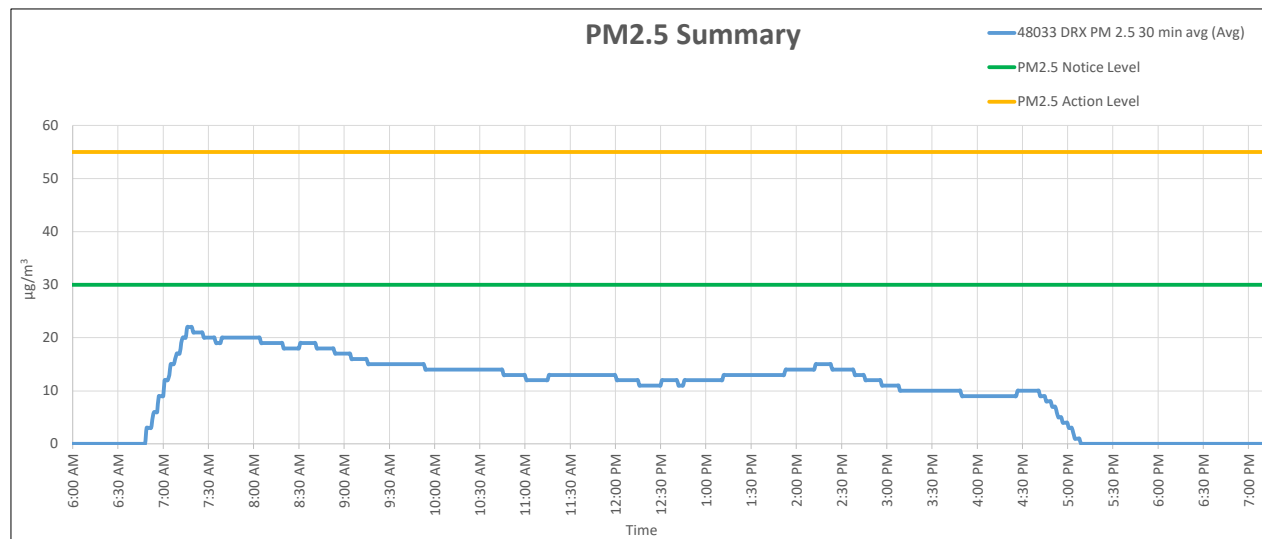
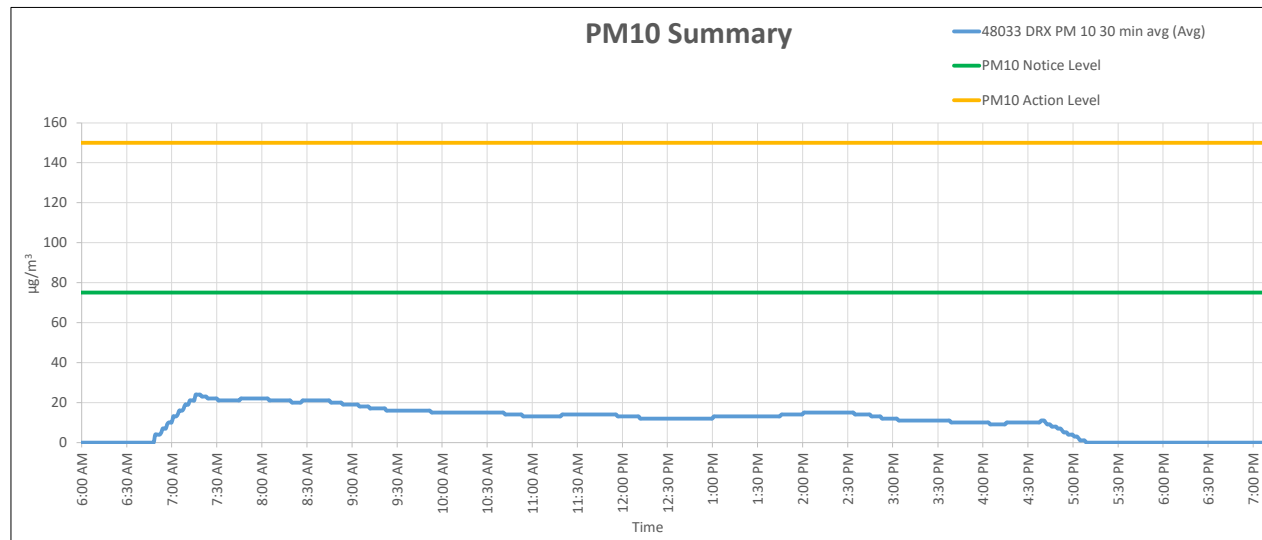
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 21, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:42 AM	5:40 PM	12.38	24.00	11.98	24.00



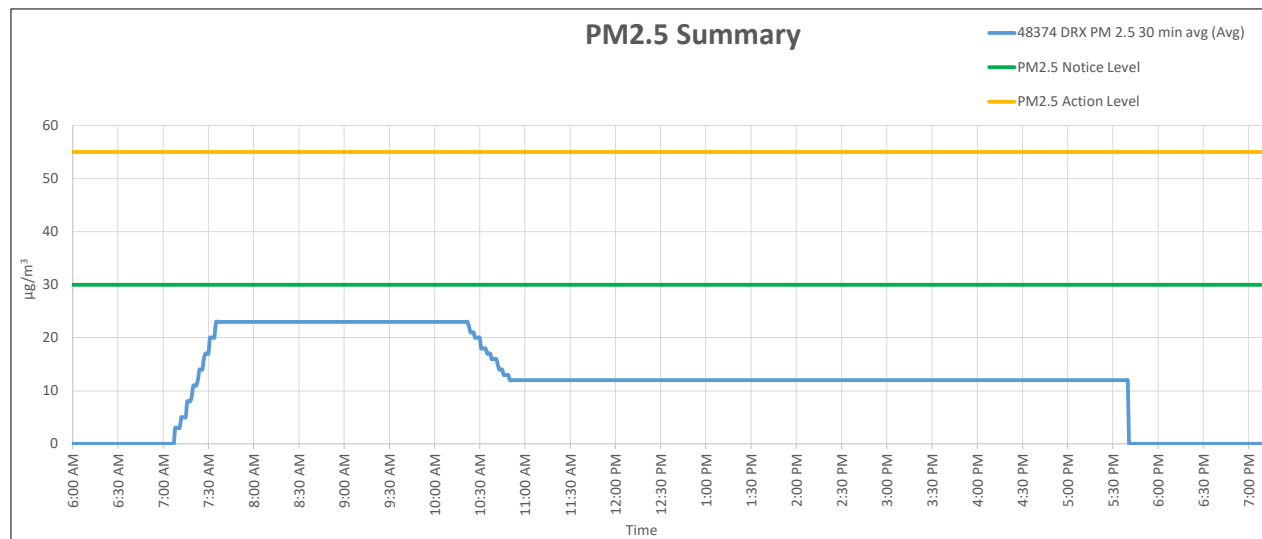
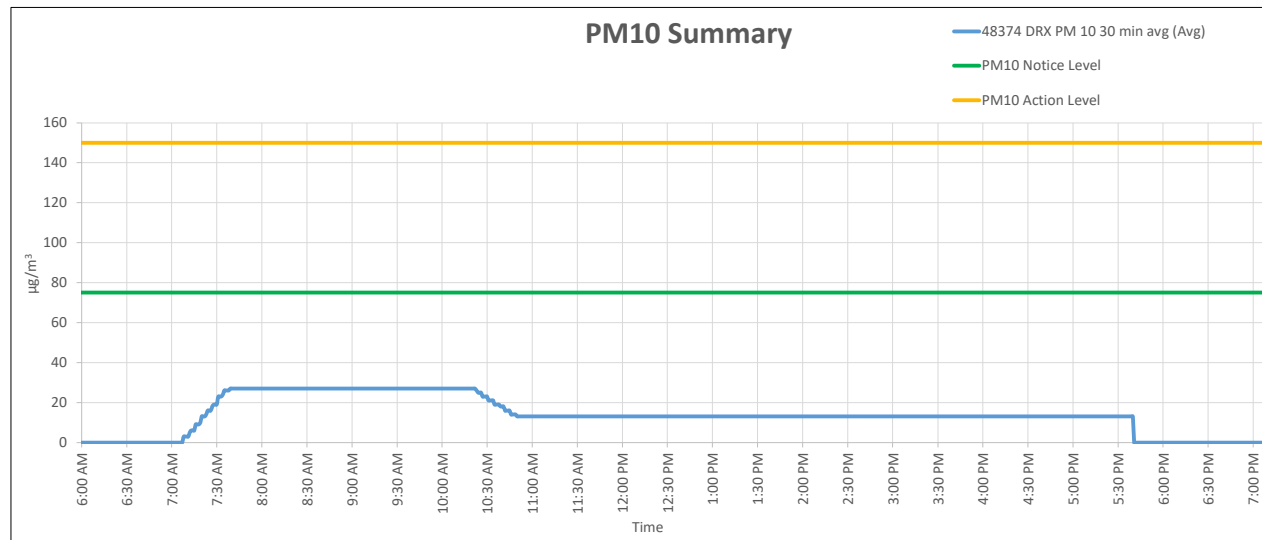
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 21, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:49 AM	5:04 PM	14.20	24.00	13.29	22.00



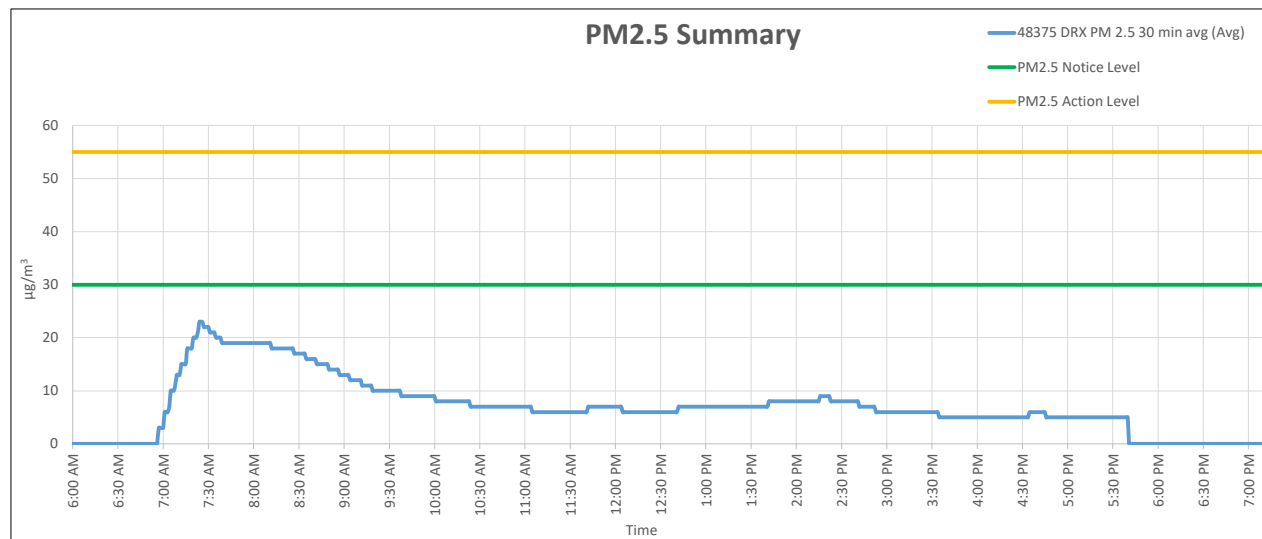
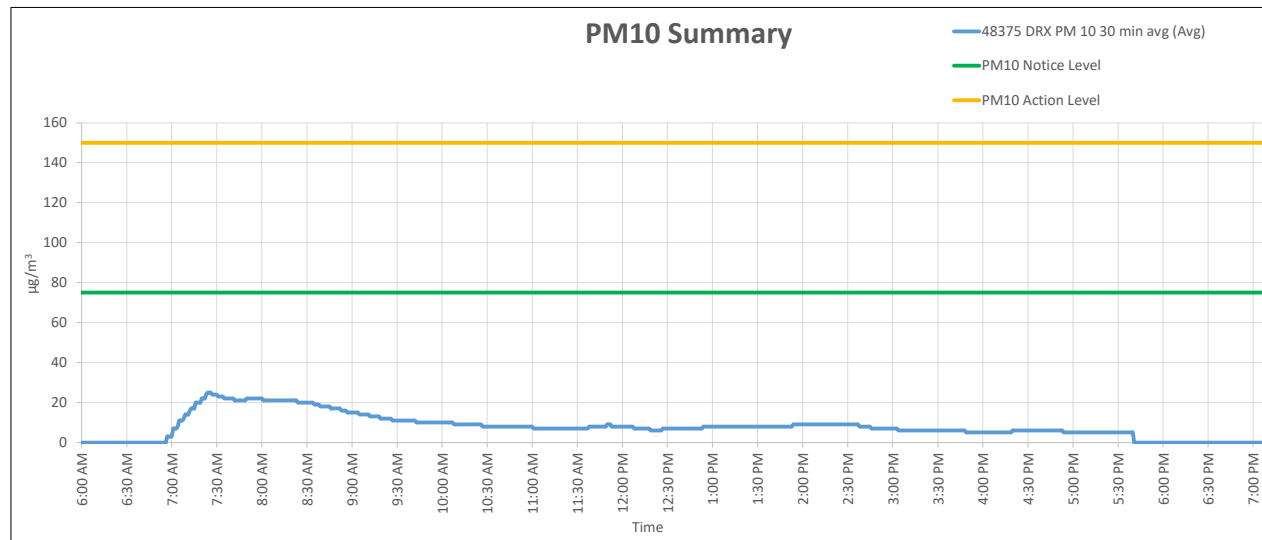
Union Pacific Railroad
Houston Wood Preserving Works Site
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Air Monitoring Values
Friday, June 21, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	7:08 AM	5:40 PM	16.97	27.00	15.10	23.00



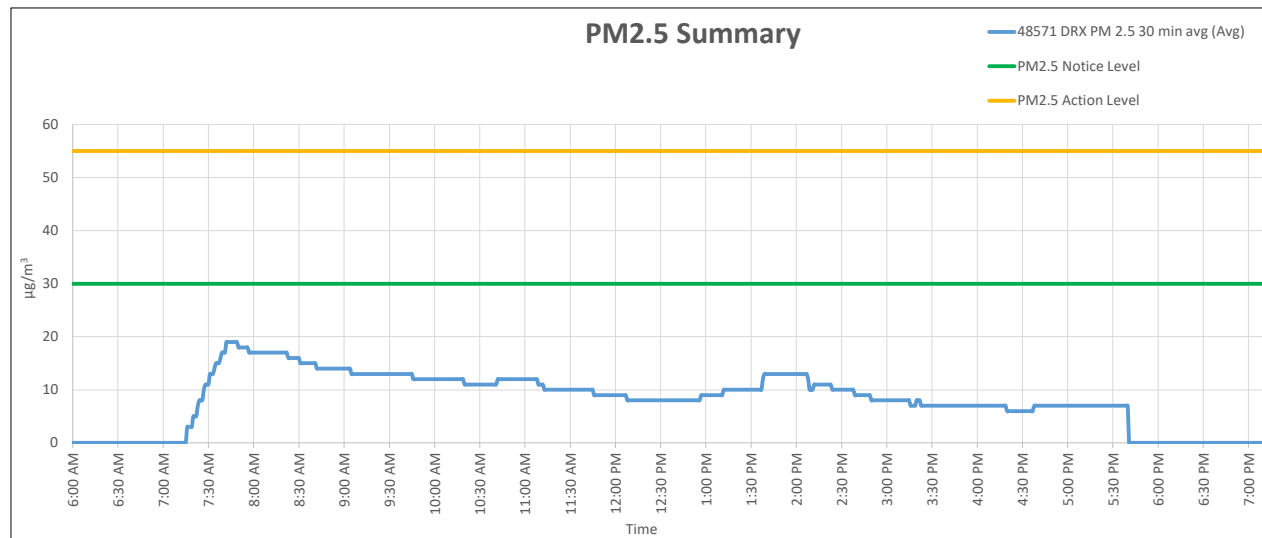
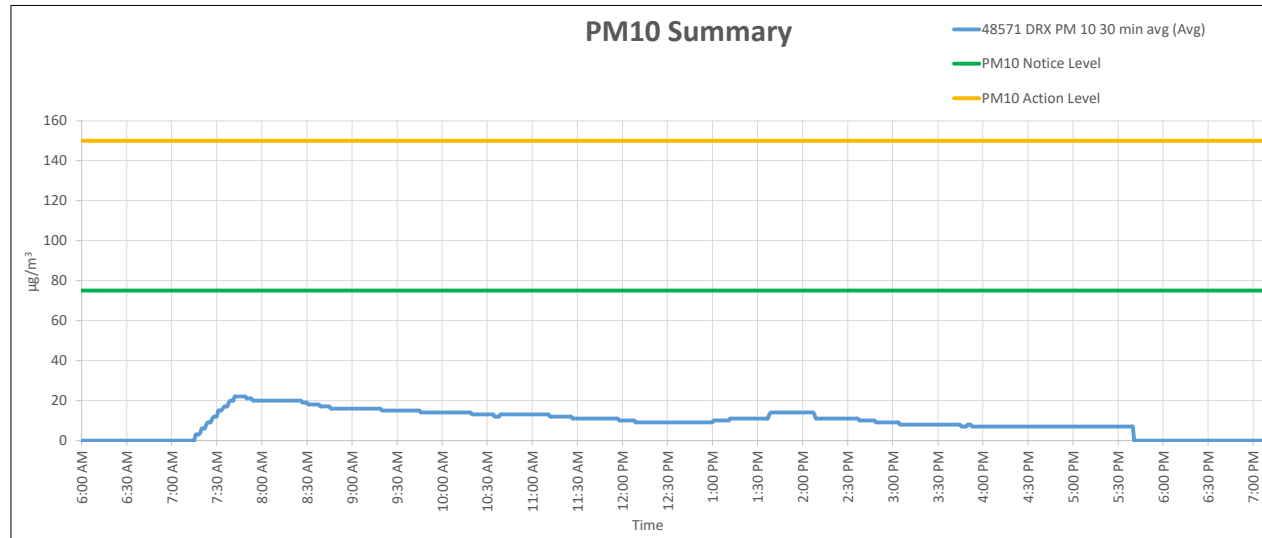
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 21, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:57 AM	5:40 PM	9.78	25.00	8.74	23.00



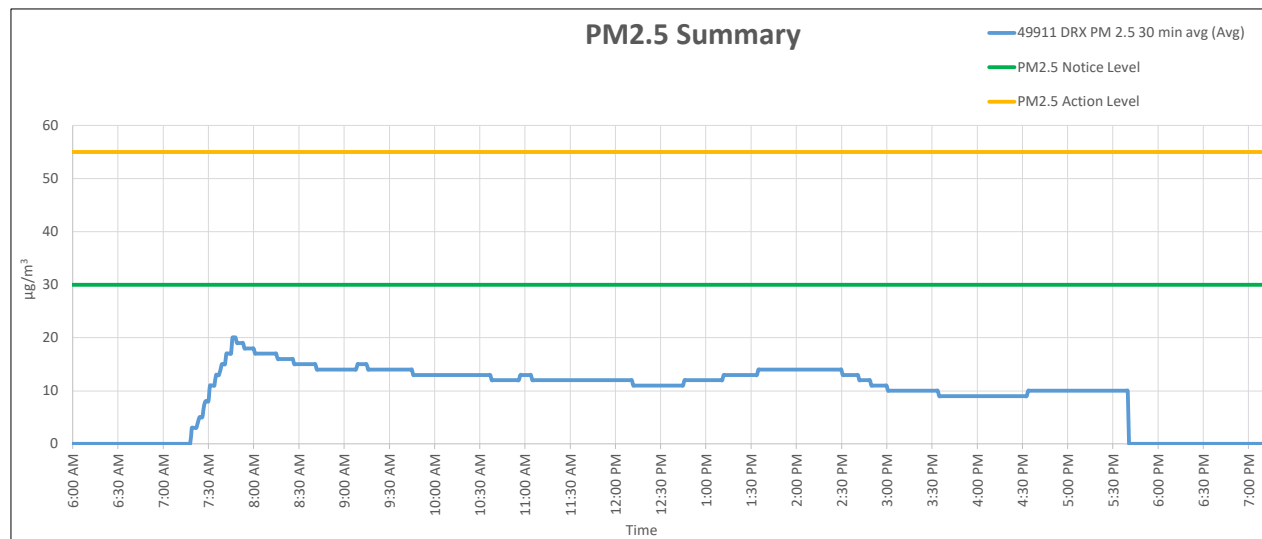
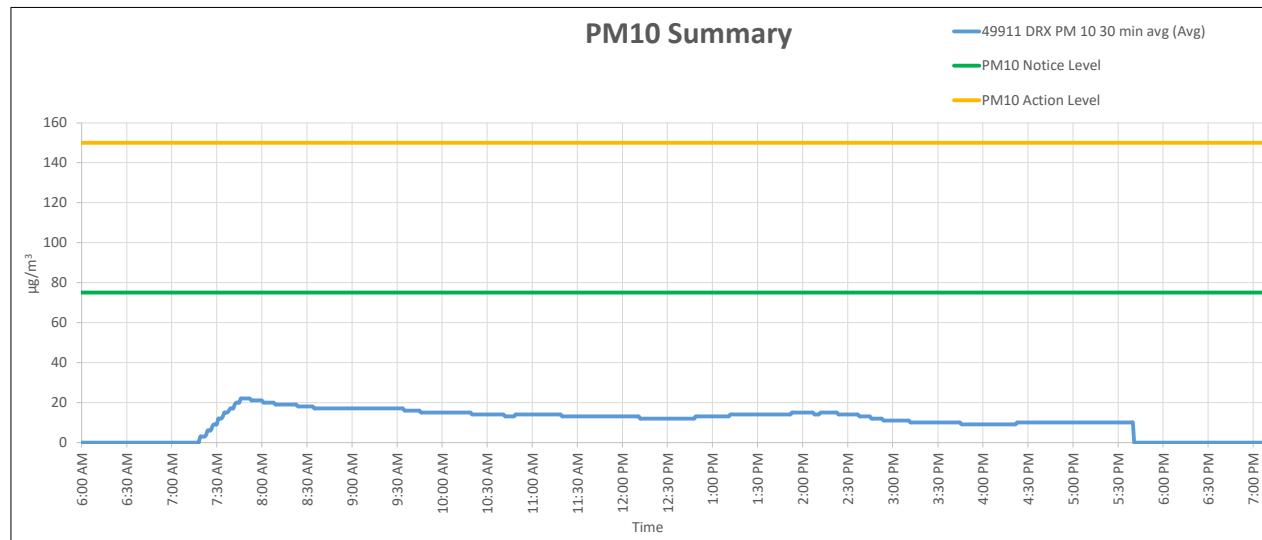
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 21, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:16 AM	5:40 PM	11.65	22.00	10.38	19.00



Union Pacific Railroad
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Air Monitoring Values
Friday, June 21, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	7:19 AM	5:40 PM	13.37	22.00	12.21	20.00



Union Pacific Railroad
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Air Monitoring Values
Friday, June 21, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:53 AM	5:40 PM	17.50	30.00	16.19	28.00

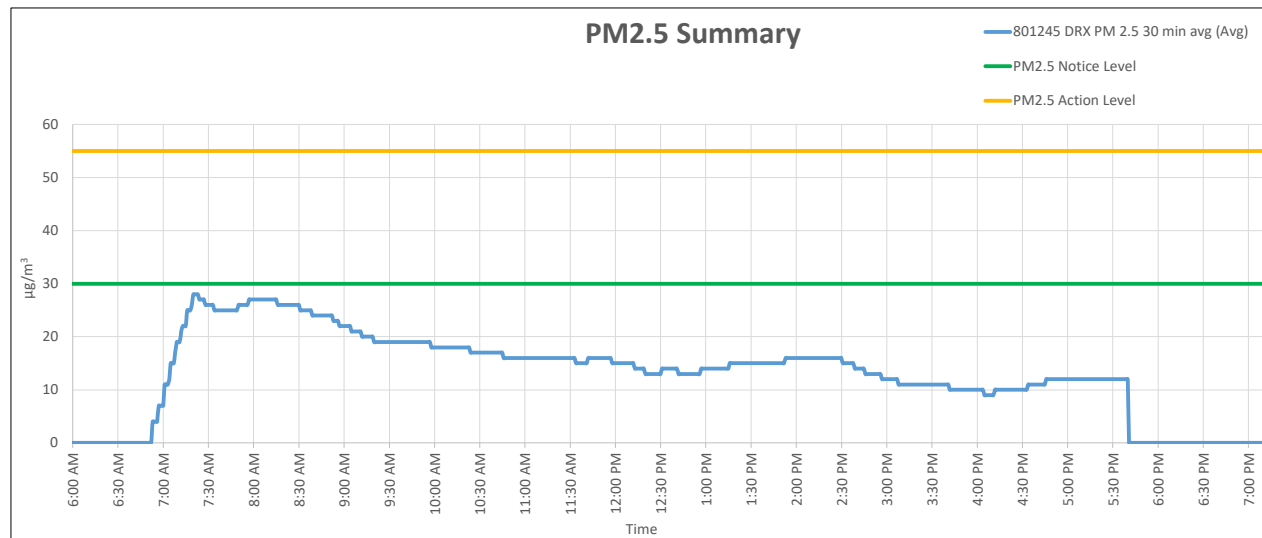
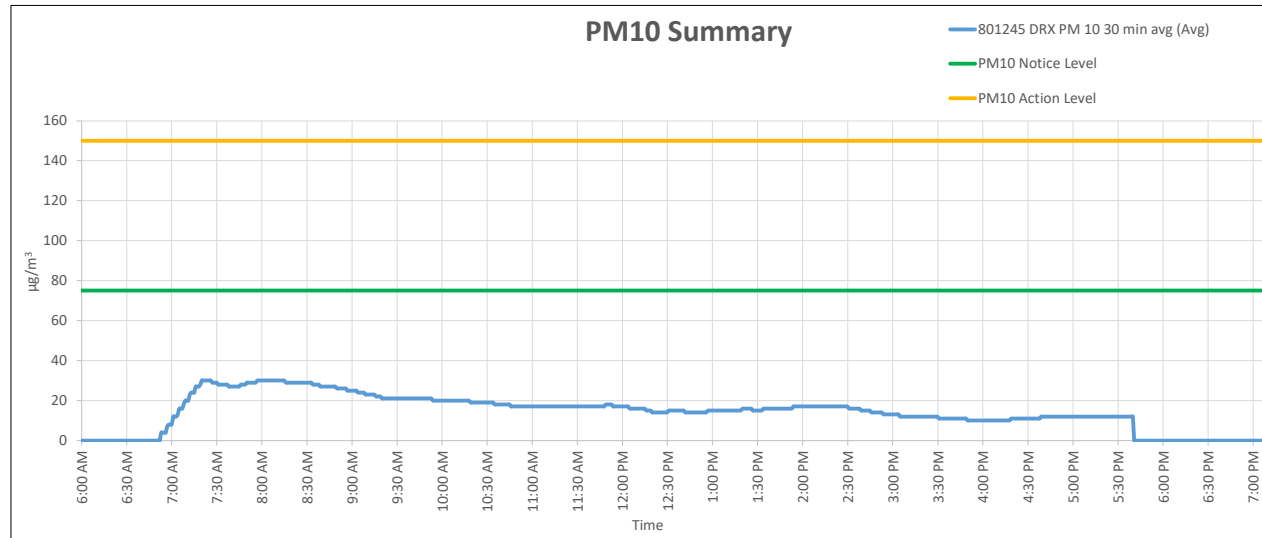
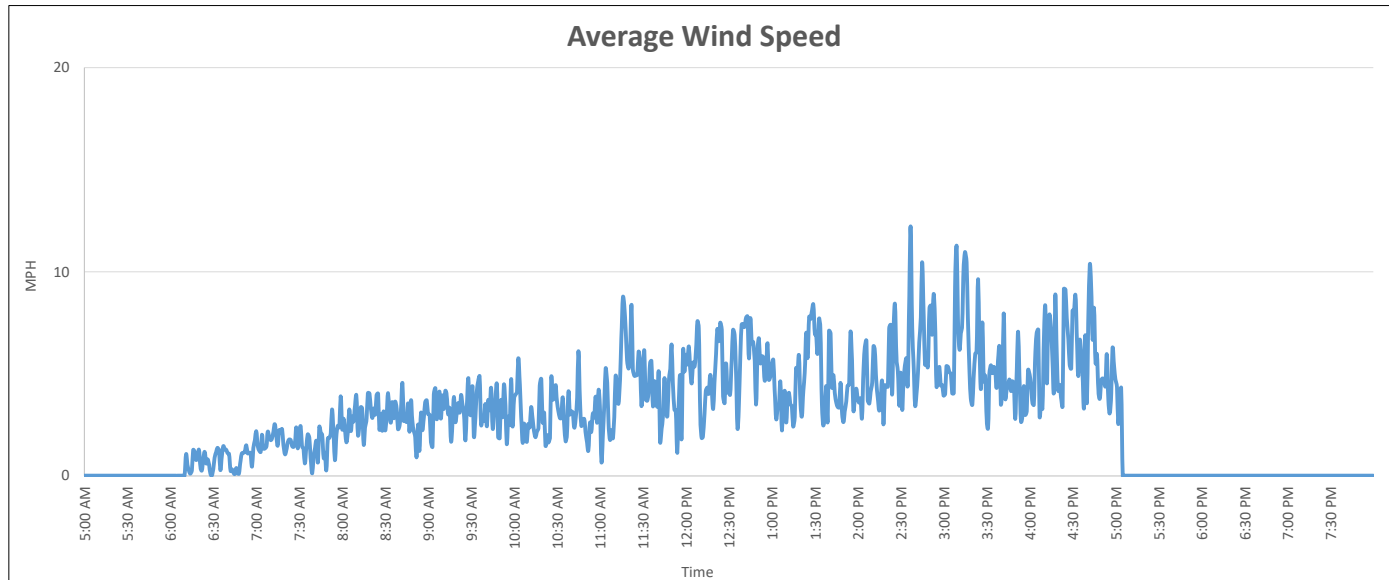
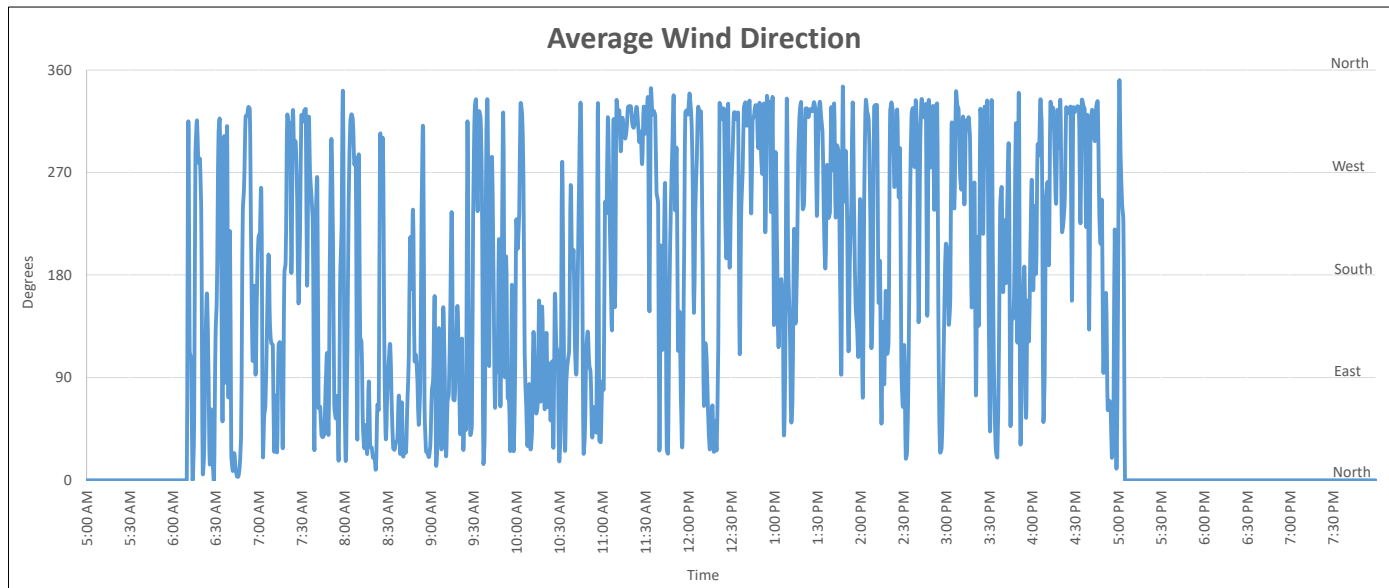


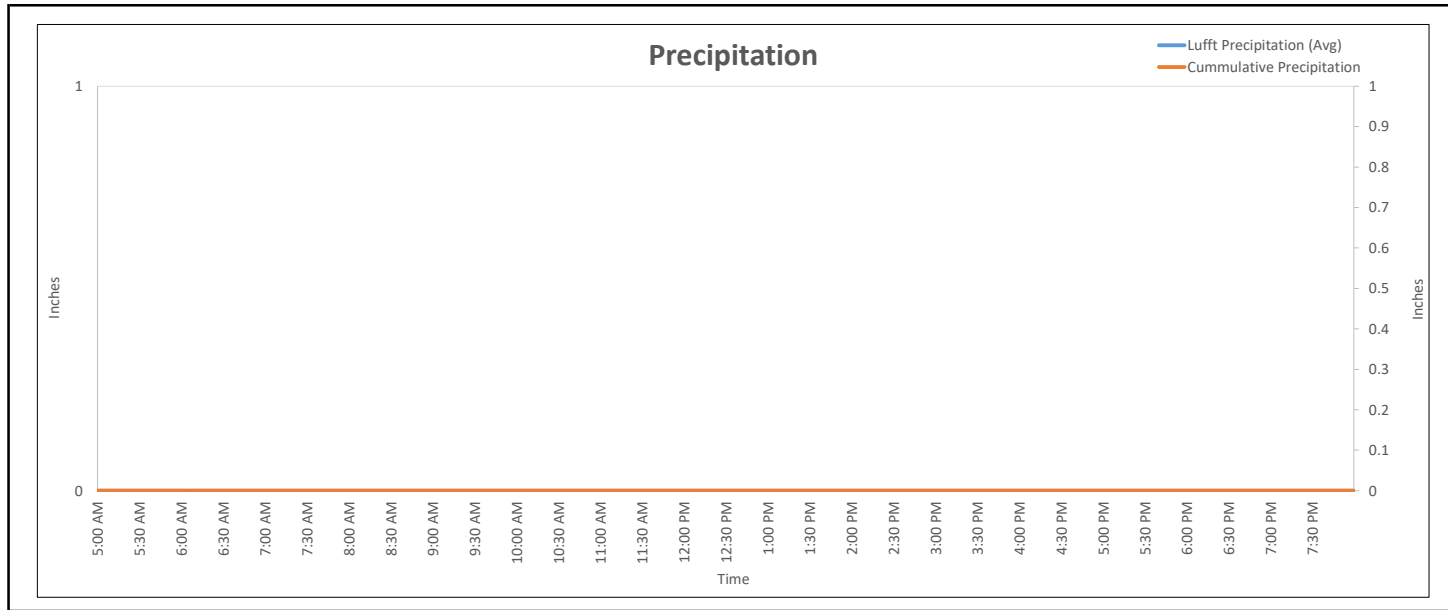
Table 5 – Direct Read Summary
Union Pacific Houston Wood Preserving Works
Houston, Texas

Date	Modem #	PM ₁₀ Concentration (µg/m ³)			PM _{2.5} Concentration (µg/m ³)		
		Min	Max	Average	Min	Max	Average
Week 9							
6/24/2024	48374	1.00	13.00	7.53	1.00	11.00	6.93
	47161	1.00	32.00	6.90	1.00	31.00	6.45
	48033	1.00	16.00	10.32	1.00	15.00	9.40
	48571	1.00	13.00	6.19	1.00	12.00	5.05
	48375	1.00	98.00	8.99	1.00	96.00	8.01
	801245	1.00	16.00	8.44	1.00	14.00	7.15
	49911	1.00	13.00	7.84	1.00	10.00	6.70
6/25/2024	48374	1.00	18.00	6.74	0.00	16.00	6.15
	47161	1.00	17.00	6.05	1.00	16.00	5.69
	48033	1.00	20.00	8.69	1.00	18.00	7.61
	48571	0.00	29.00	5.76	0.00	26.00	4.82
	48375	0.00	29.00	4.67	0.00	27.00	4.08
	801245	1.00	28.00	9.41	1.00	26.00	8.44
	49911	2.00	20.00	7.69	1.00	17.00	6.57
6/26/2024	48374	1.00	14.00	7.03	1.00	14.00	6.74
	47161	1.00	13.00	7.14	1.00	13.00	6.78
	48033	1.00	29.00	9.58	1.00	27.00	8.54
	48571	1.00	26.00	8.05	0.00	24.00	7.38
	48375	1.00	17.00	5.15	1.00	16.00	4.64
	801245	1.00	30.00	11.25	1.00	28.00	10.46
	49911	1.00	14.00	6.33	1.00	12.00	5.69
6/27/2024	48374	1.00	13.00	10.31	1.00	13.00	9.80
	47161	1.00	12.00	9.49	1.00	12.00	9.18
	48033	2.00	16.00	11.84	1.00	15.00	11.08
	48571	1.00	14.00	9.35	1.00	13.00	8.35
	48375	1.00	15.00	8.85	1.00	14.00	8.32
	801245	2.00	20.00	15.09	2.00	19.00	14.30
	49911	1.00	15.00	10.33	1.00	14.00	9.53
6/28/2024	48374	2.00	32.00	17.62	2.00	32.00	16.98
	47161	5.00	37.00	16.63	5.00	37.00	16.31
	48033	6.00	39.00	18.27	6.00	38.00	17.09
	48571	4.00	32.00	21.85	4.00	30.00	20.64
	48375	5.00	33.00	14.88	5.00	32.00	14.33
	801245	3.00	46.00	23.77	2.00	45.00	22.50
	49911	4.00	27.00	14.23	4.00	26.00	13.64
Note:							
1. Values shown in GREEN are above the Notice Level Threshold.							
2. Values shown in ORANGE are above the Action Level Threshold.							
3. Values shown in RED are above the Stop-Work Level Threshold.							

Union Pacific Railroad
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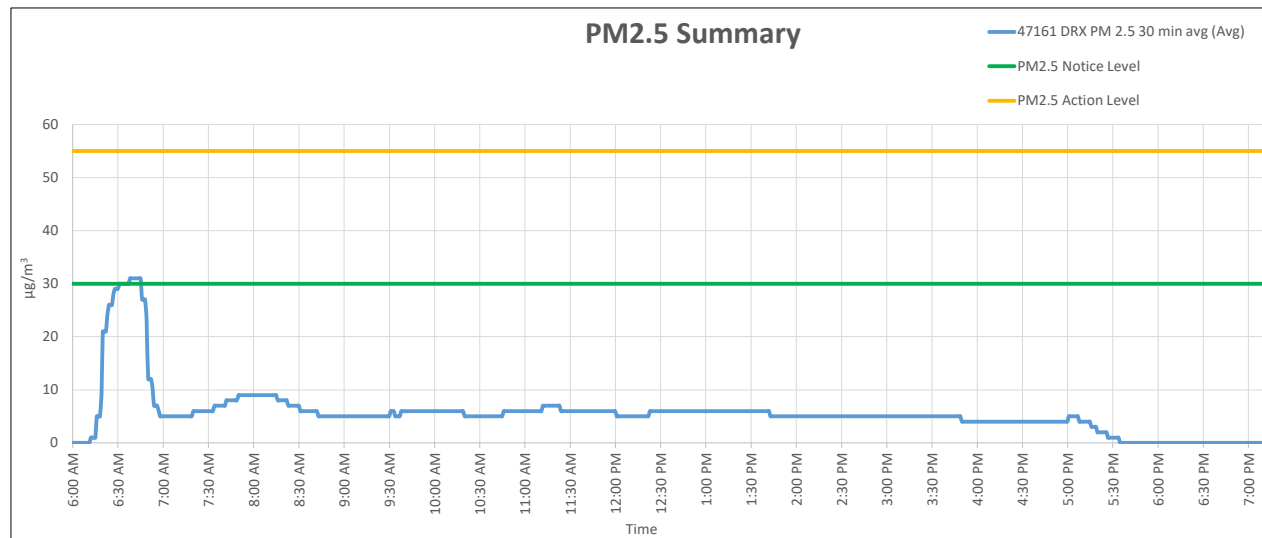
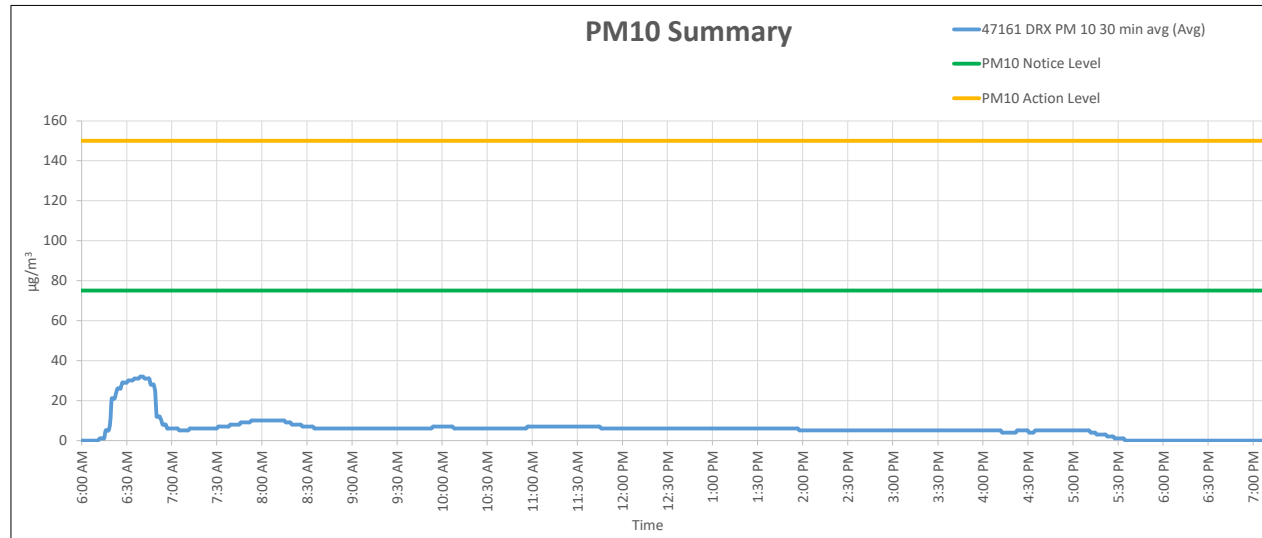


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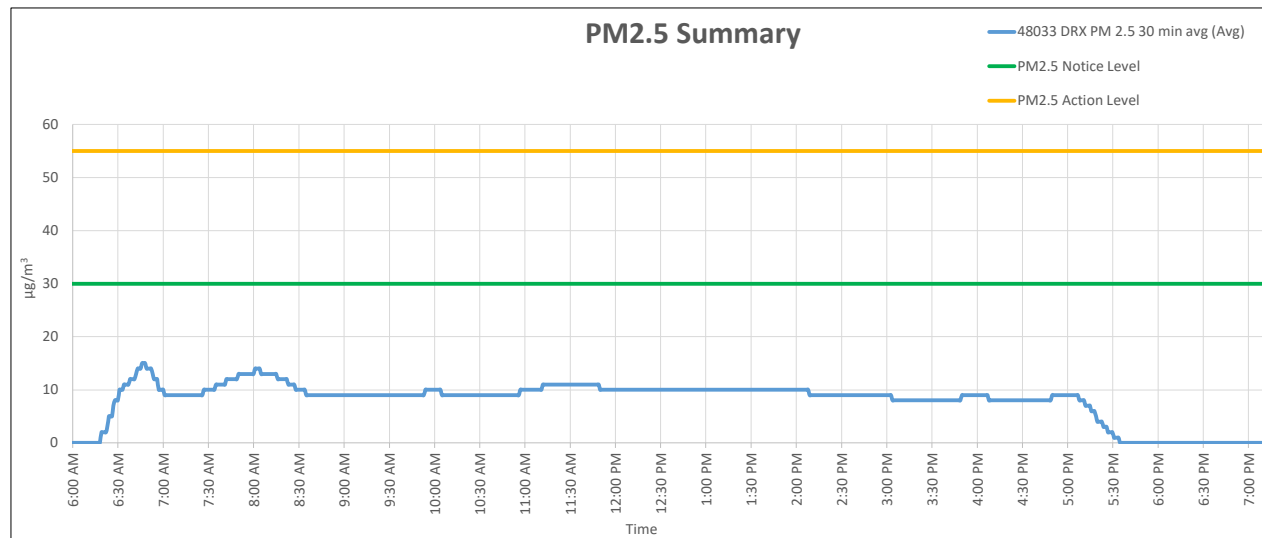
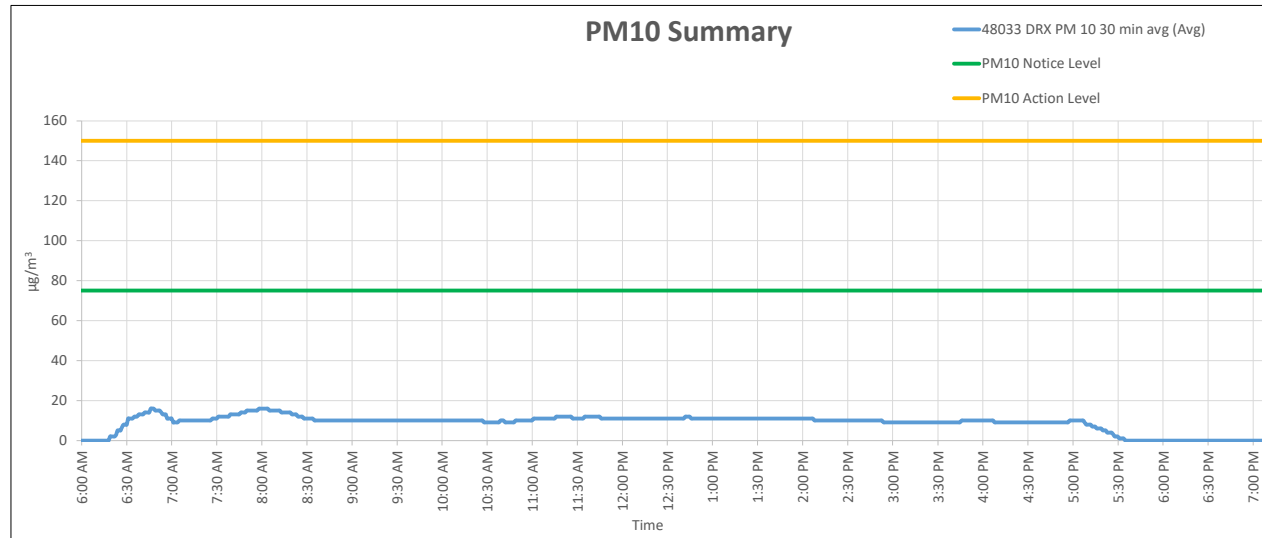
Union Pacific Railroad
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:12 AM	5:27 PM	6.90	32.00	6.45	31.00



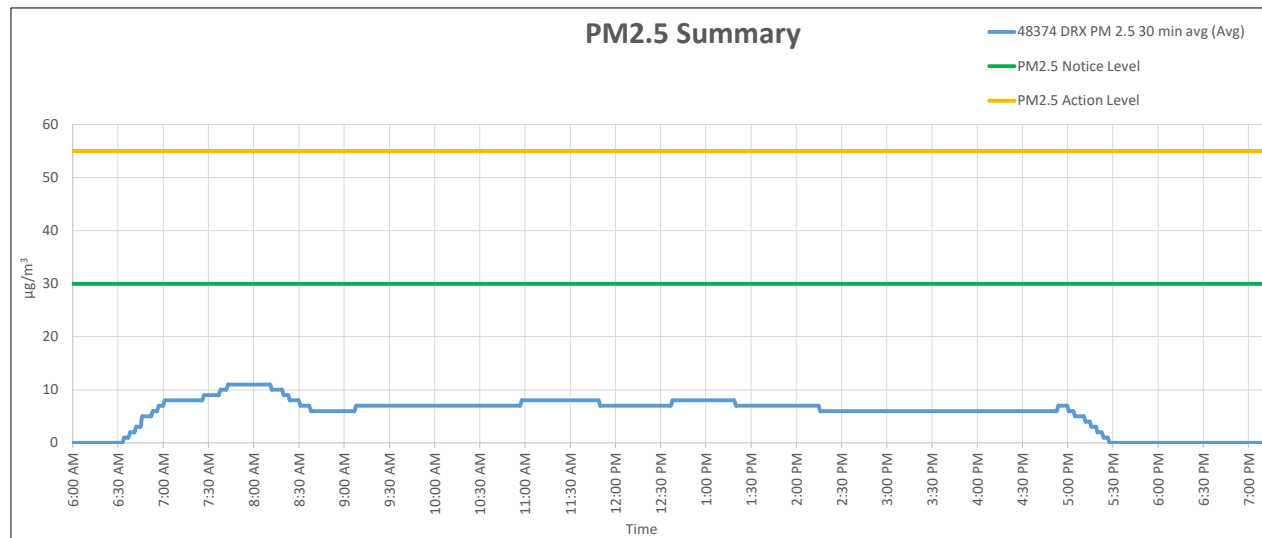
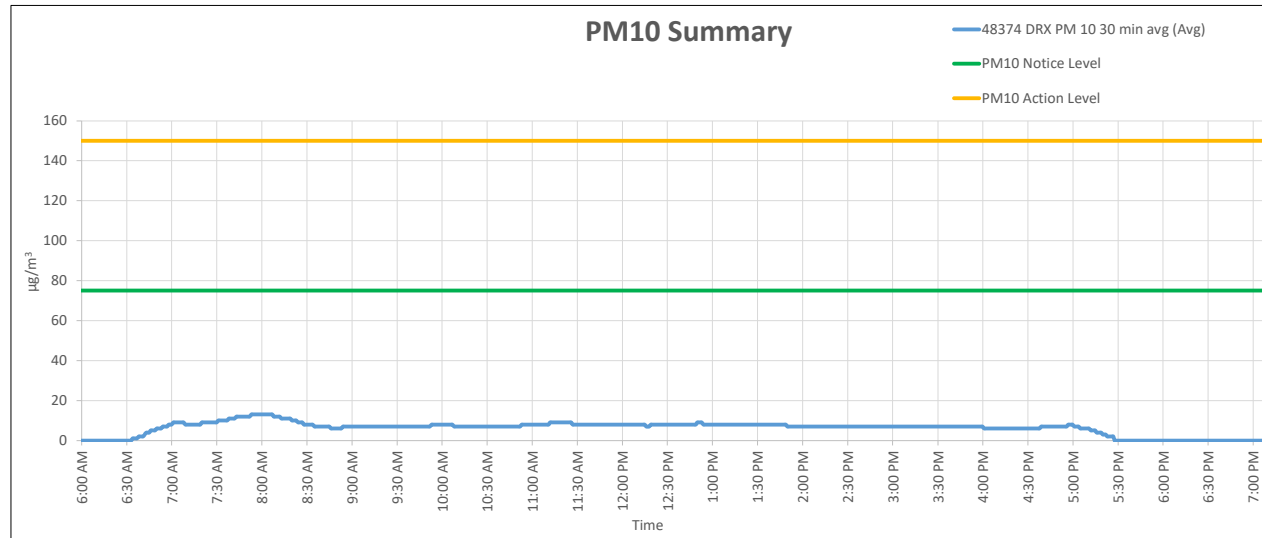
Union Pacific Railroad
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:19 AM	5:30 PM	10.32	16.00	9.40	15.00



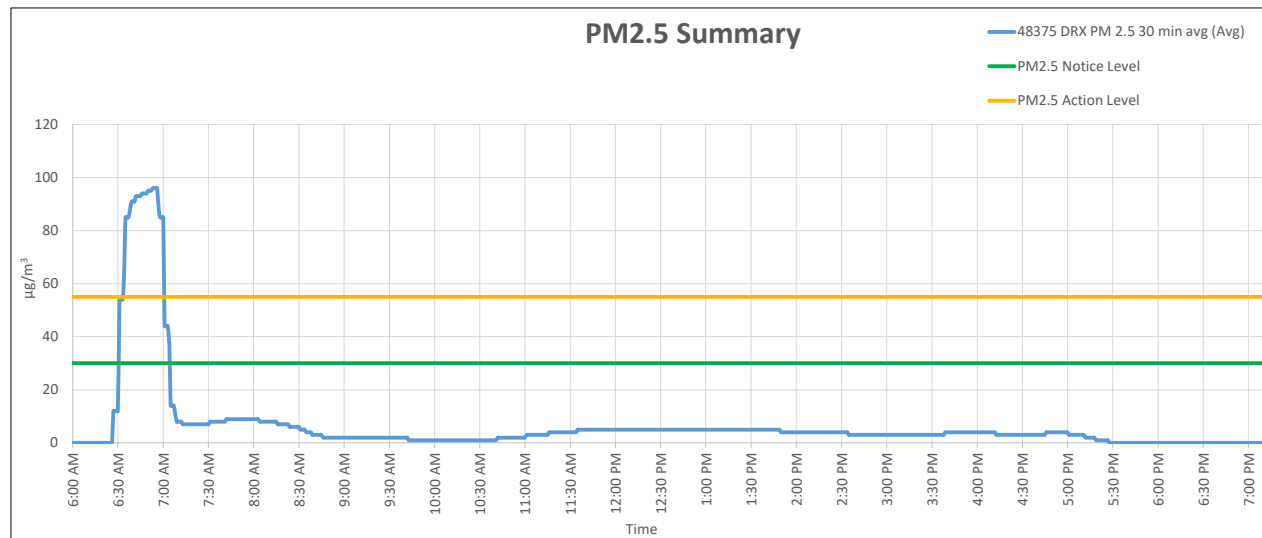
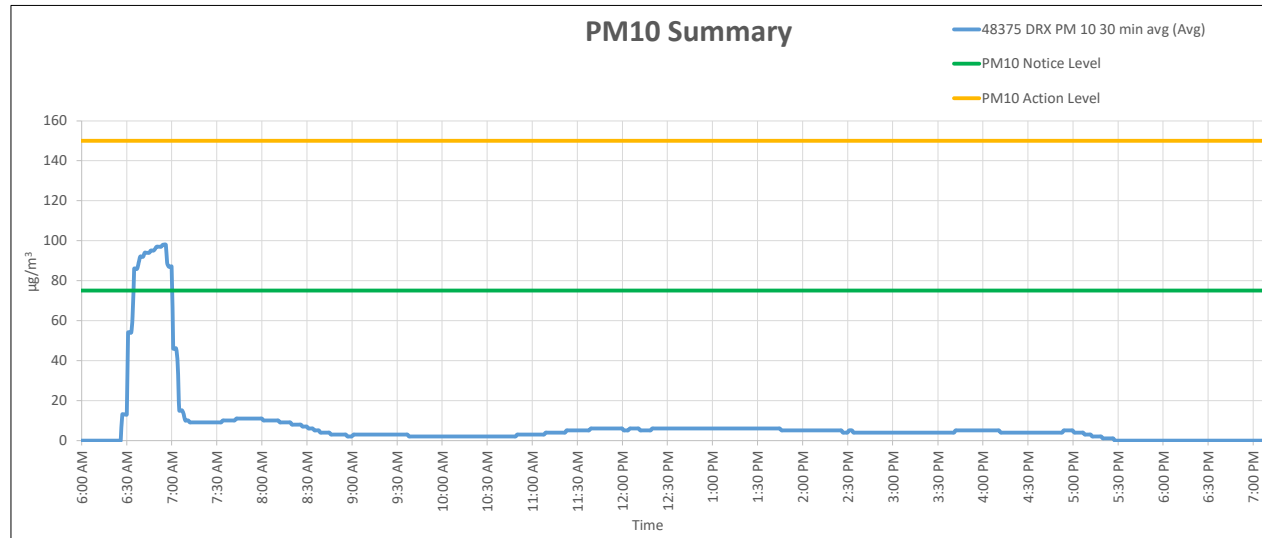
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	6:34 AM	5:27 PM	7.53	13.00	6.93	11.00



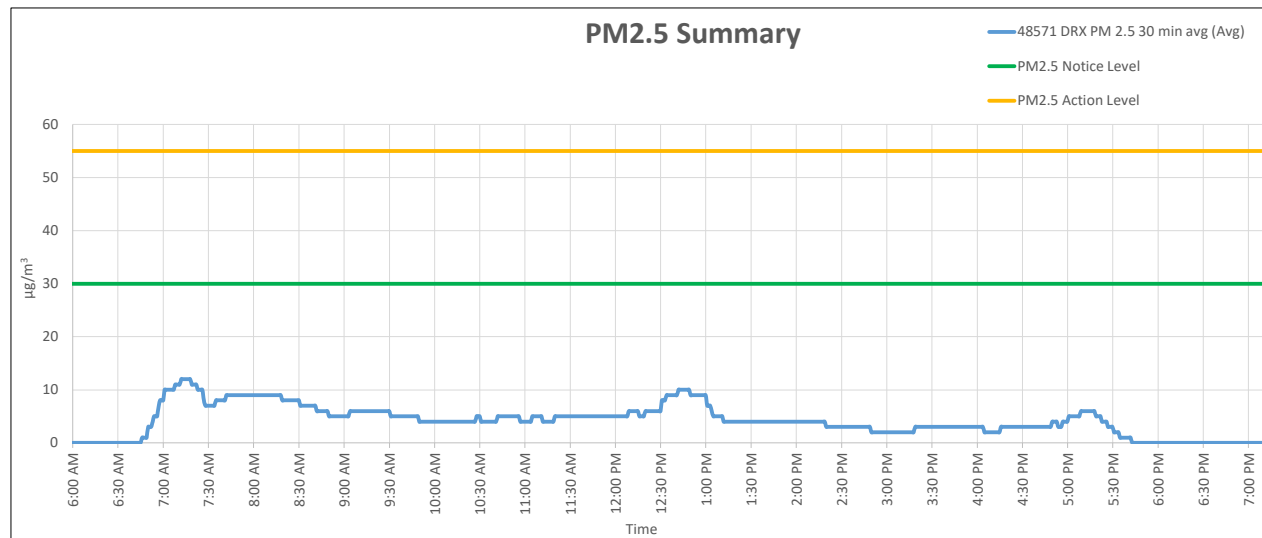
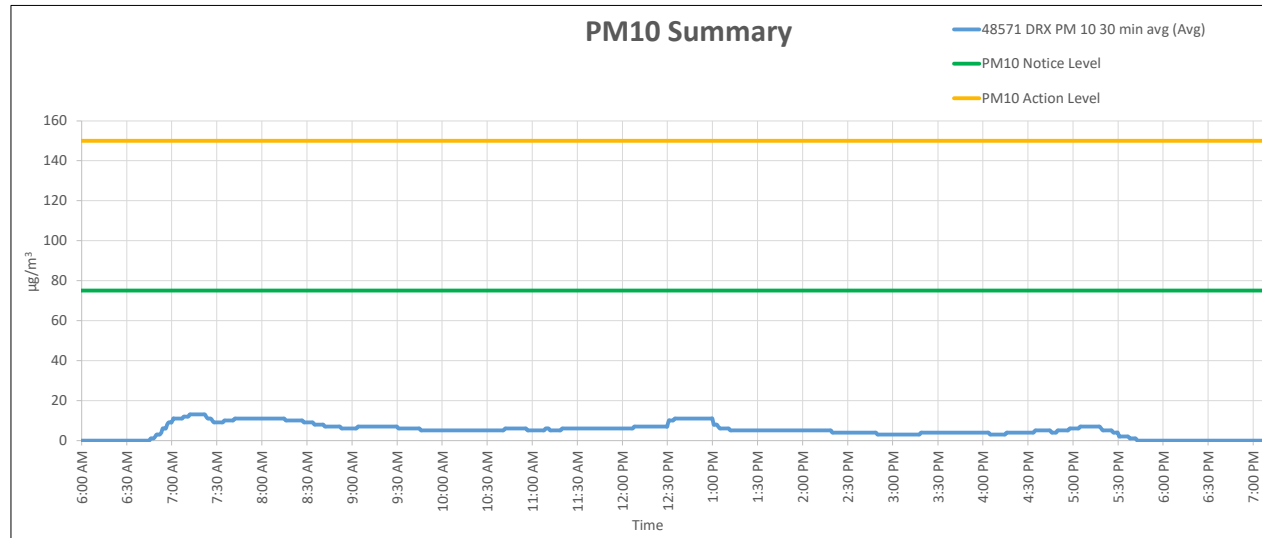
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:27 AM	5:19 PM	8.99	98.00	8.01	96.00



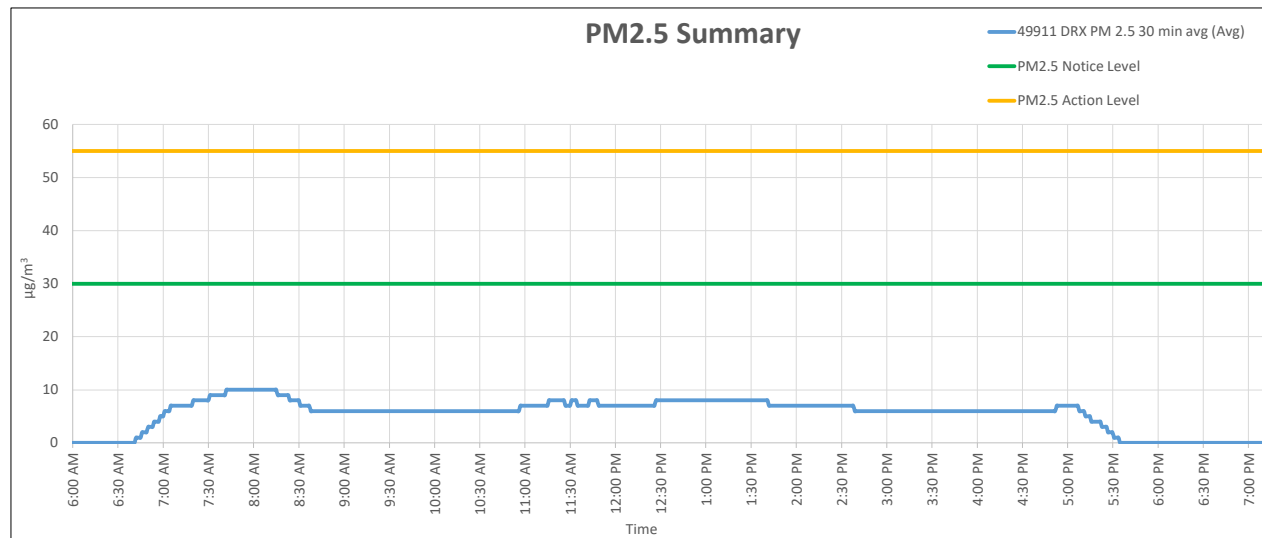
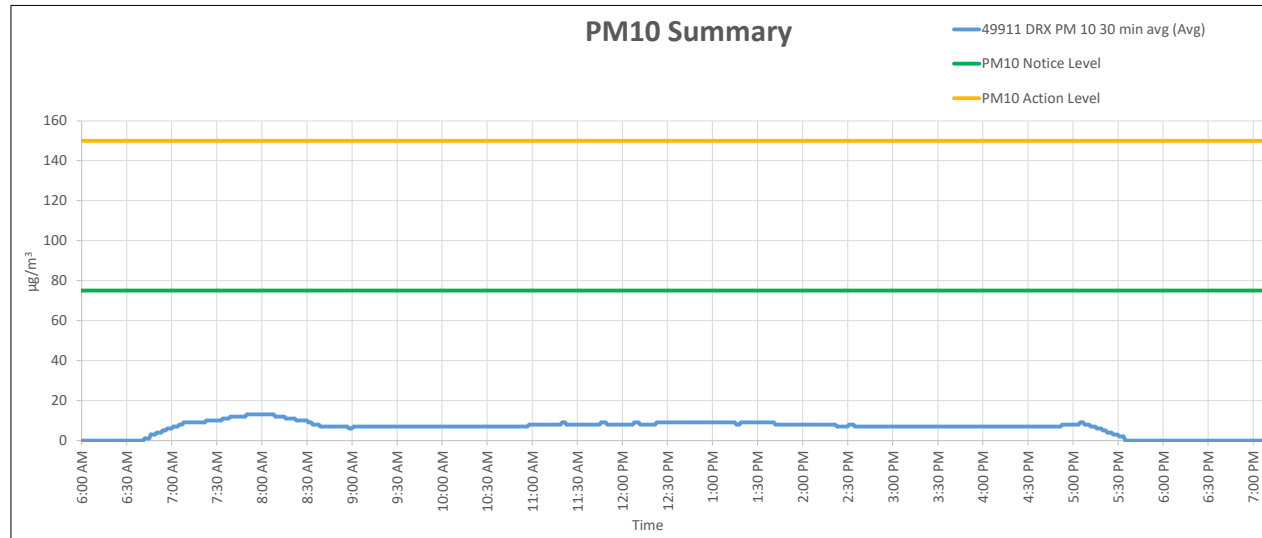
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	6:46 AM	5:37 PM	6.19	13.00	5.05	12.00



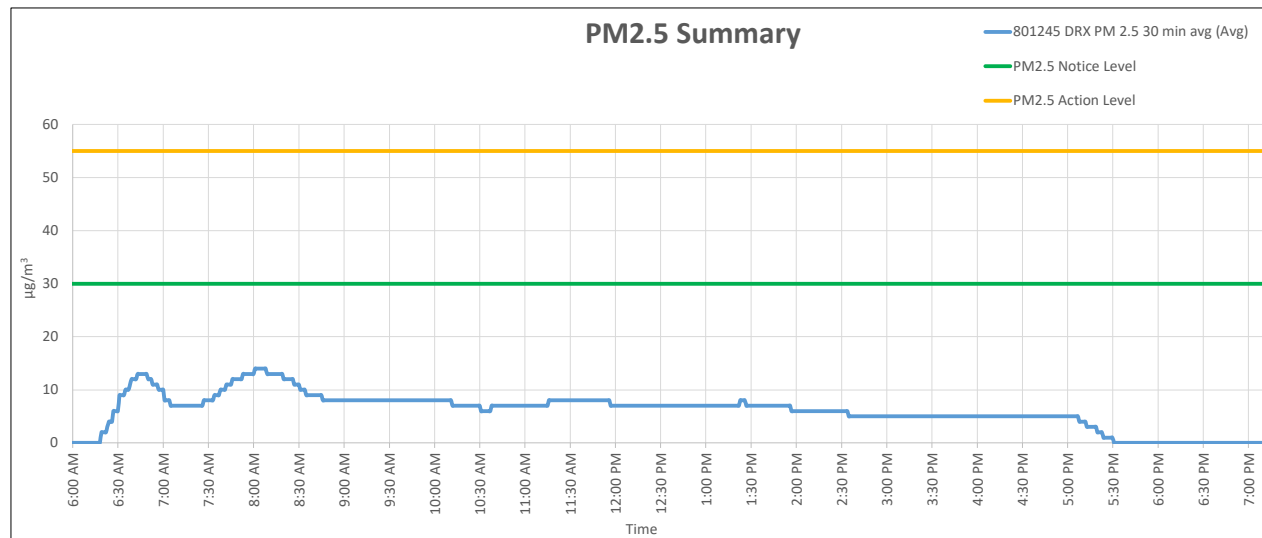
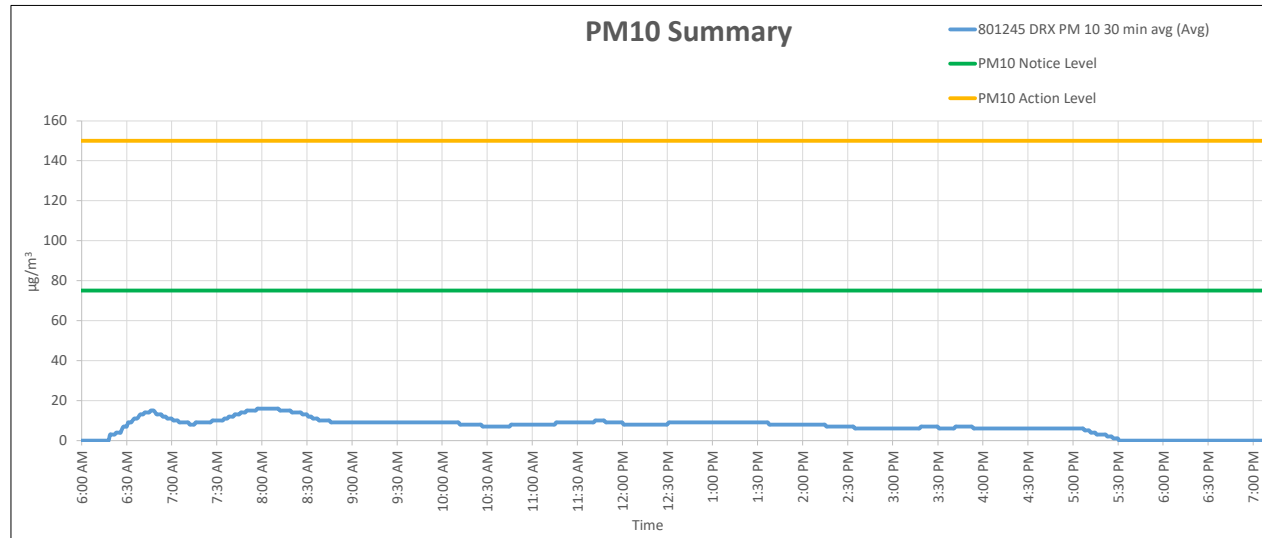
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	6:42 AM	5:34 PM	7.84	13.00	6.70	10.00

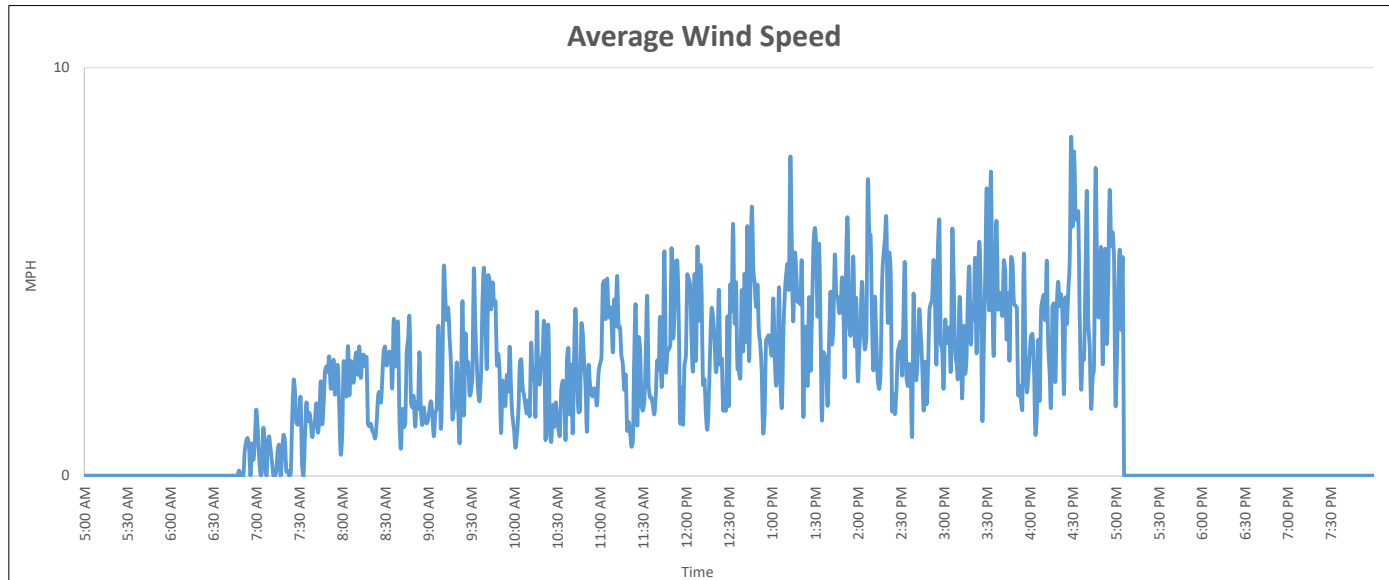
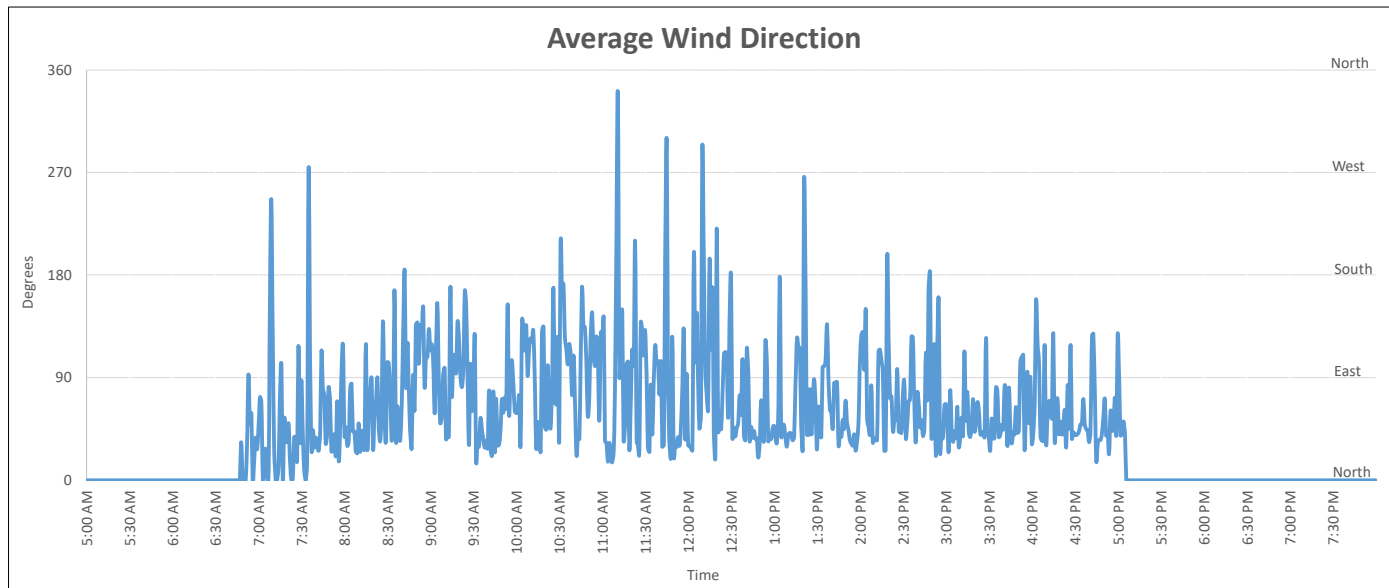


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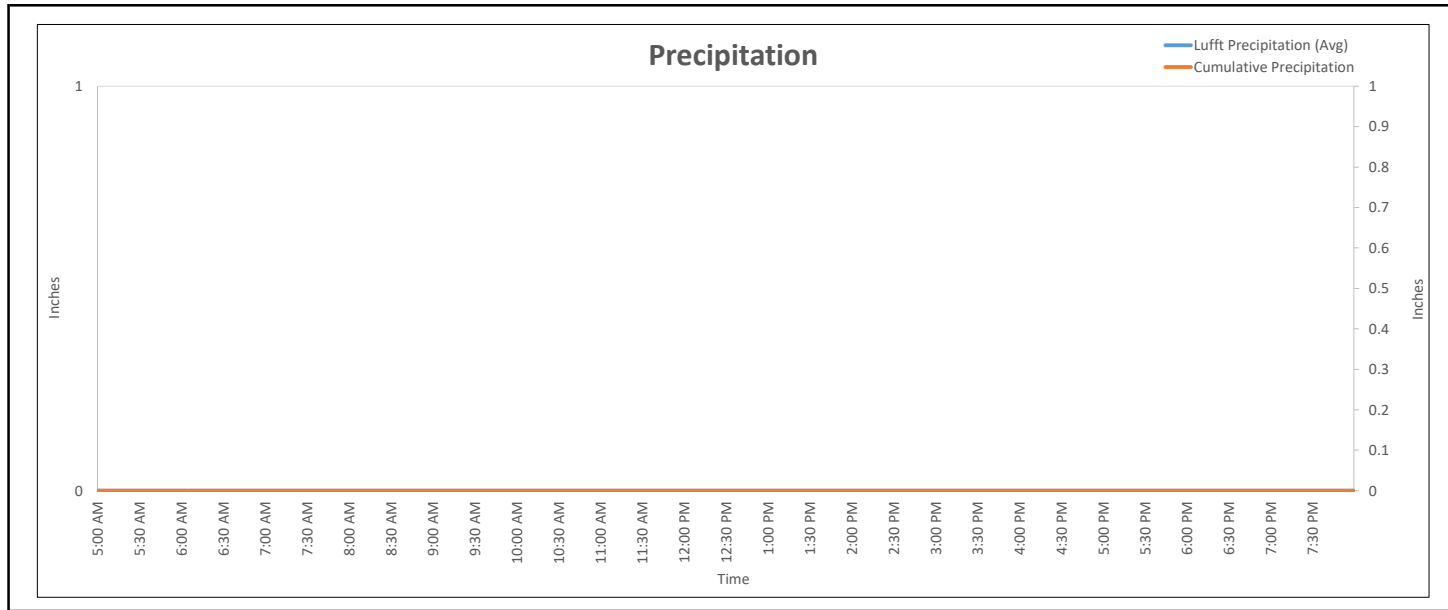
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:19 AM	5:26 PM	8.44	16.00	7.15	14.00



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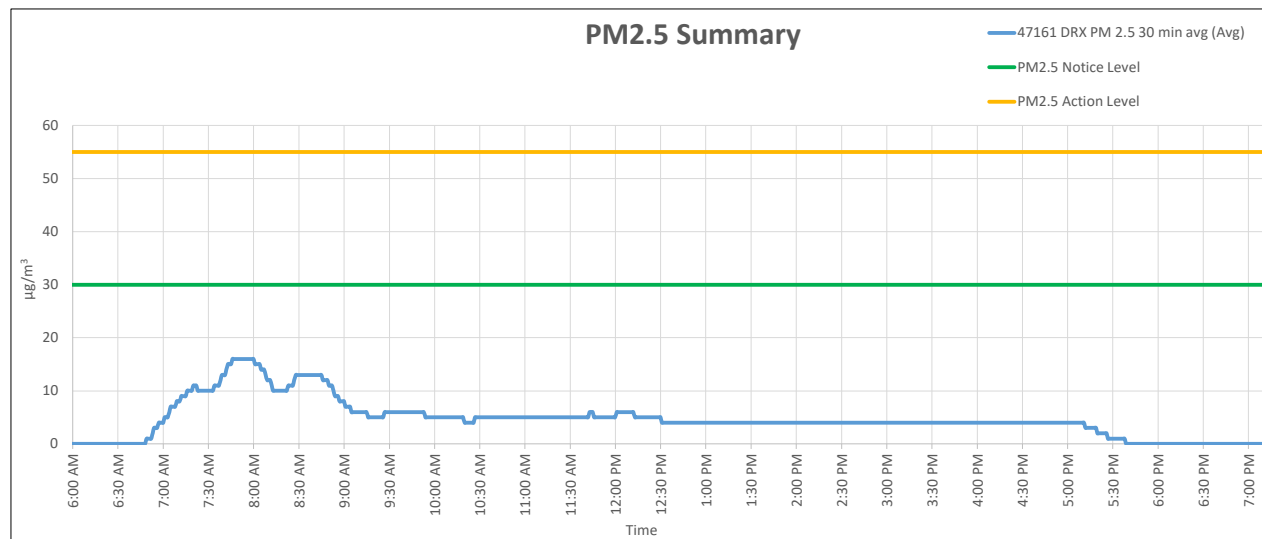
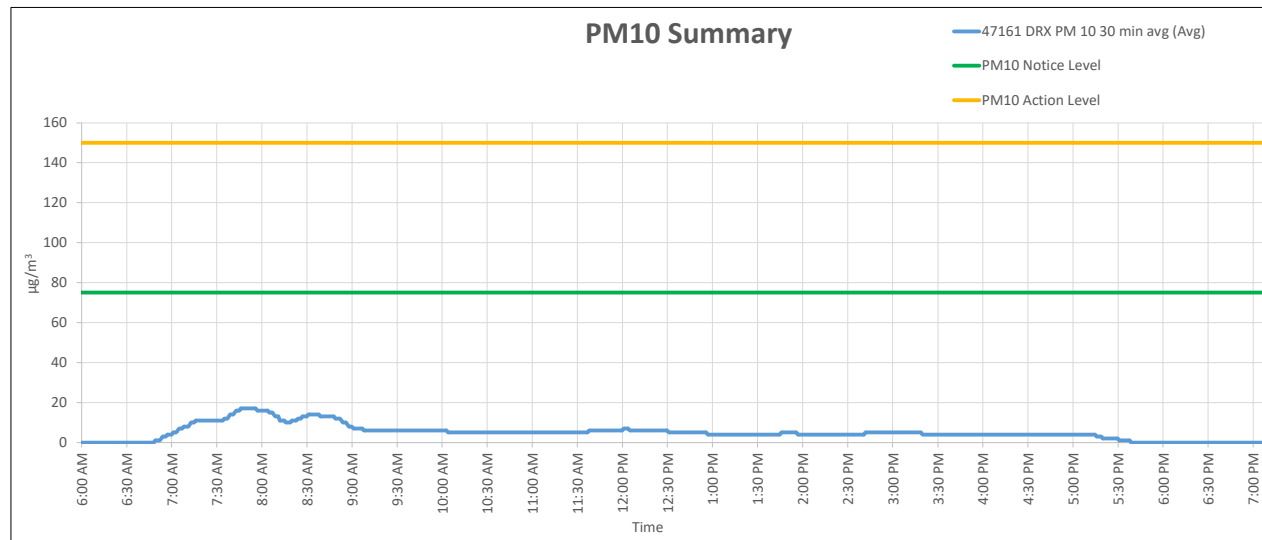


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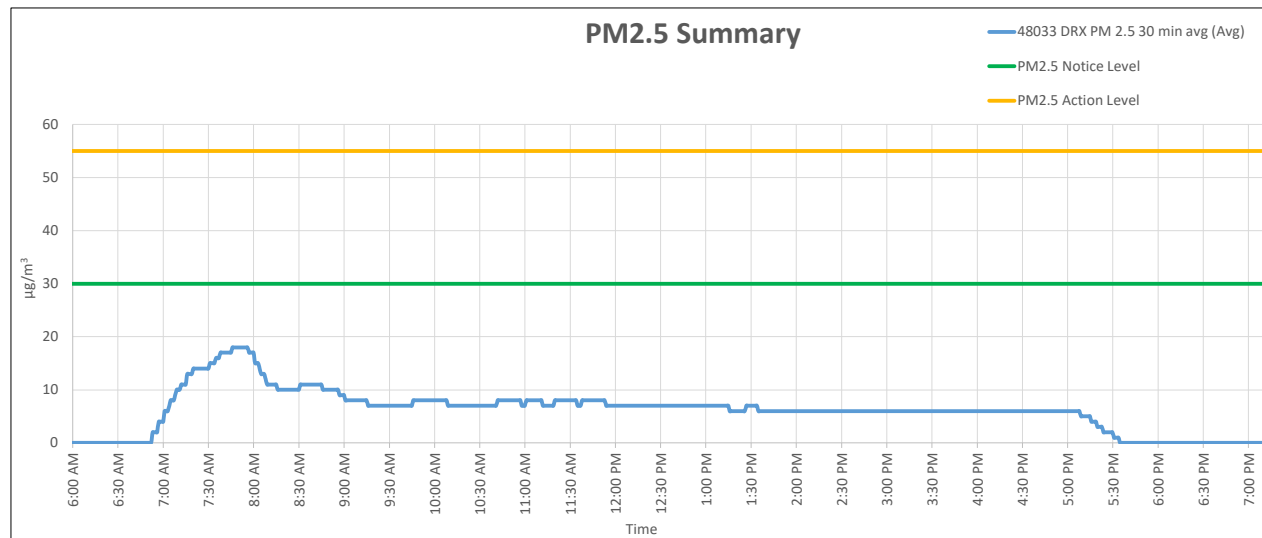
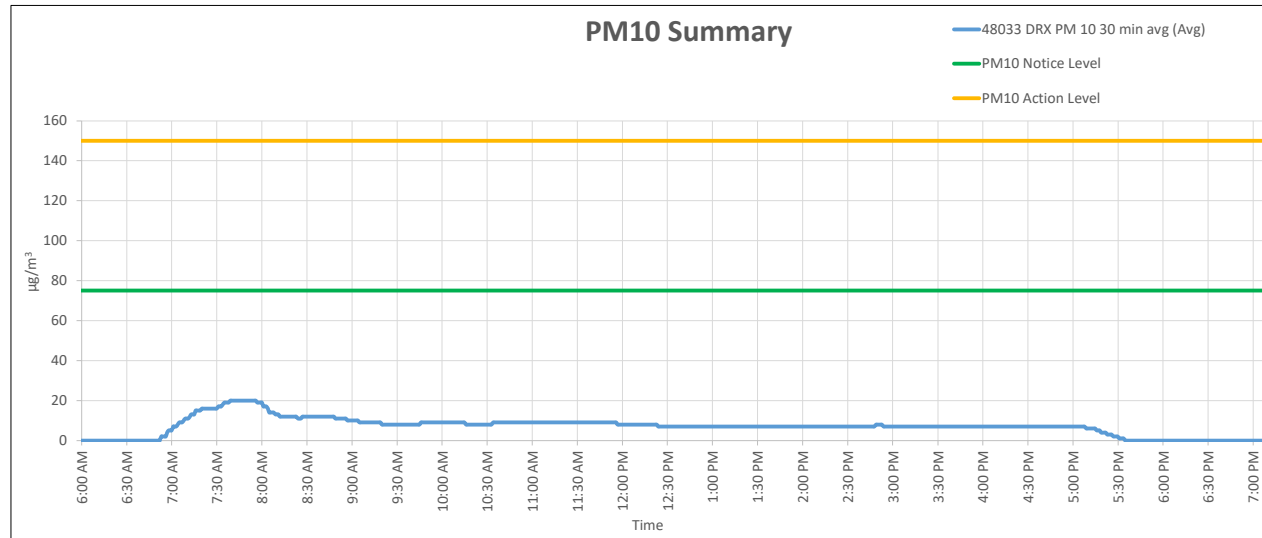
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:49 AM	5:30 PM	6.05	17.00	5.69	16.00



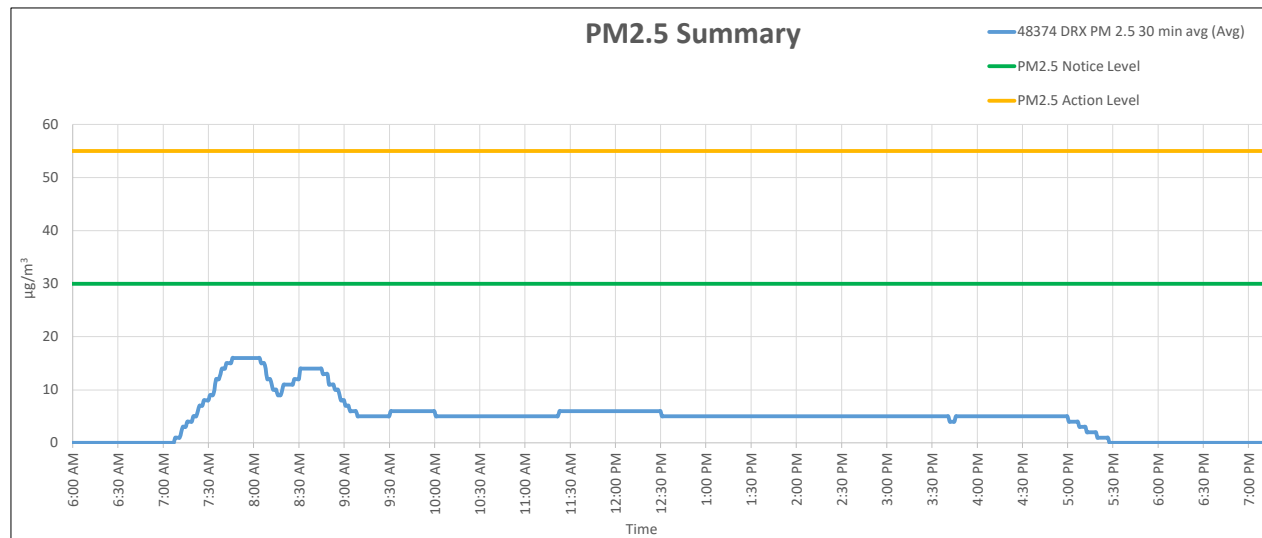
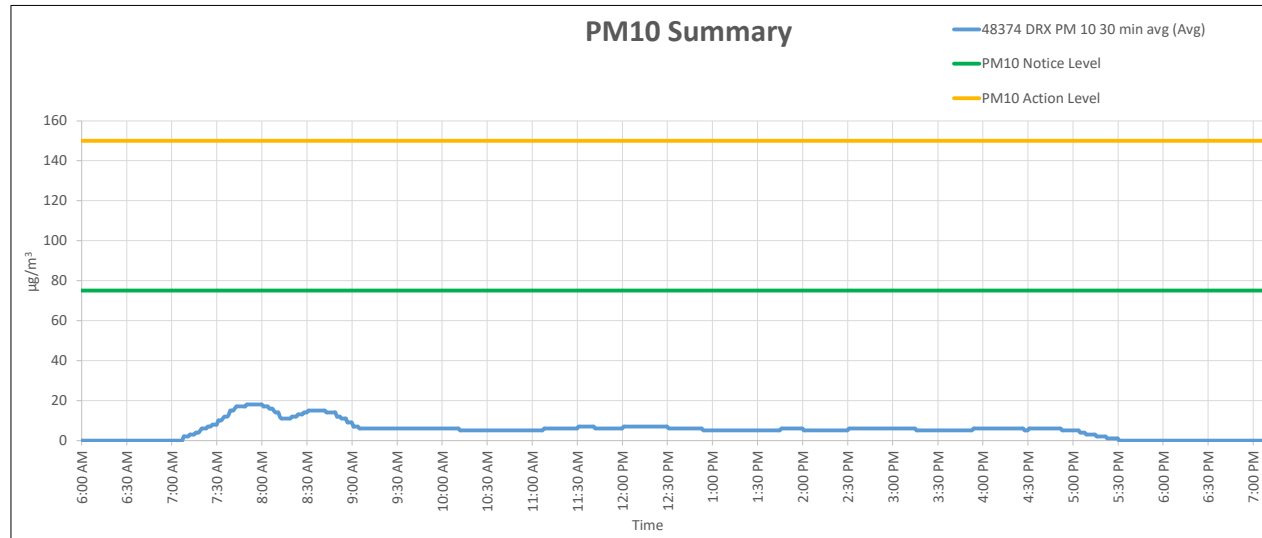
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:53 AM	5:30 PM	8.69	20.00	7.61	18.00



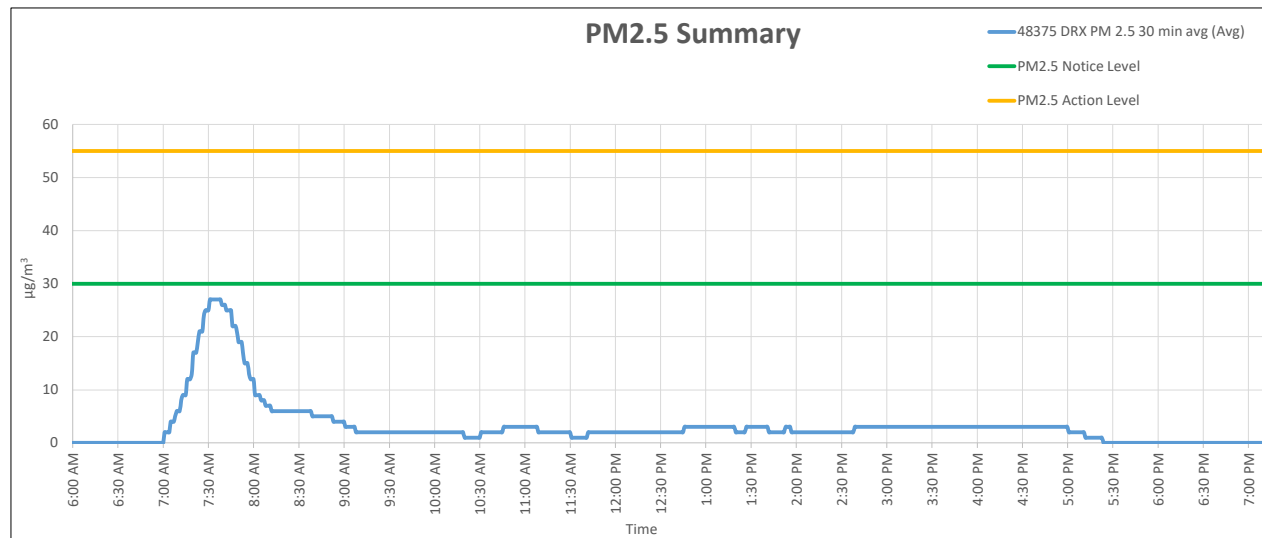
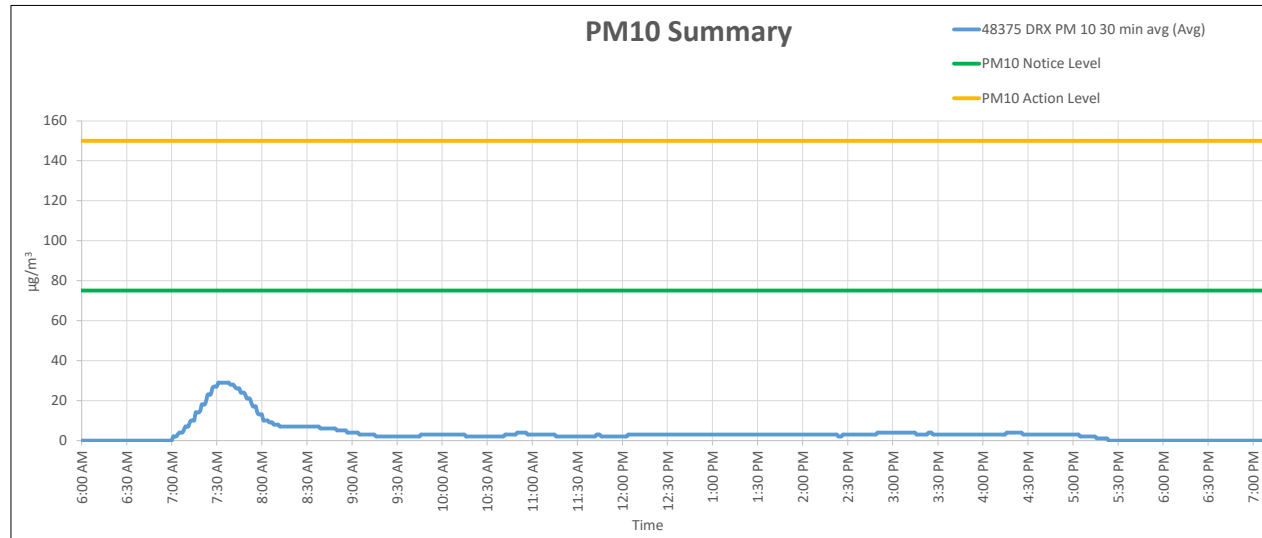
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	7:08 AM	5:22 PM	6.74	18.00	6.18	16.00



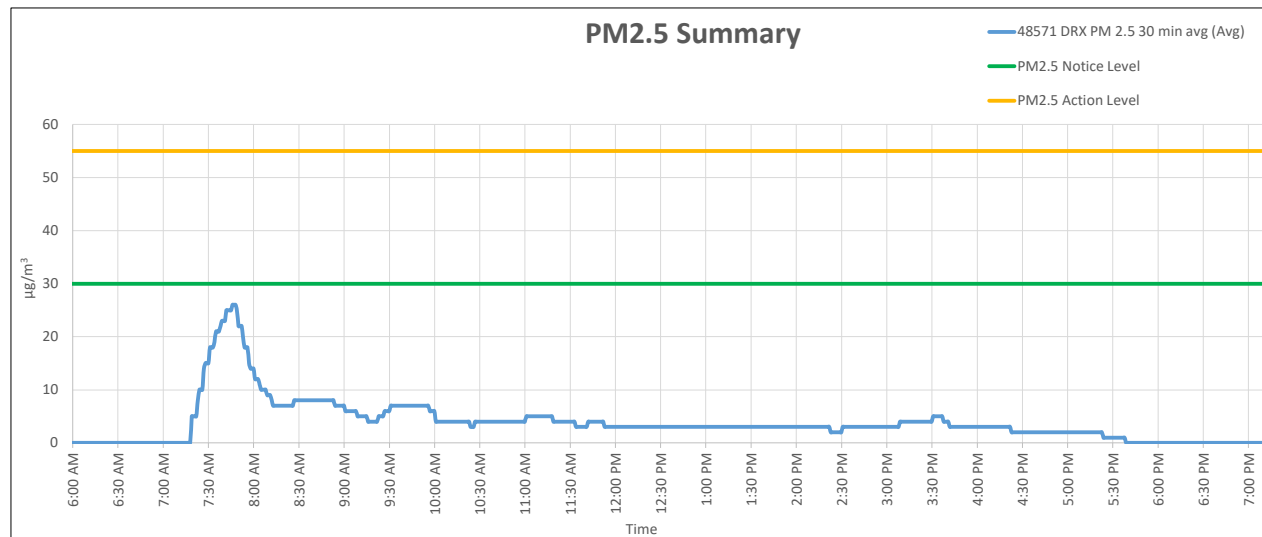
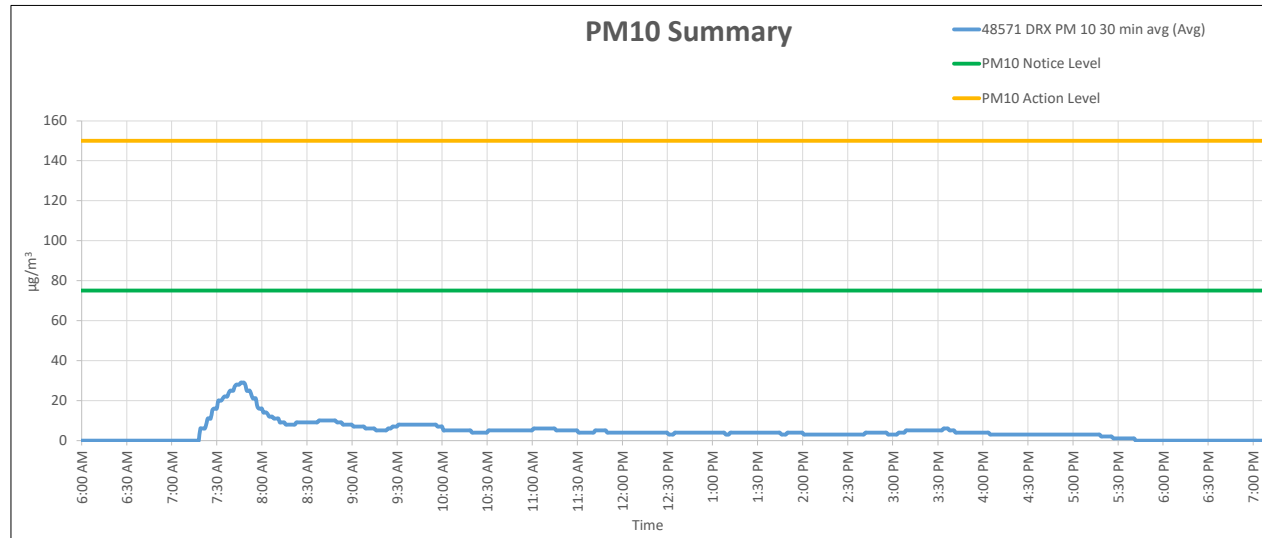
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	7:01 AM	5:15 PM	4.70	29.00	4.10	27.00



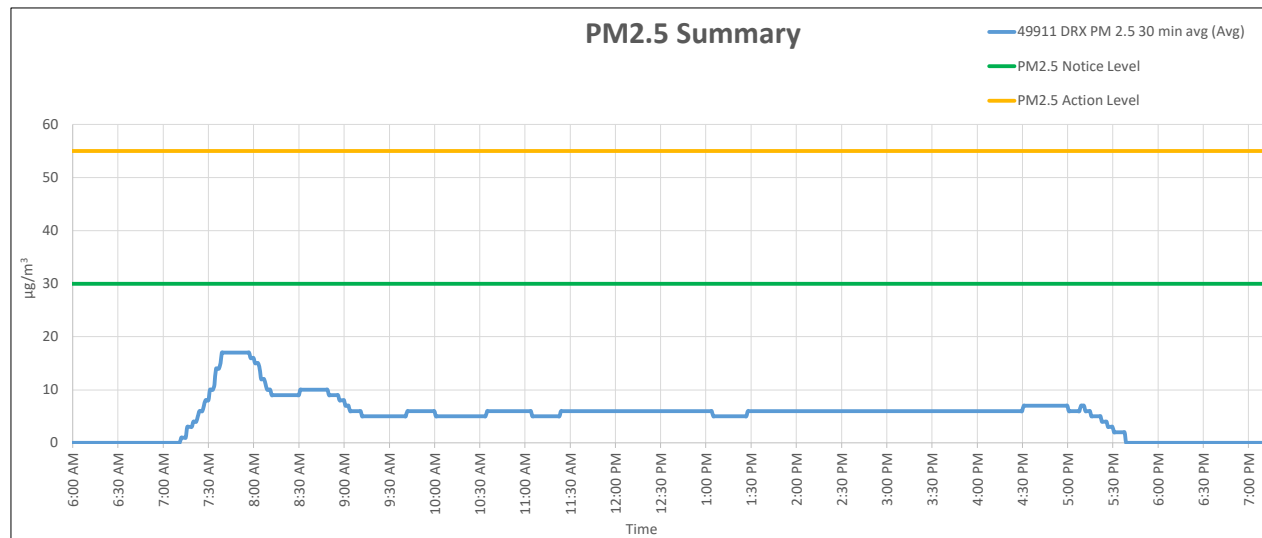
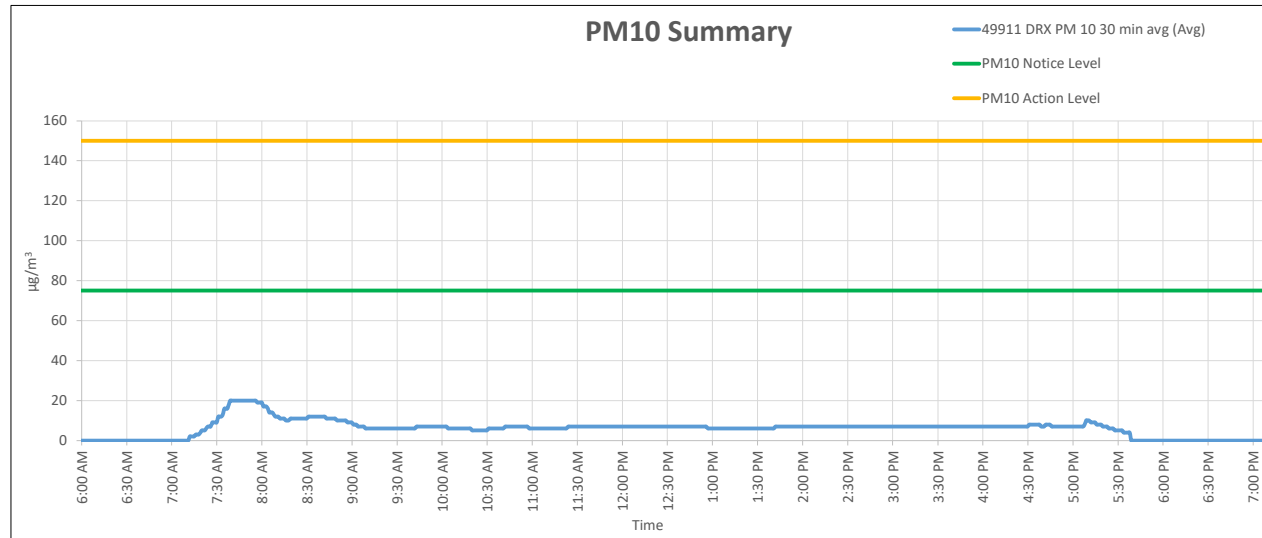
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:19 AM	5:26 PM	5.79	29.00	4.88	26.00



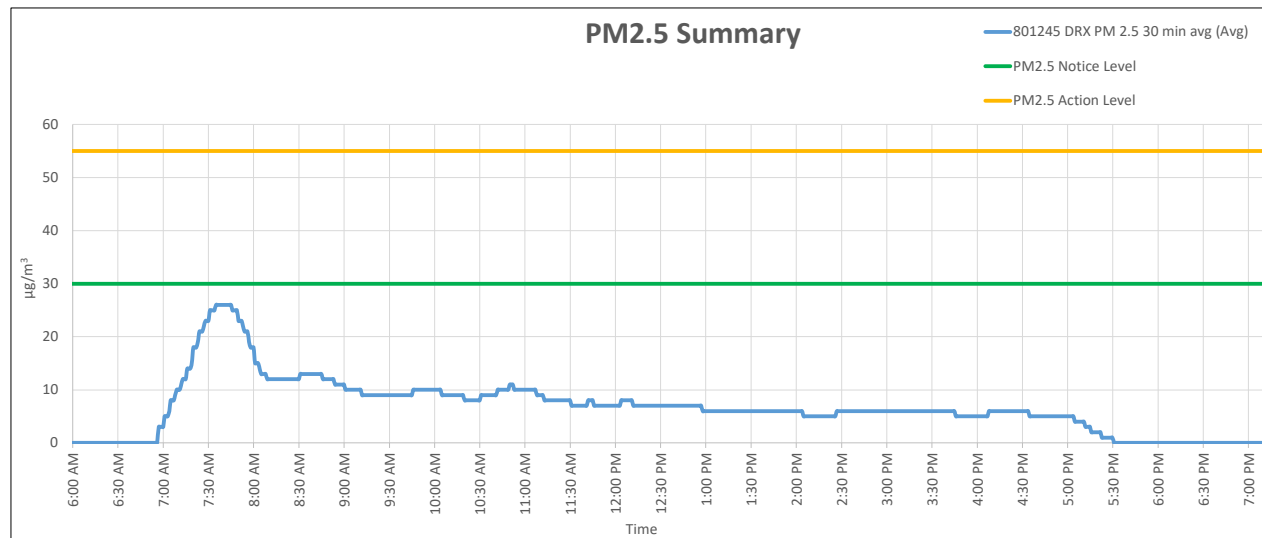
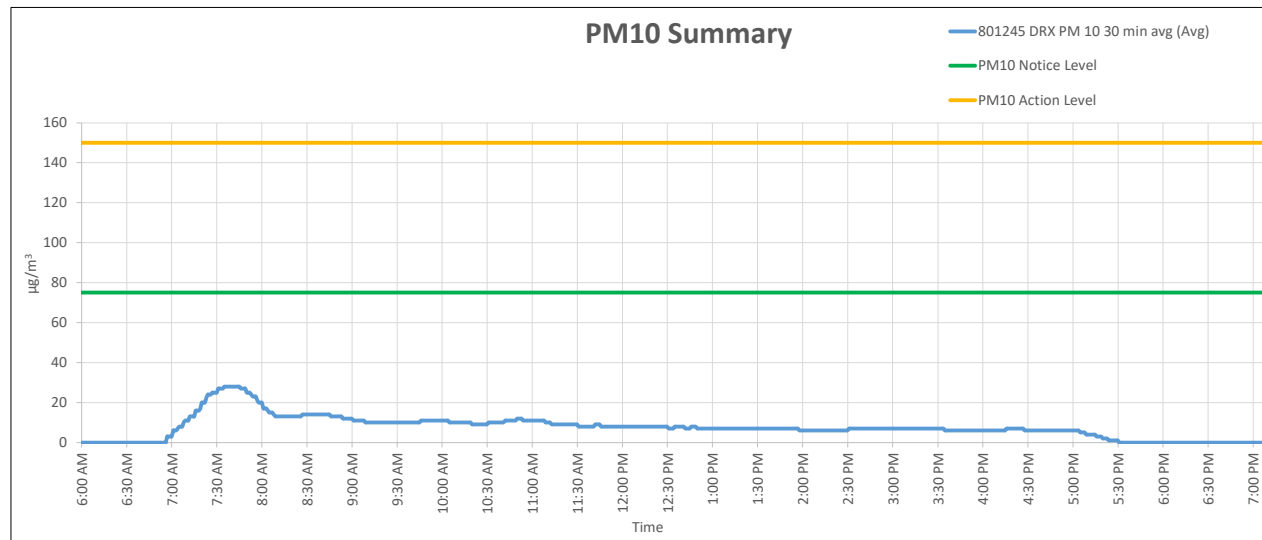
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	7:12 AM	5:38 PM	7.69	20.00	6.57	17.00

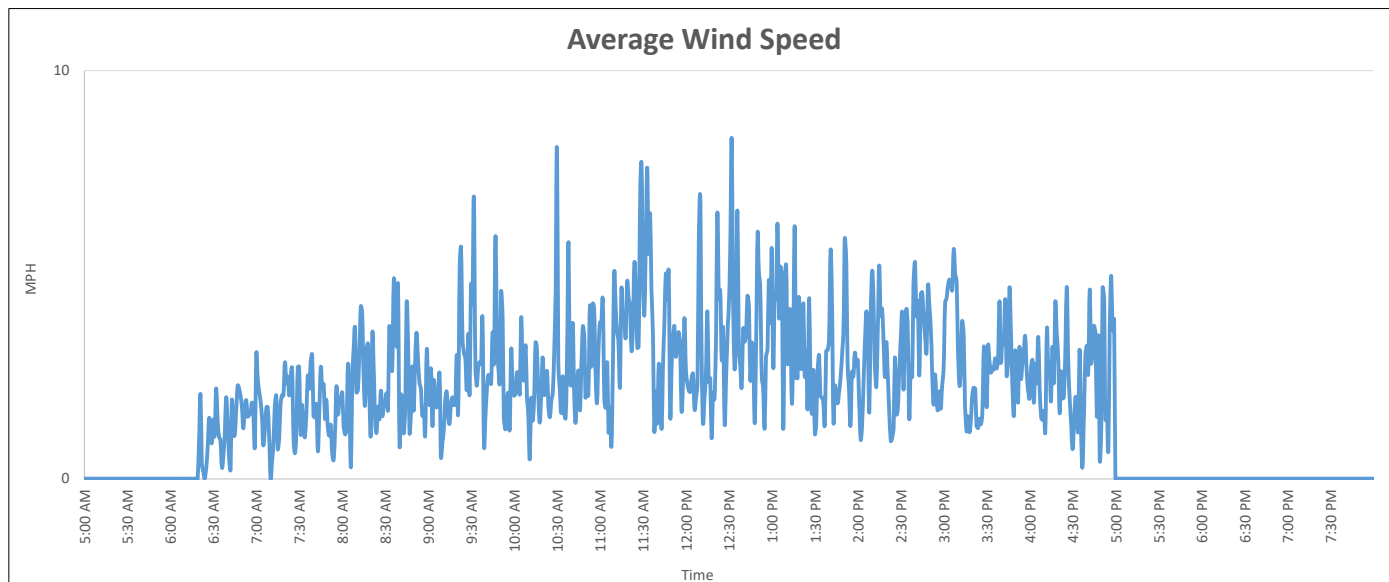
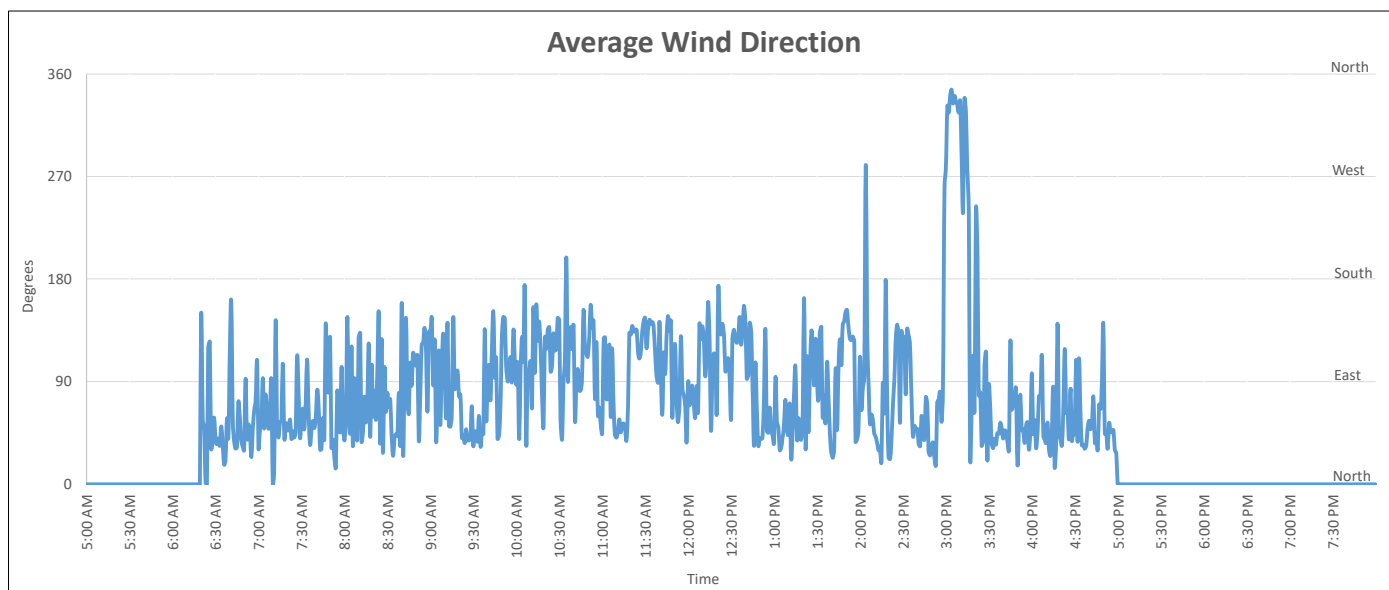


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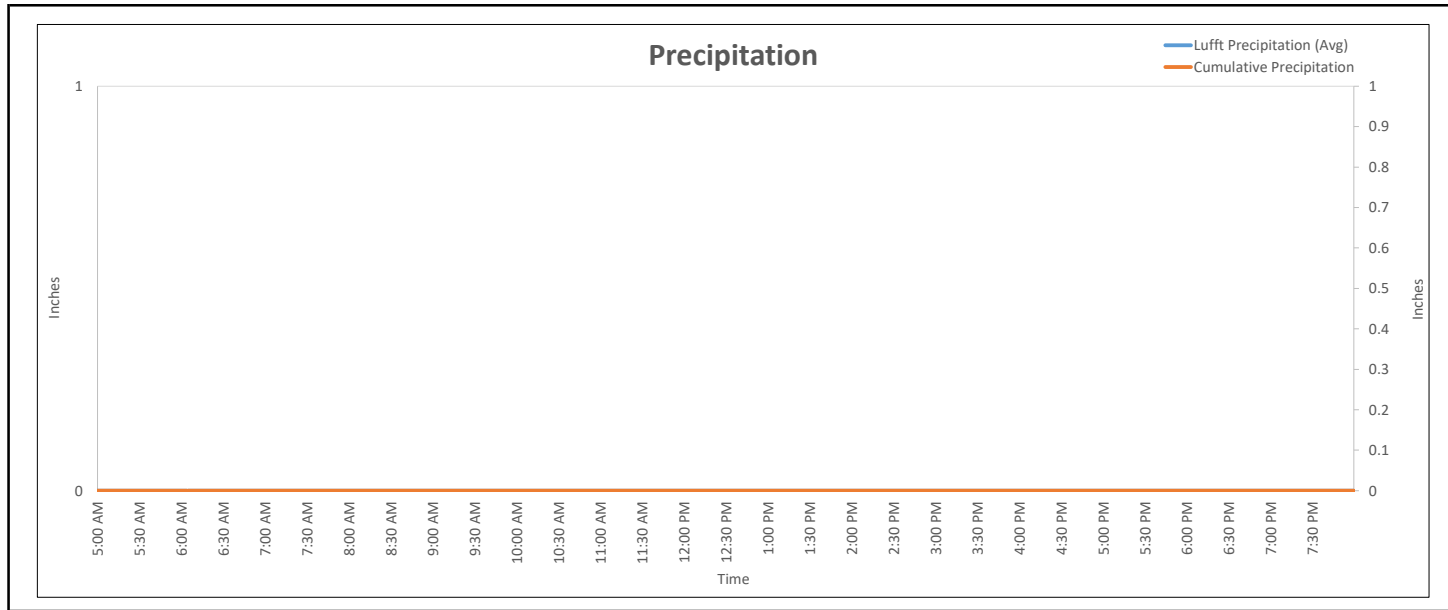
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:57 AM	5:23 PM	9.41	28.00	8.44	26.00



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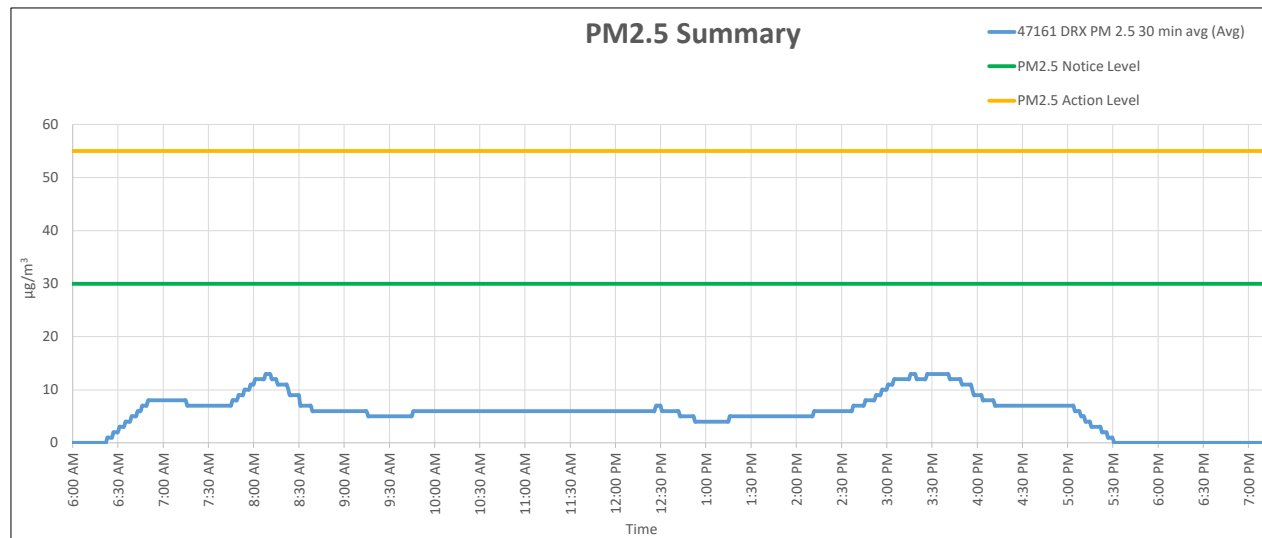
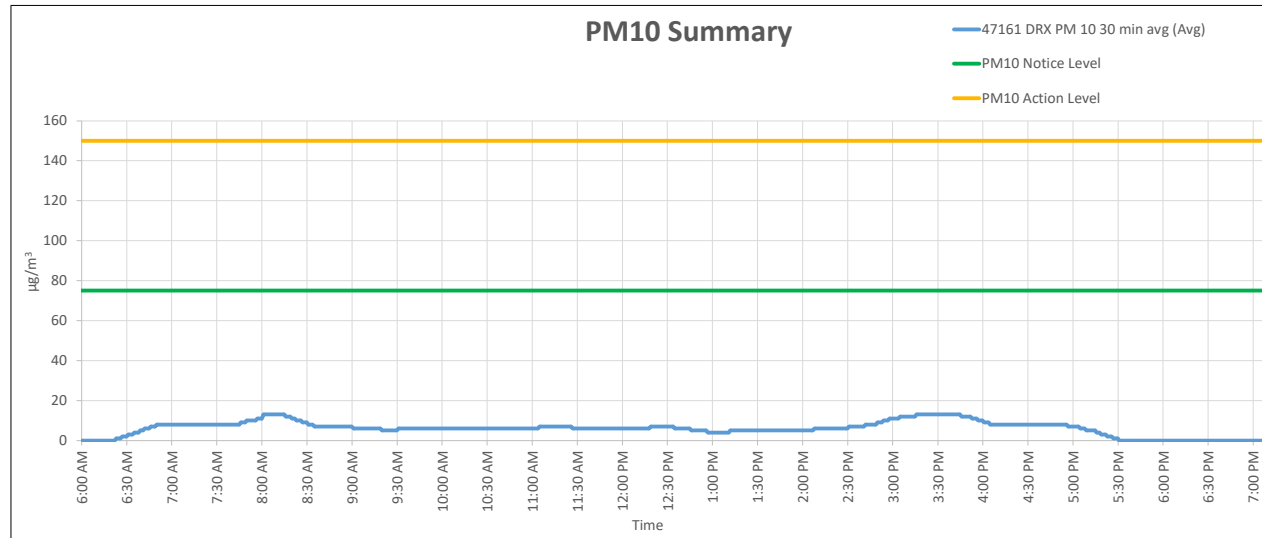


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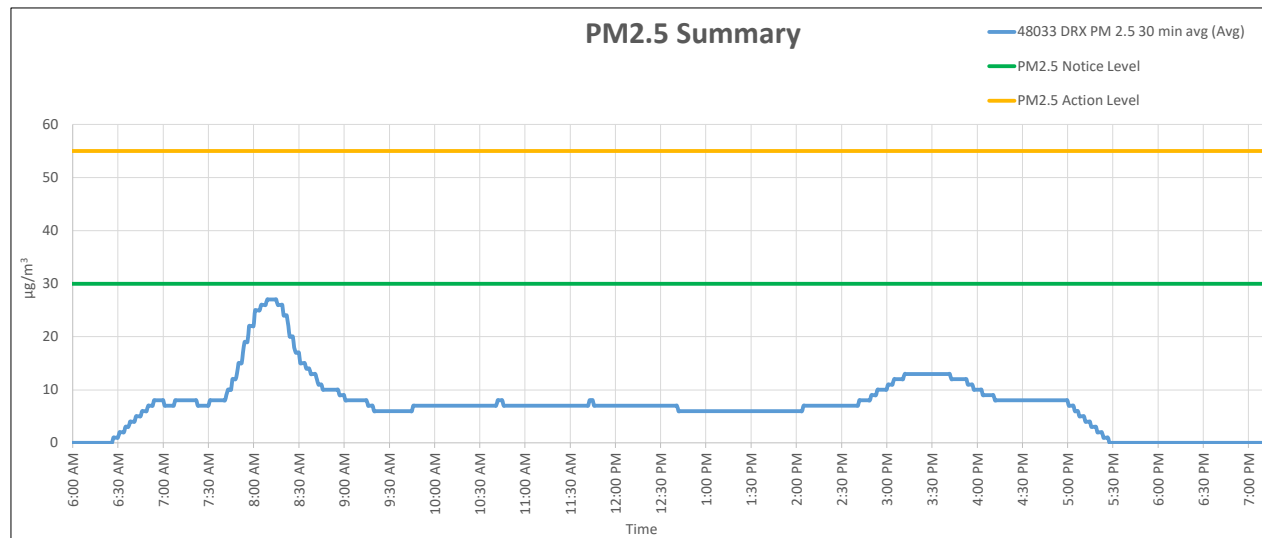
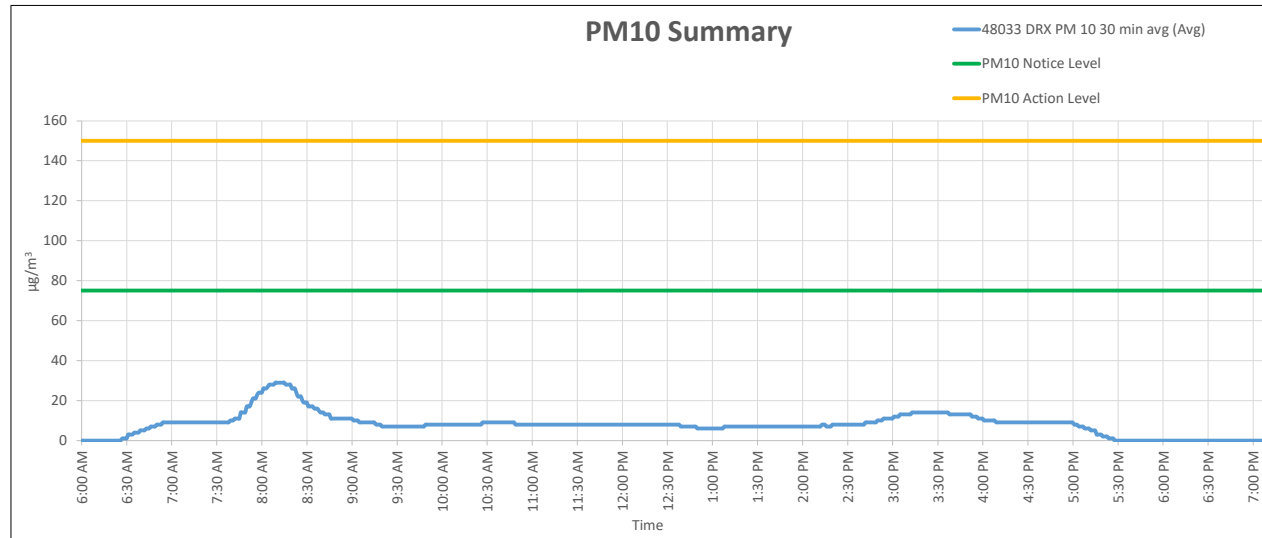
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:23 AM	5:26 PM	7.14	13.00	6.78	13.00



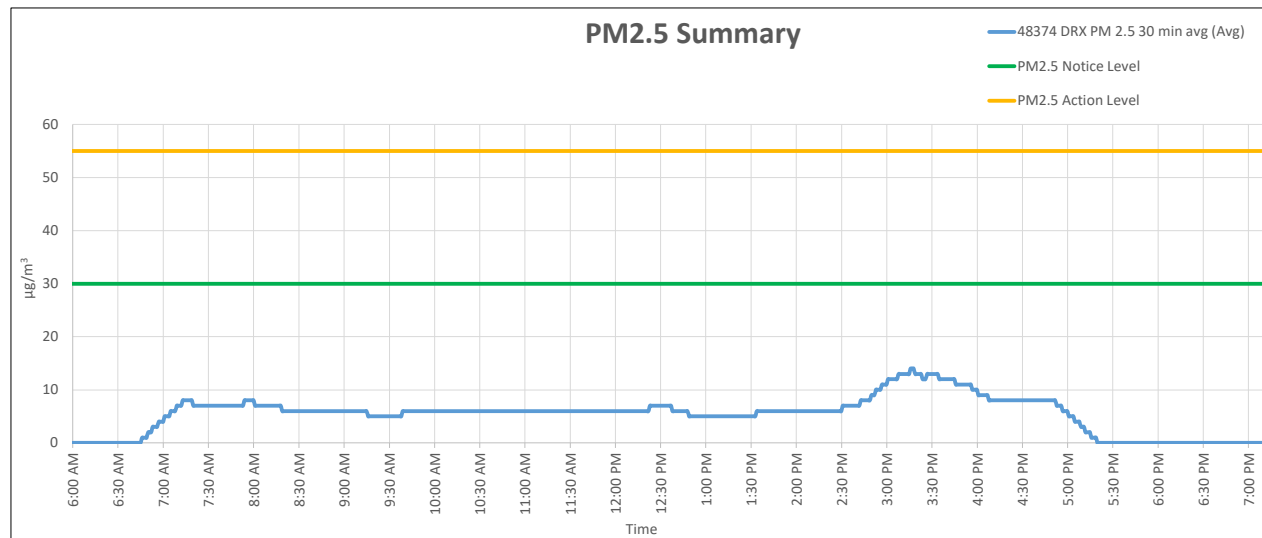
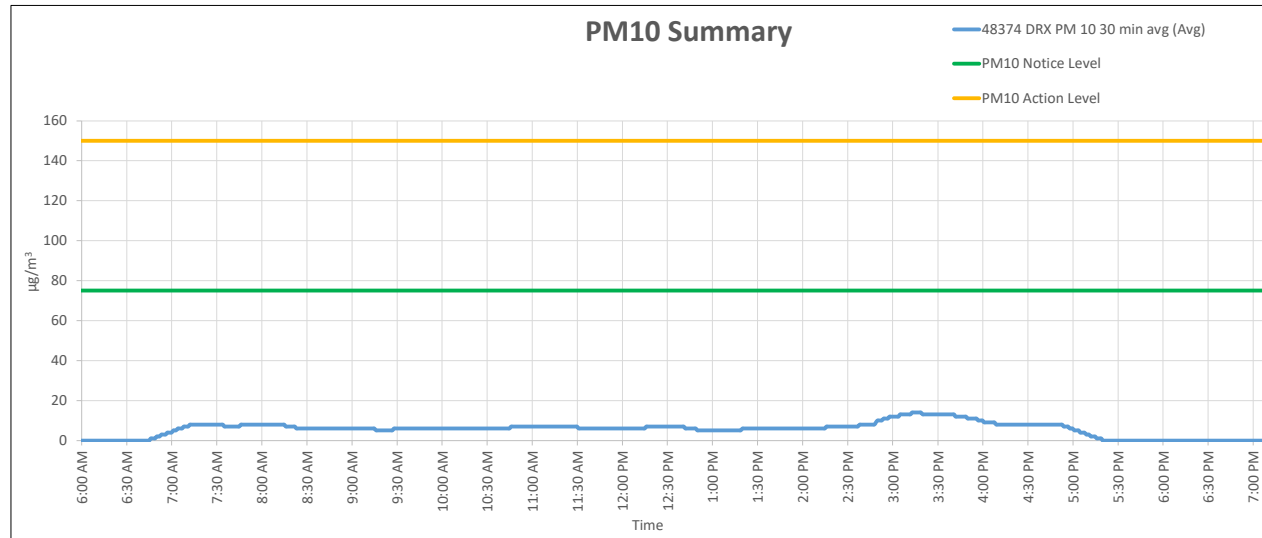
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:27 AM	5:23 PM	9.58	29.00	8.54	27.00



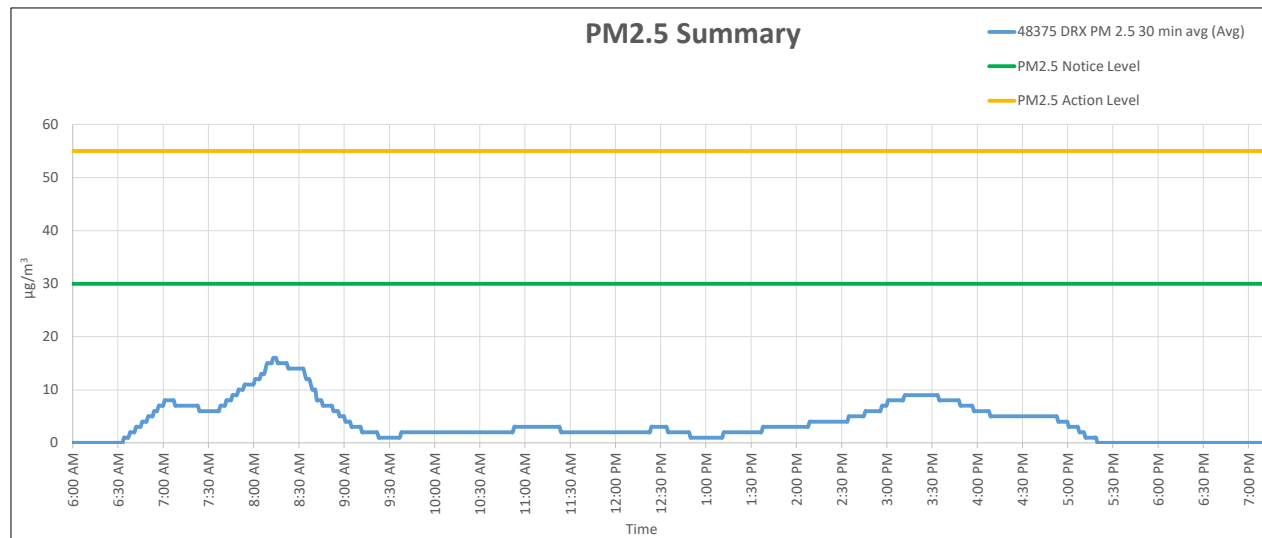
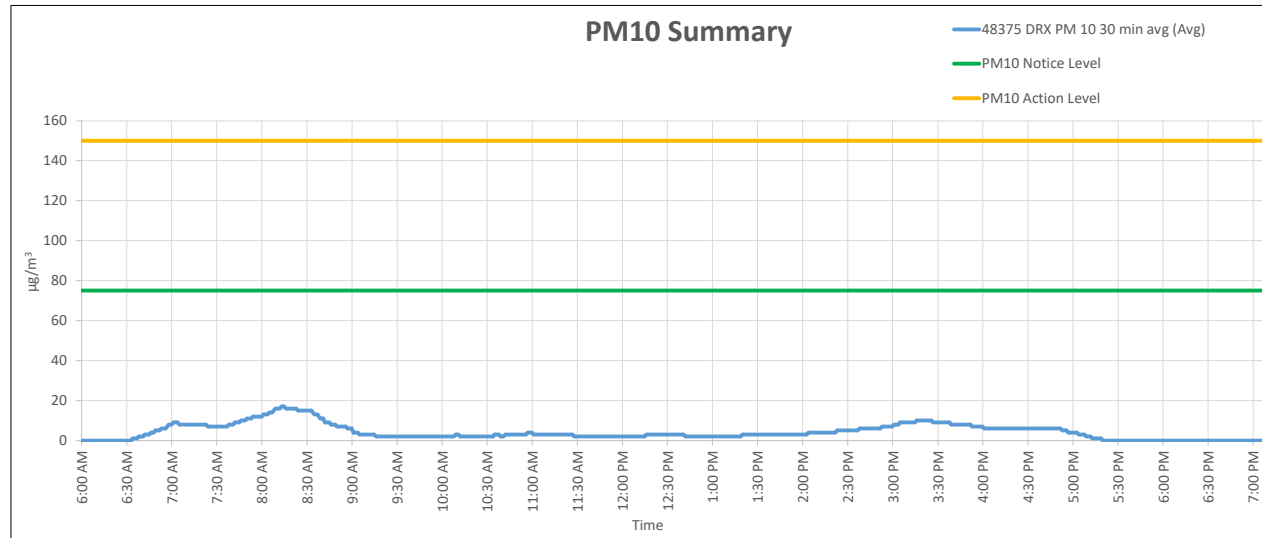
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	6:46 AM	5:15 PM	7.03	14.00	6.74	14.00



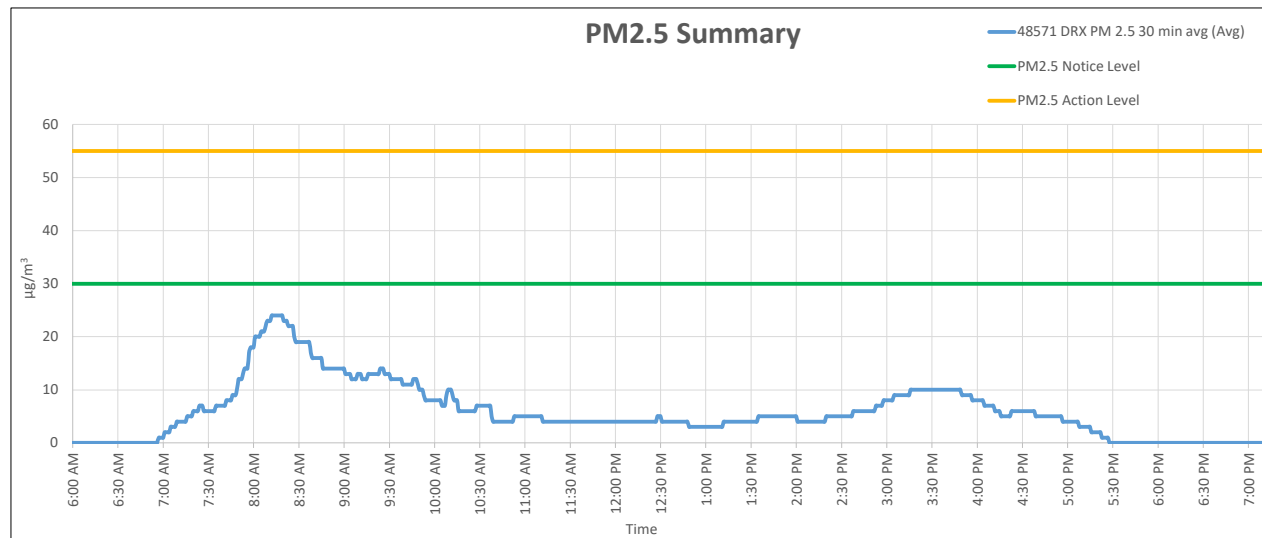
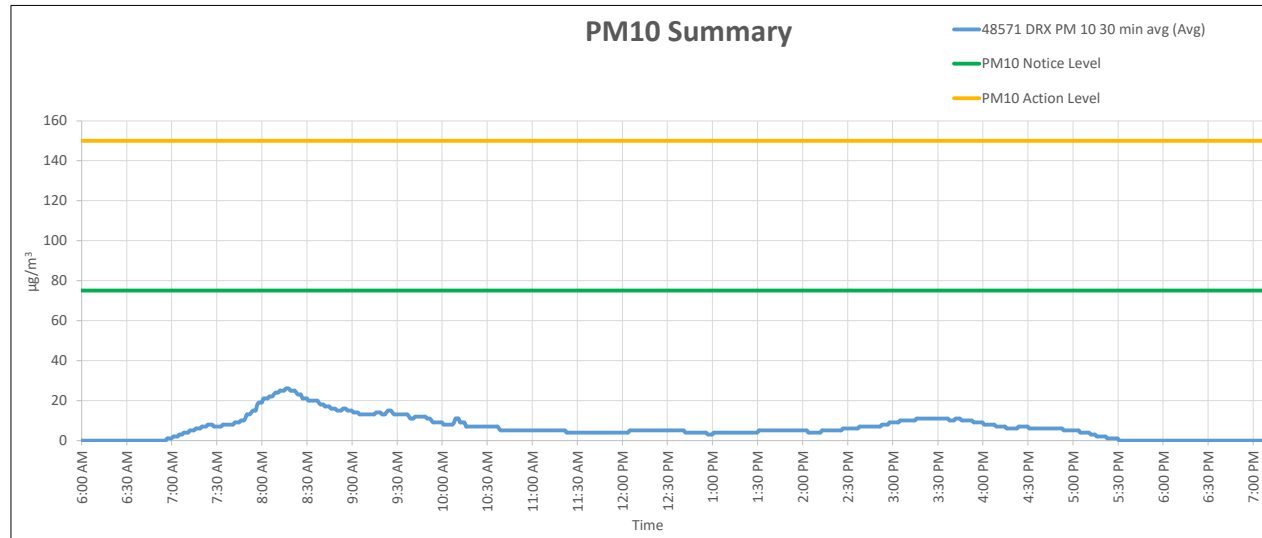
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:34 AM	5:12 PM	5.15	17.00	4.64	16.00



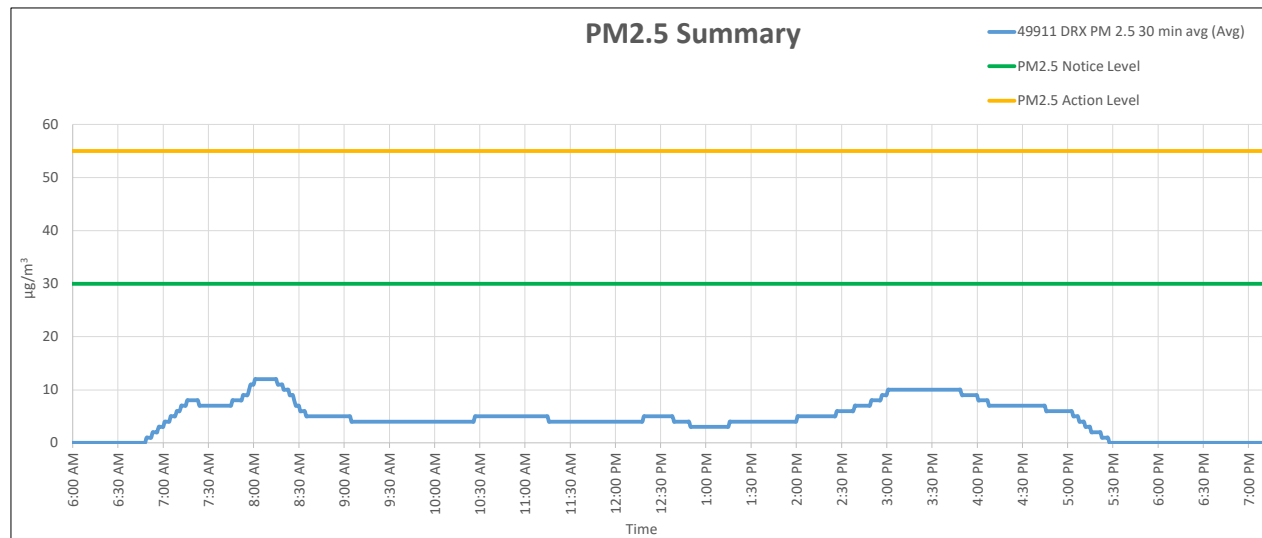
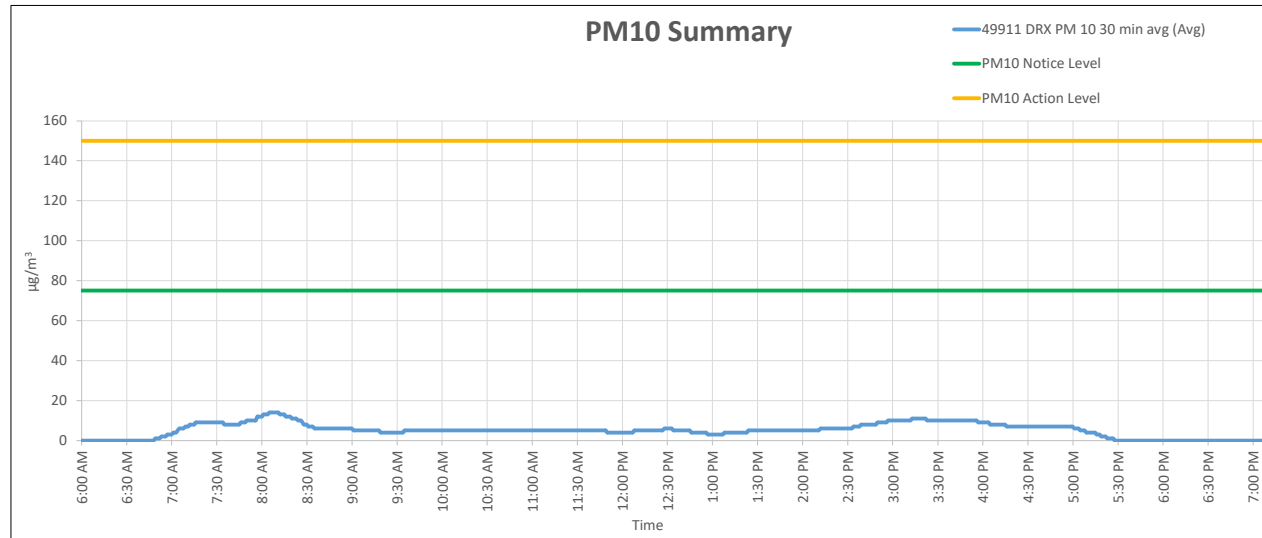
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Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	6:57 AM	5:22 PM	8.05	26.00	7.41	24.00



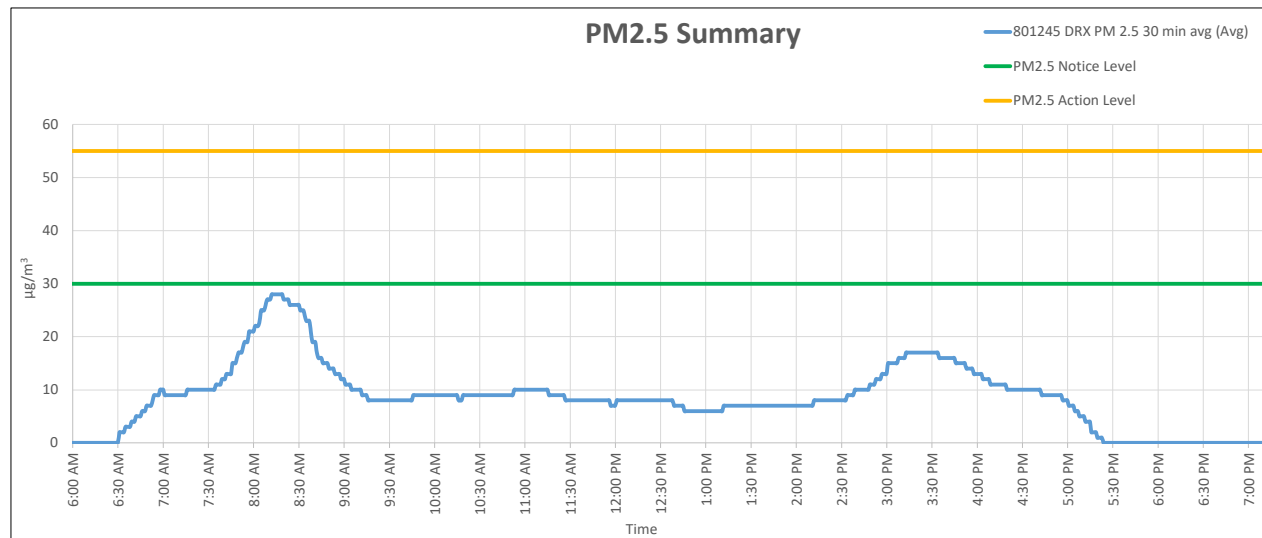
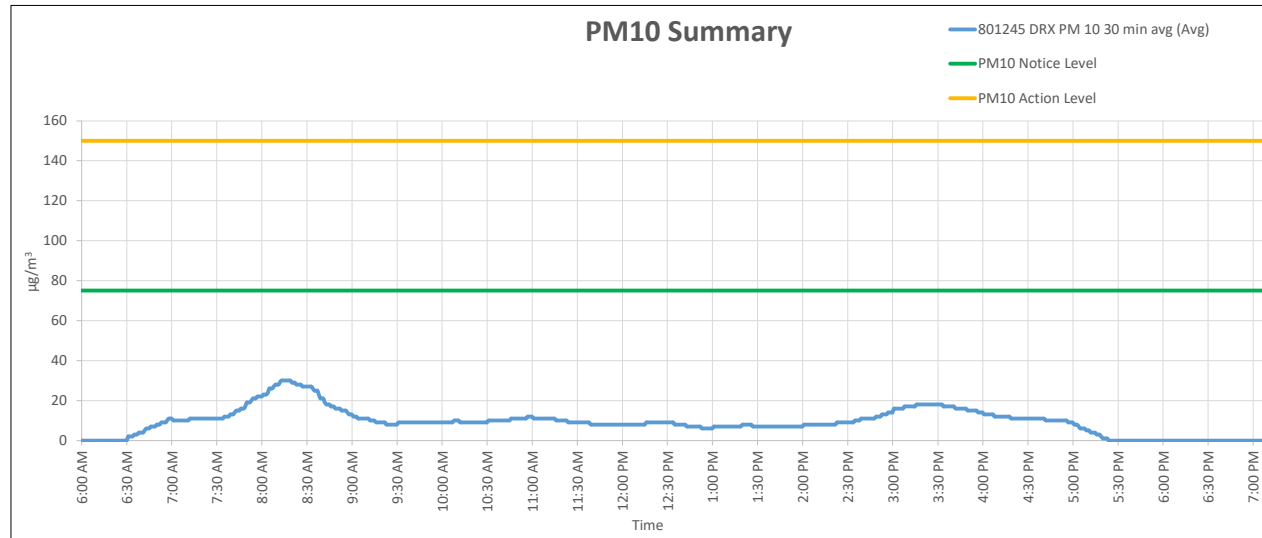
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Wednesday, June 26, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	6:49 AM	5:22 PM	6.33	14.00	5.69	12.00

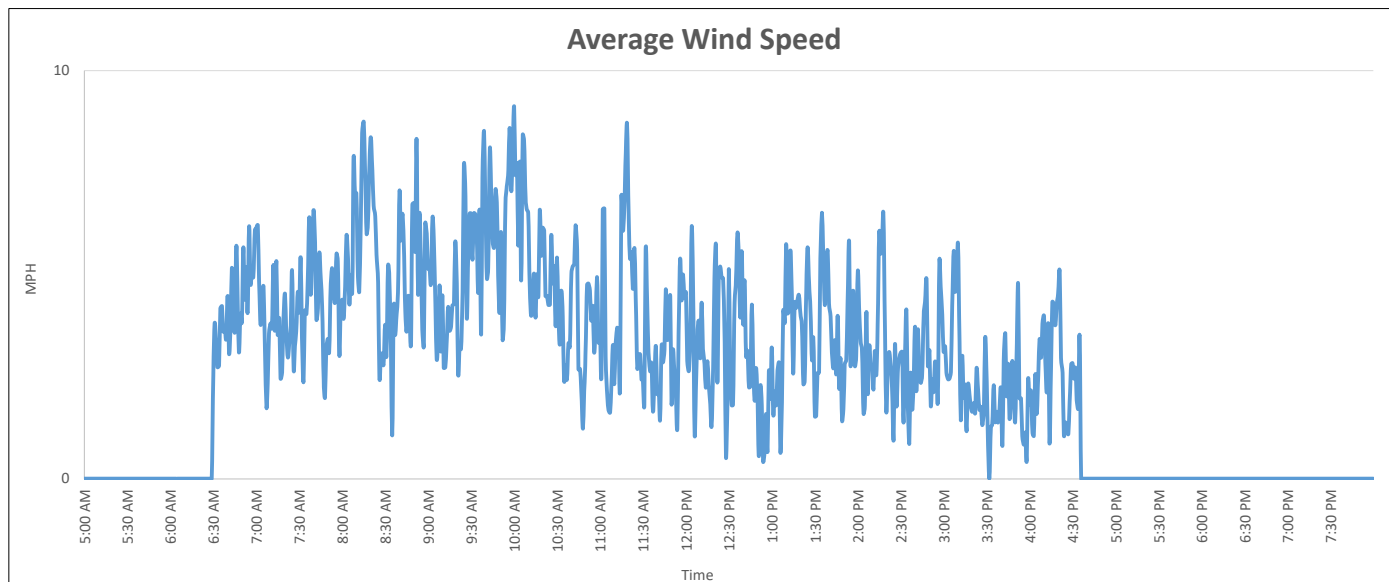
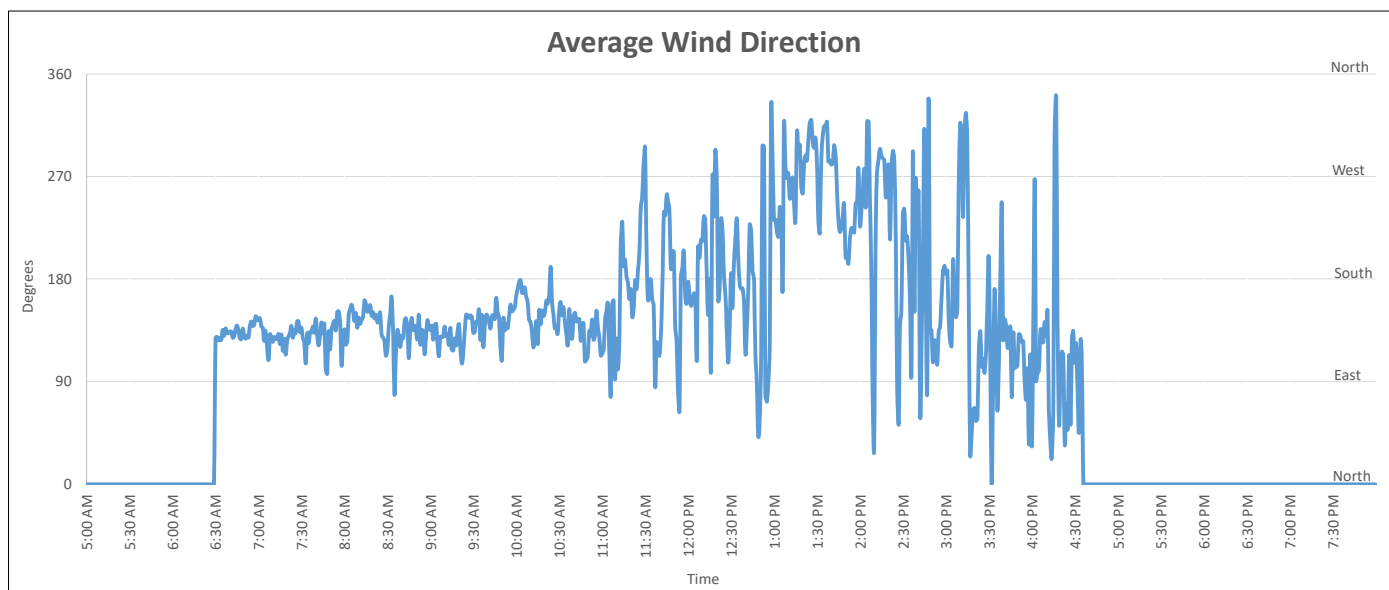


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Wednesday, June 26, 2024

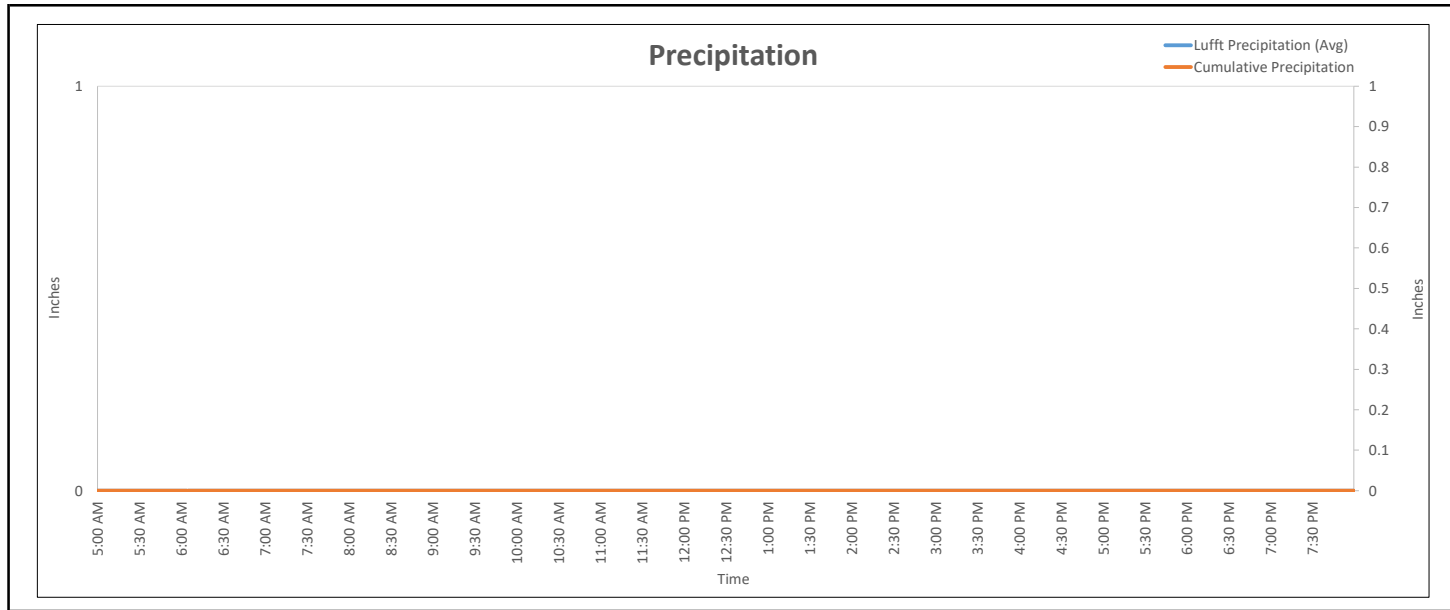
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:31 AM	5:19 PM	11.25	30.00	10.46	28.00



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Thursday, June 27, 2024

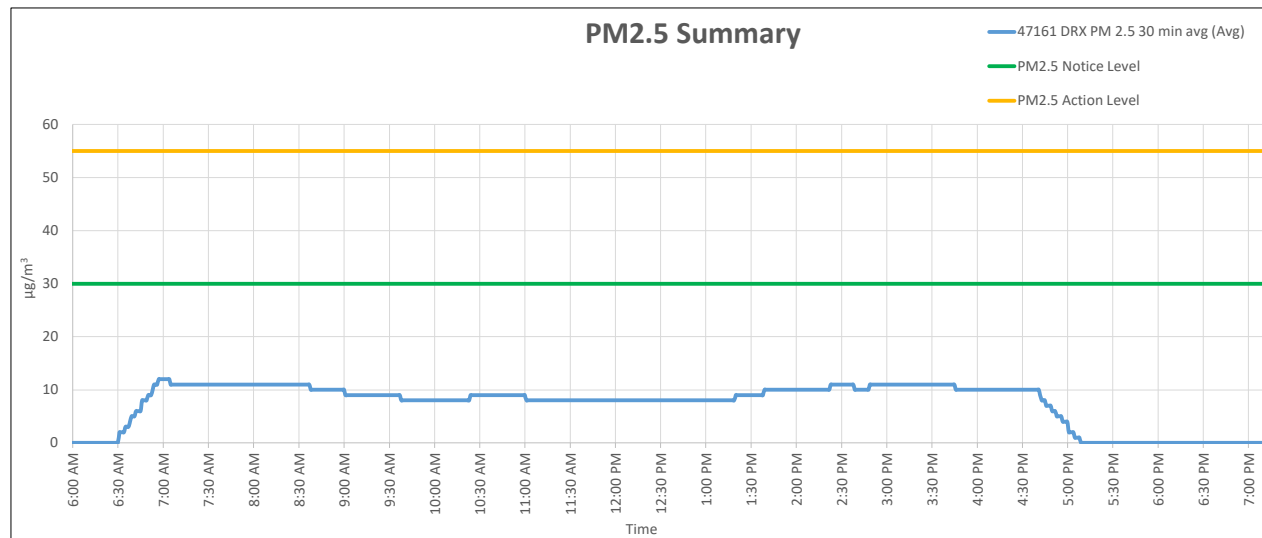
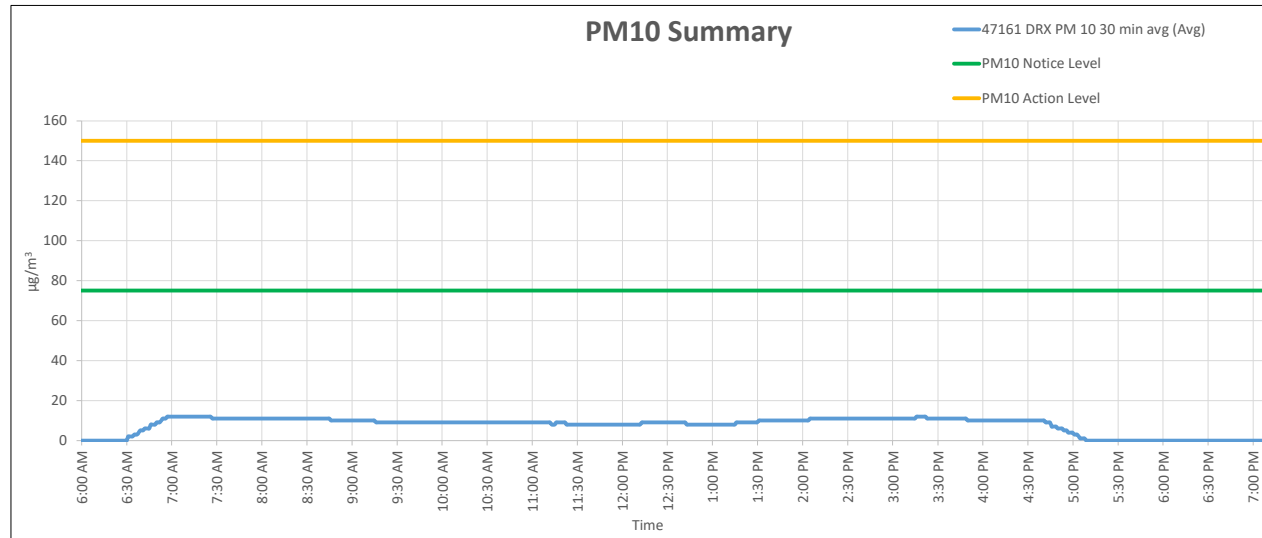


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Thursday, June 27, 2024



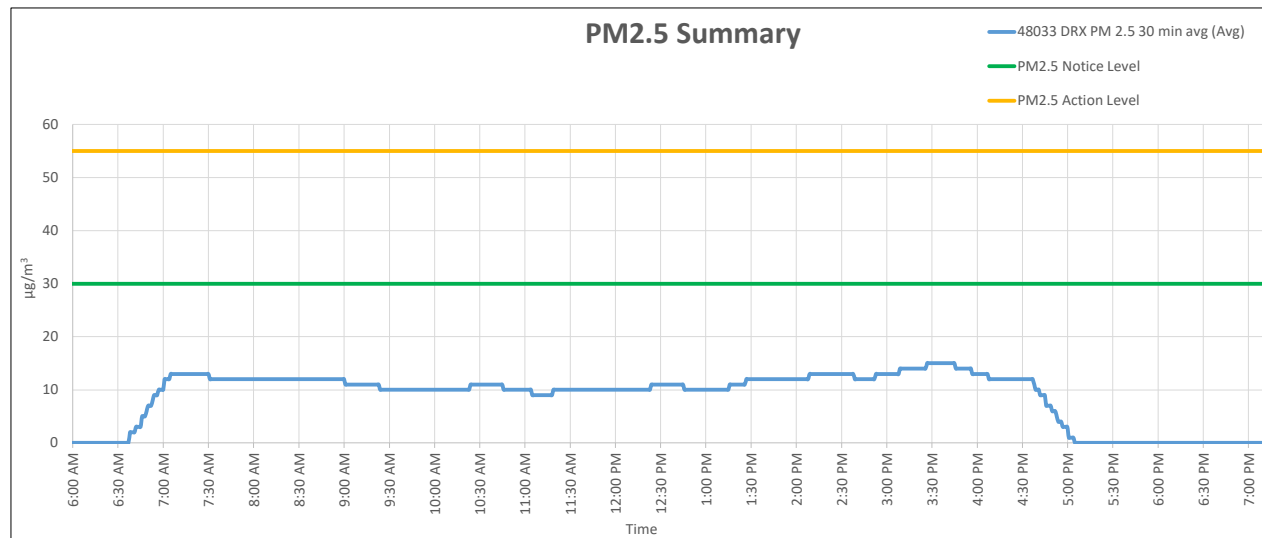
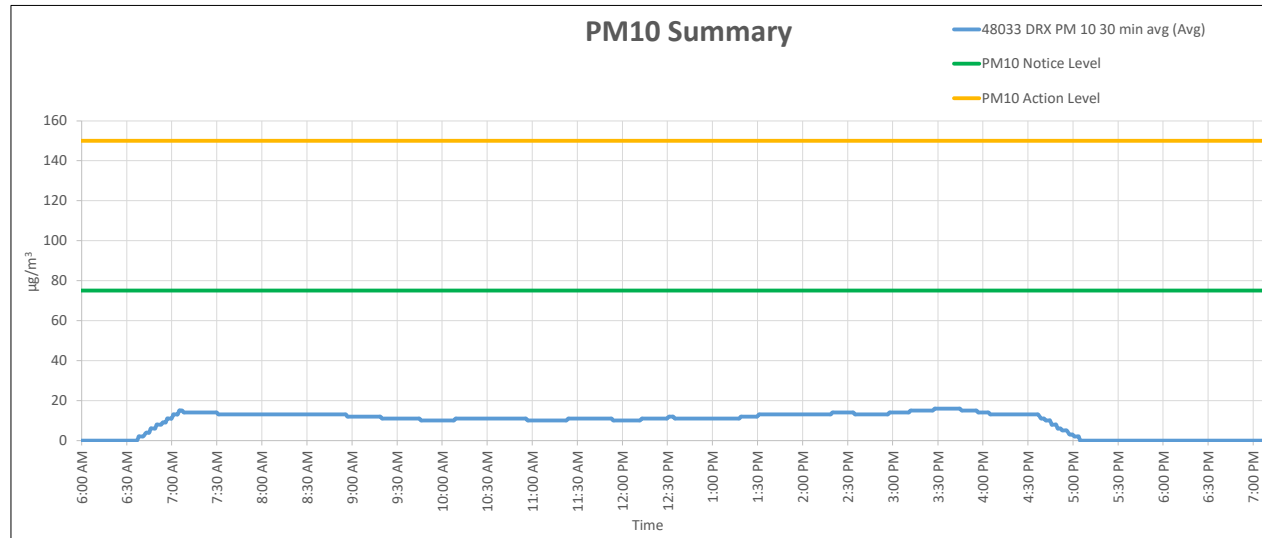
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 27, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:31 AM	5:04 PM	9.49	12.00	9.18	12.00



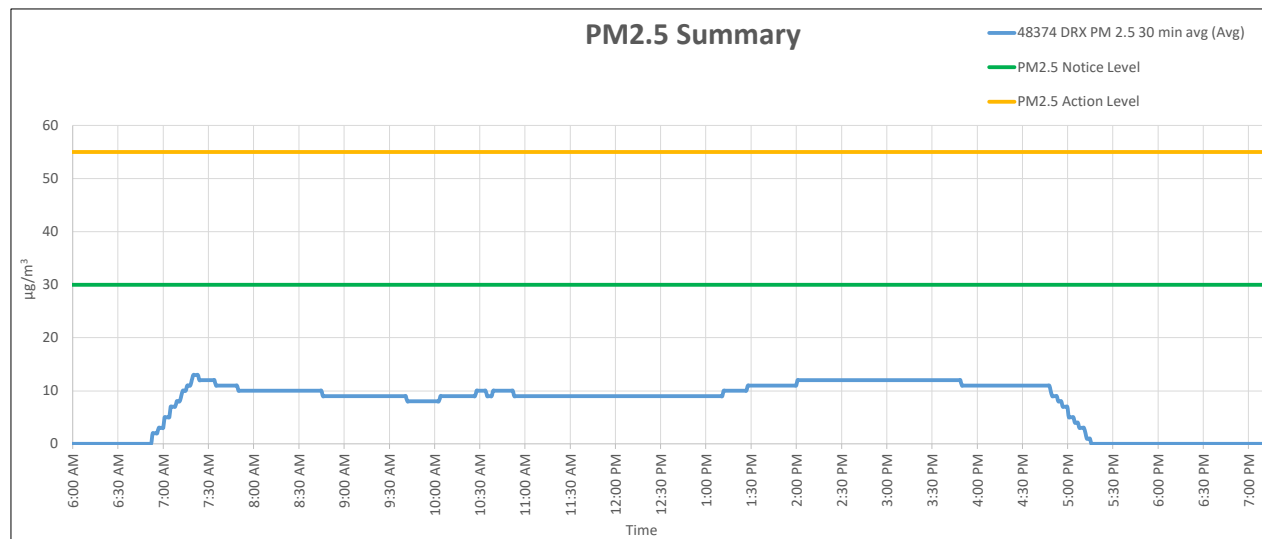
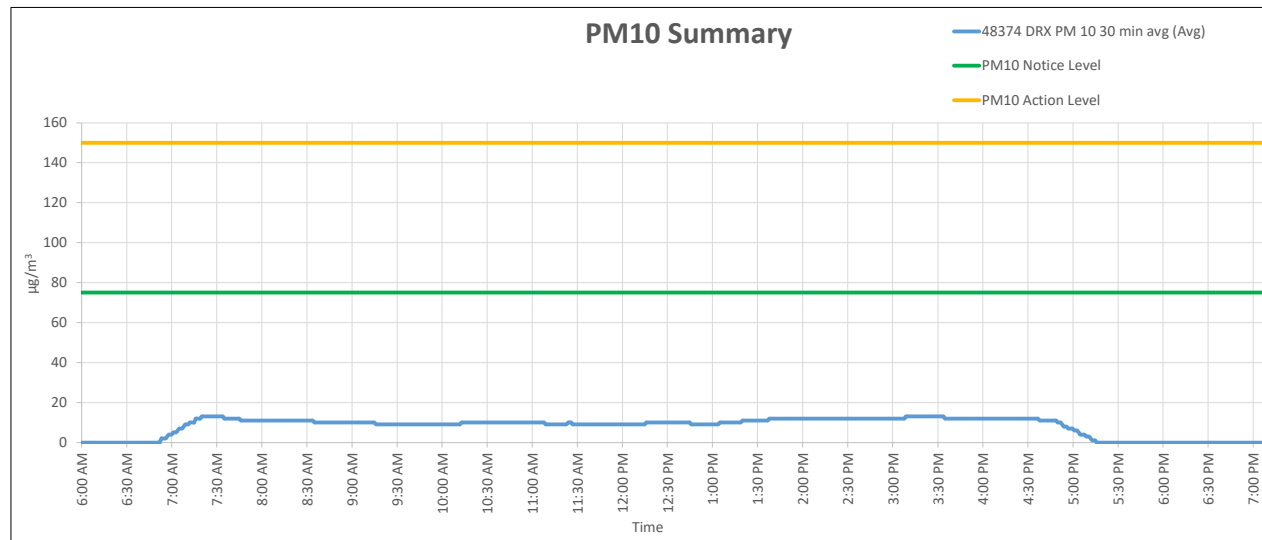
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 27, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:38 AM	5:04 PM	11.84	16.00	11.08	15.00



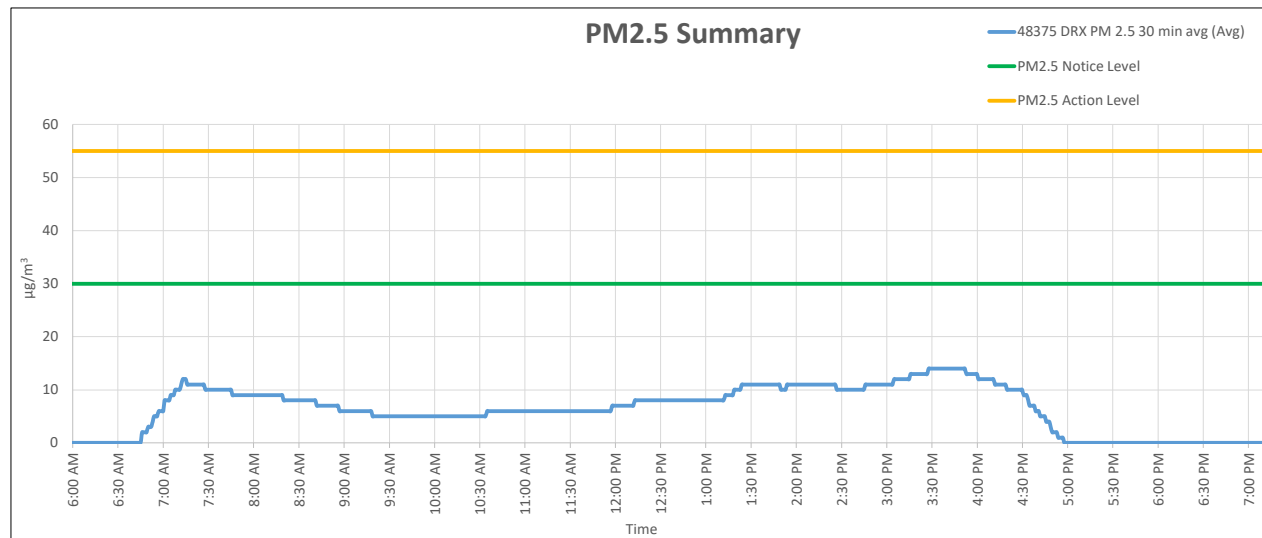
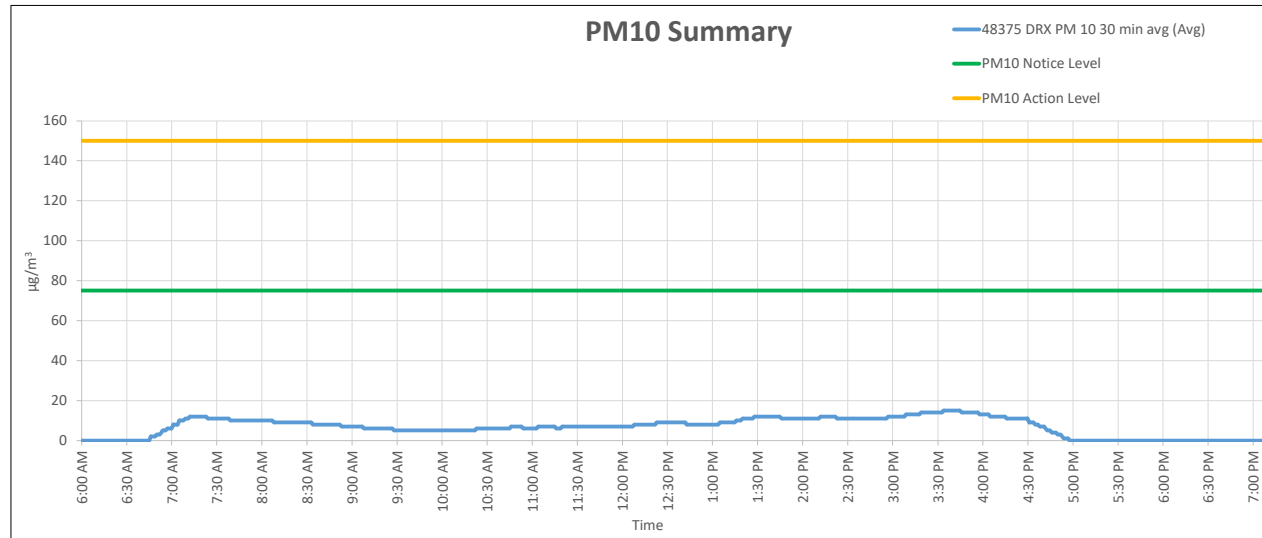
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 27, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	6:53 AM	5:12 PM	10.31	13.00	9.80	13.00



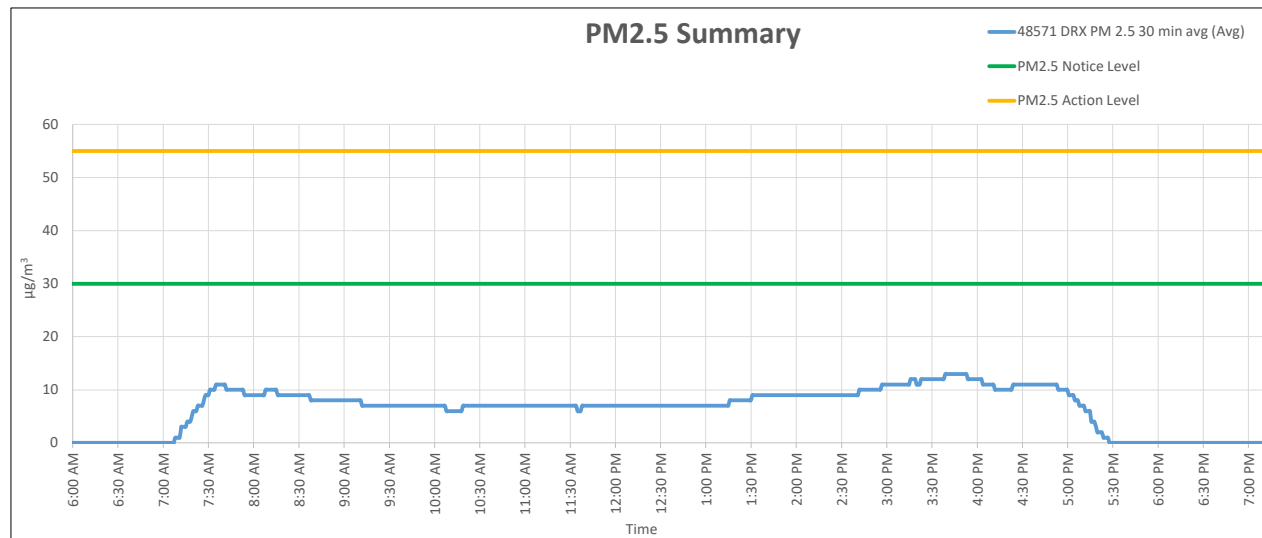
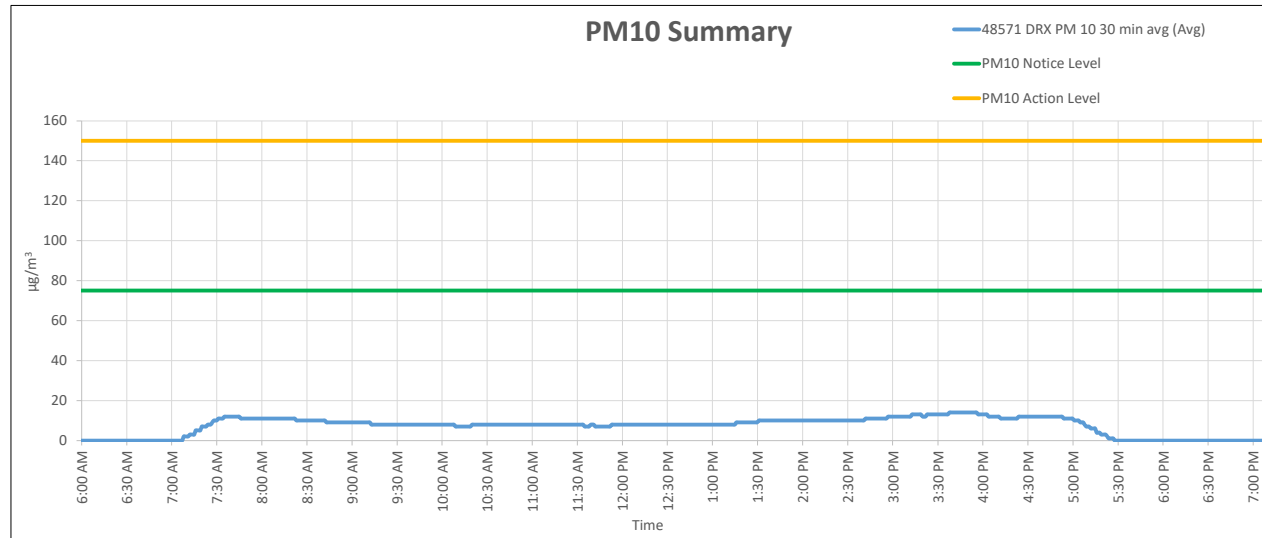
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 27, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:46 AM	4:53 PM	8.85	15.00	8.32	14.00



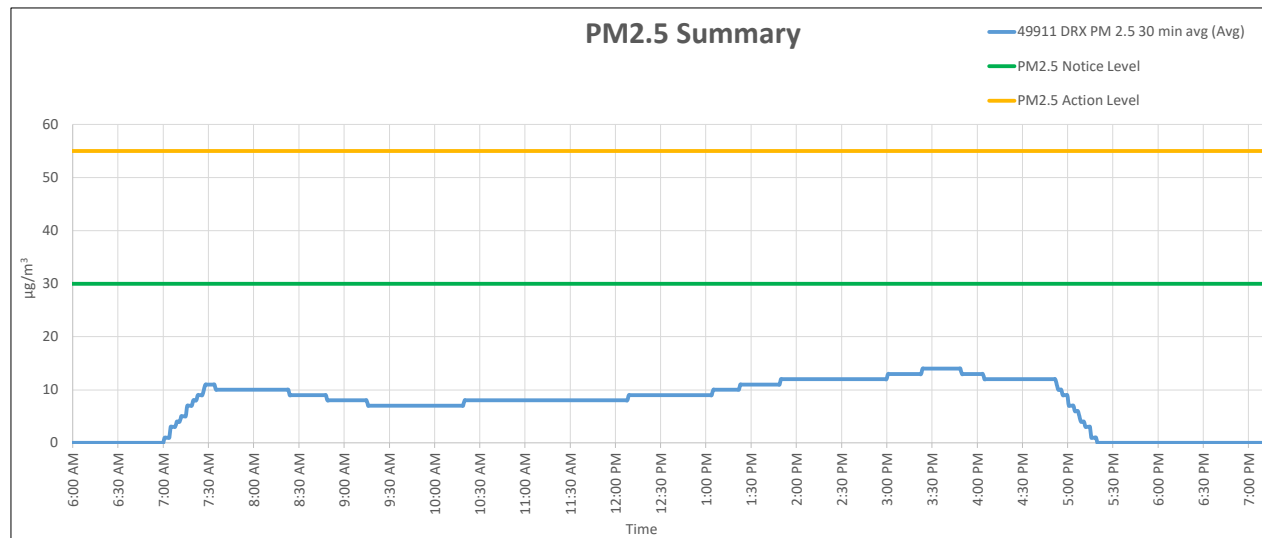
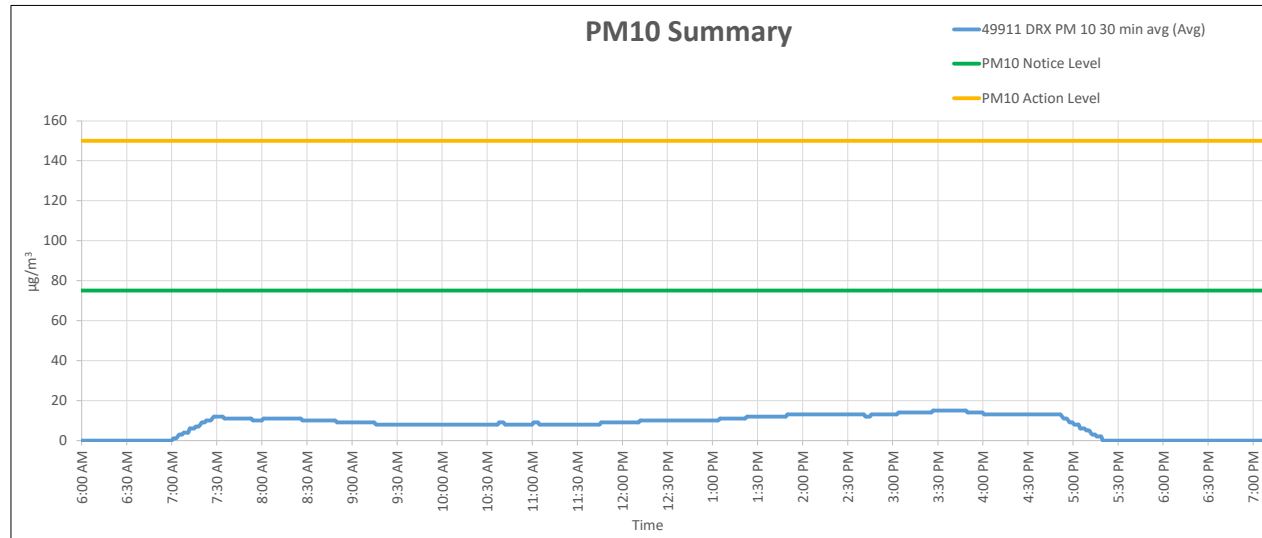
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 27, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:08 AM	5:23 PM	9.35	14.00	8.35	13.00



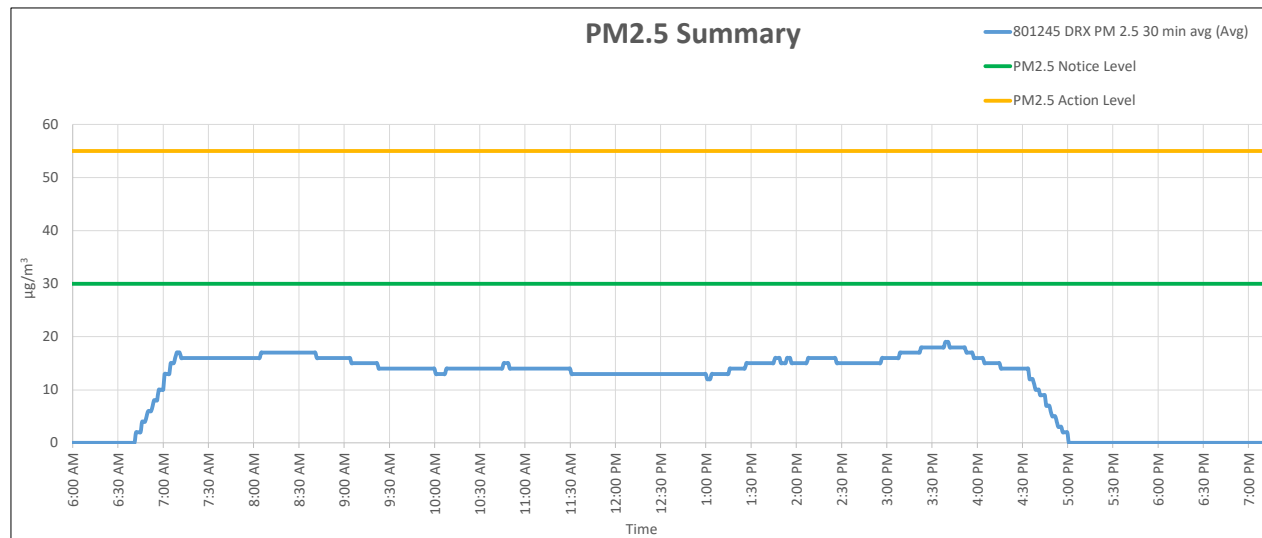
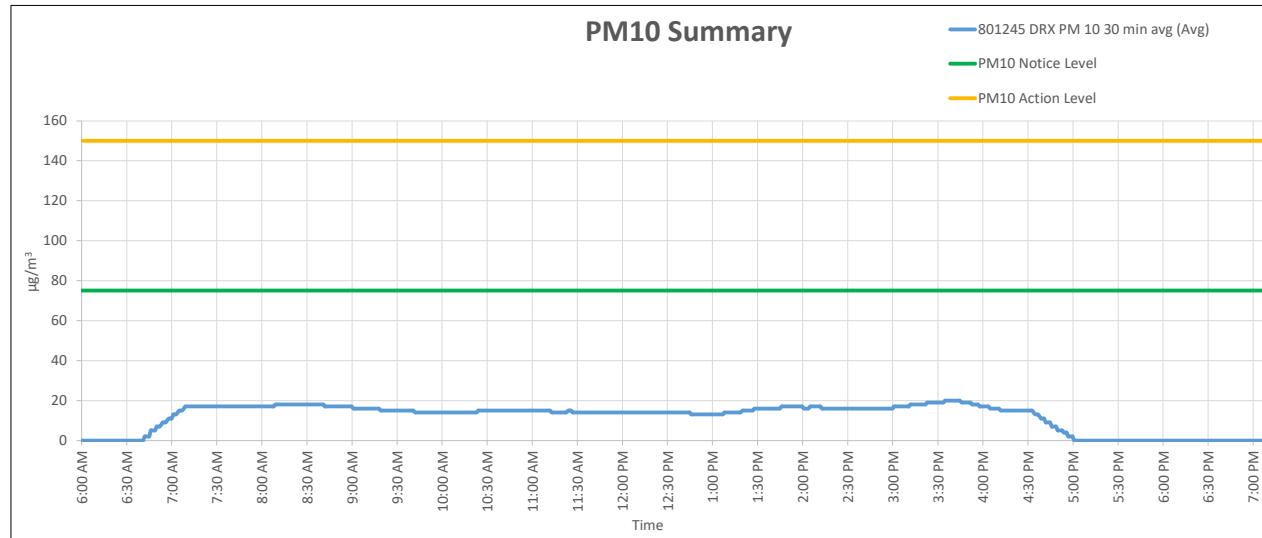
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 27, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	7:01 AM	5:19 PM	10.33	15.00	9.53	14.00

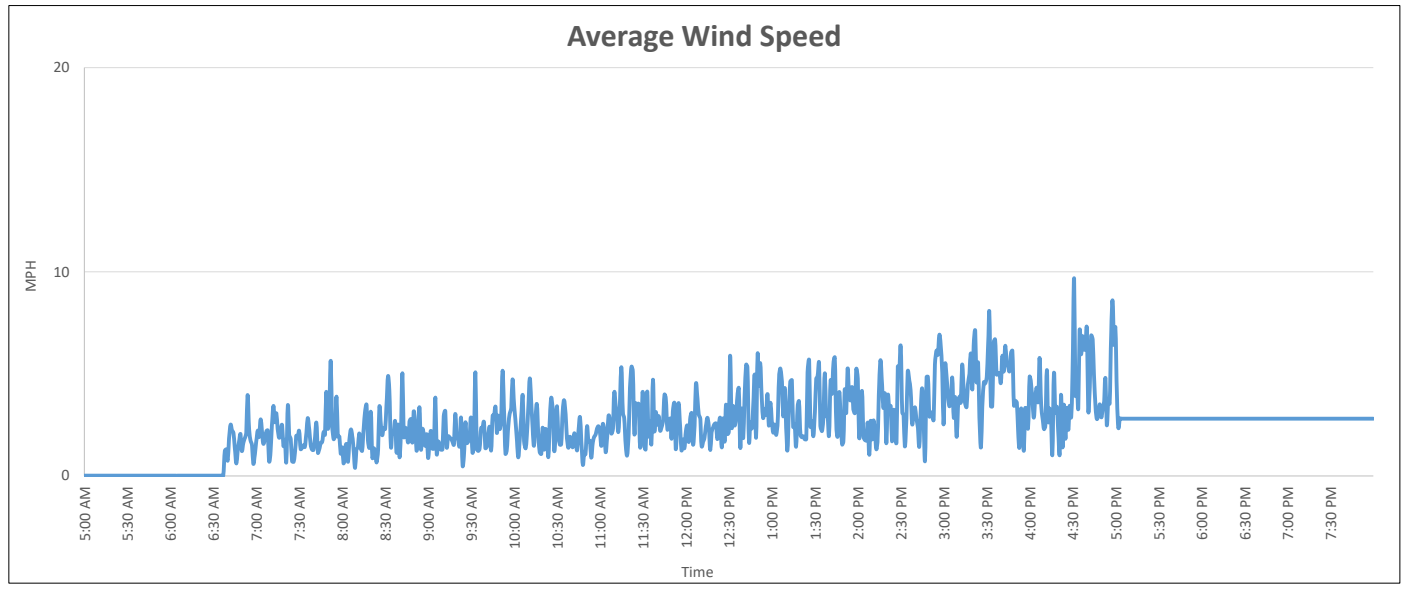
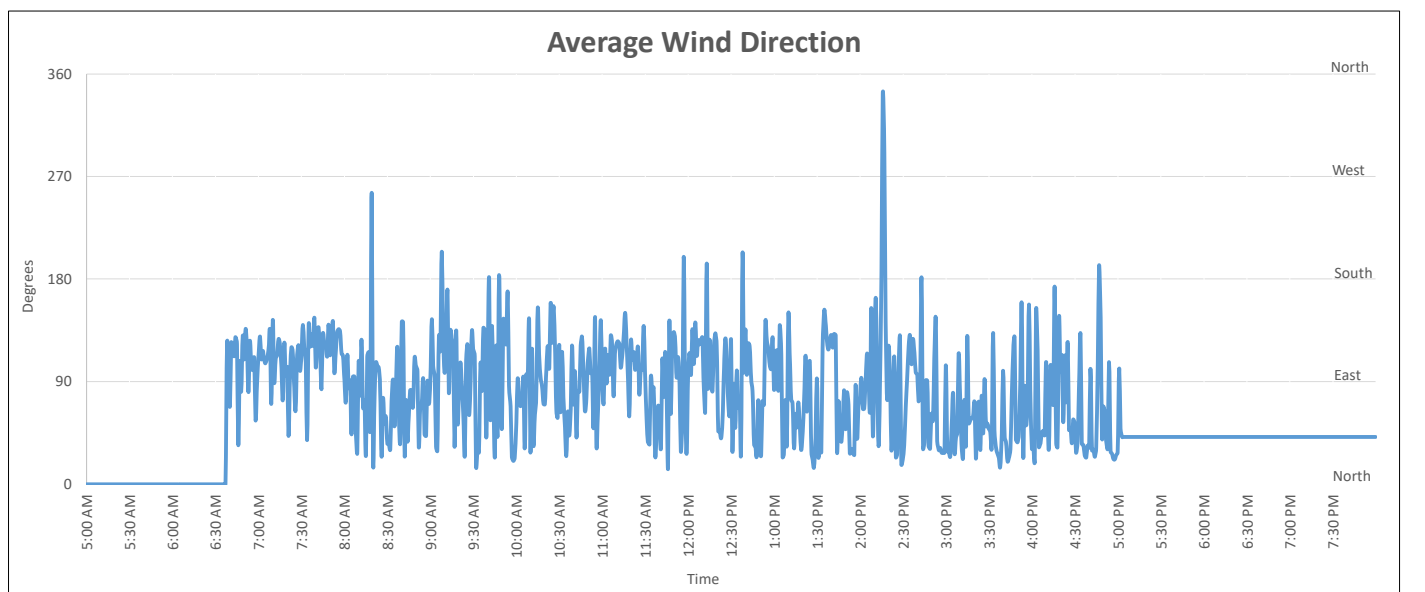


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Thursday, June 27, 2024

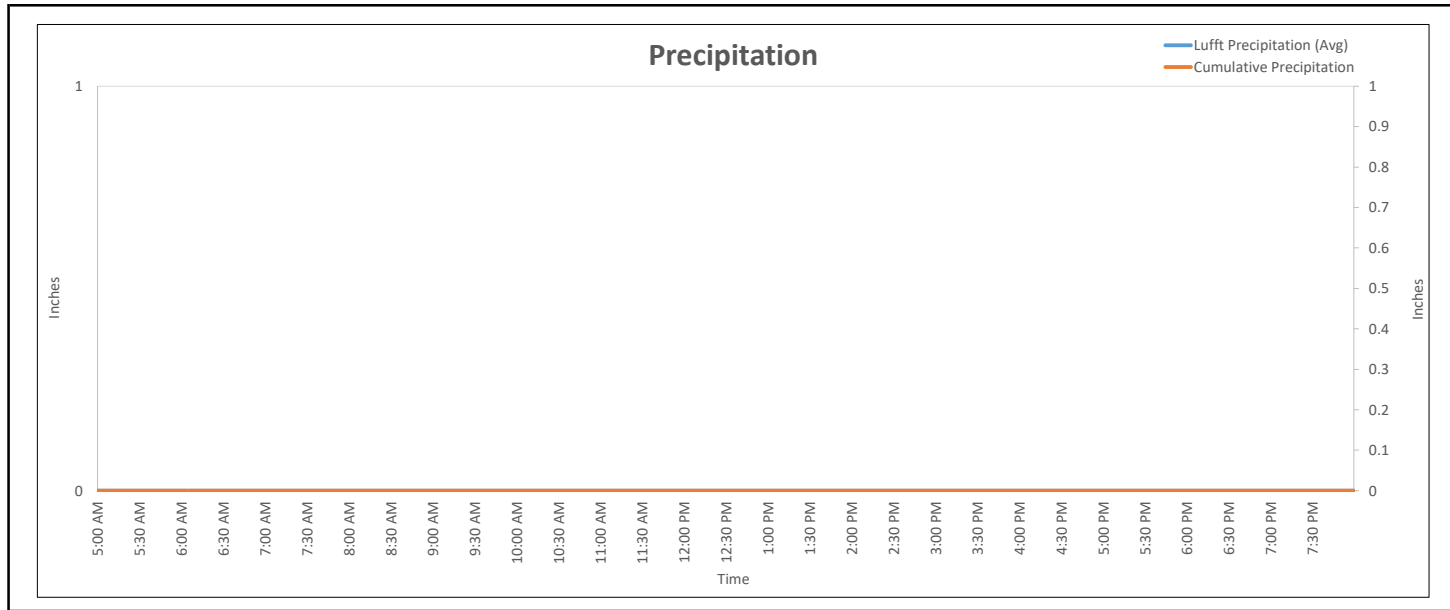
Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:42 AM	5:00 PM	15.09	20.00	14.30	19.00



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Friday, June 28, 2024

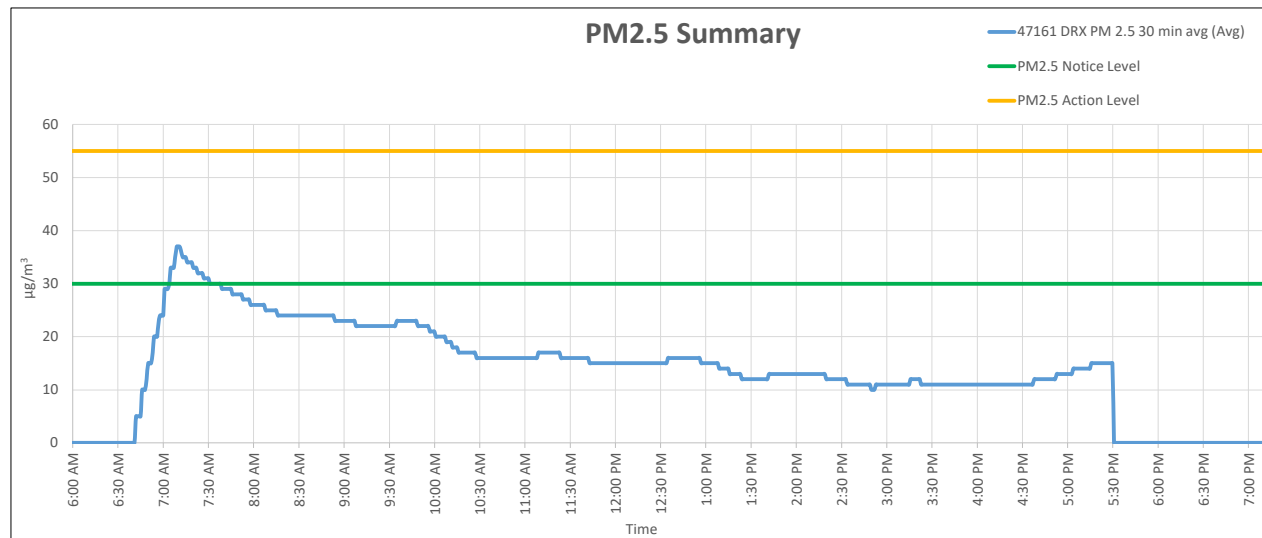
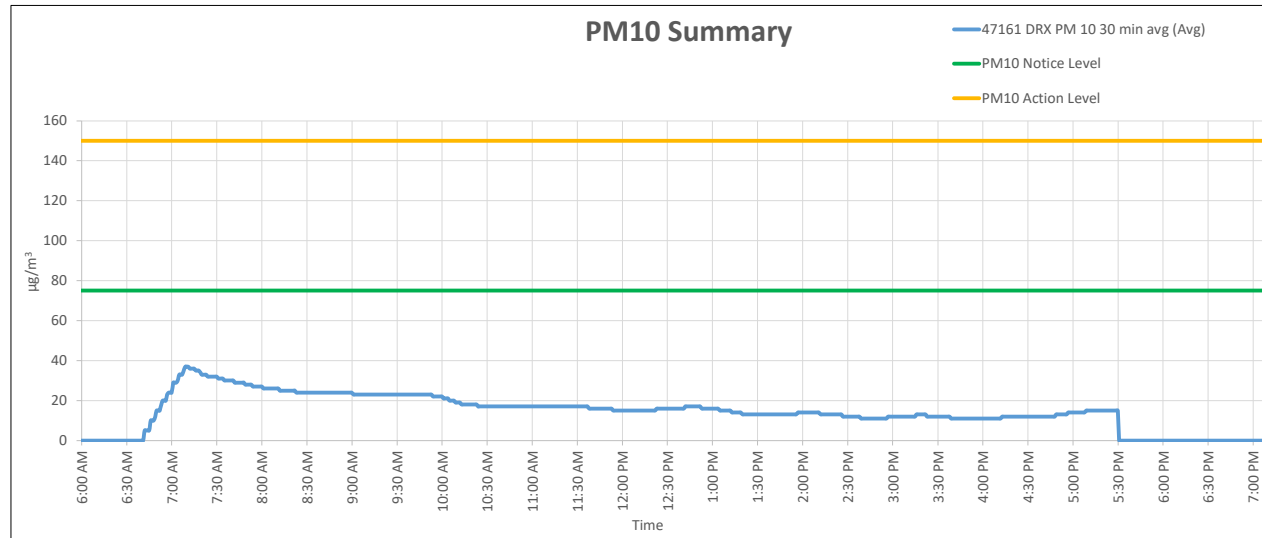


Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Weather Daily Summary
Friday, June 28, 2024



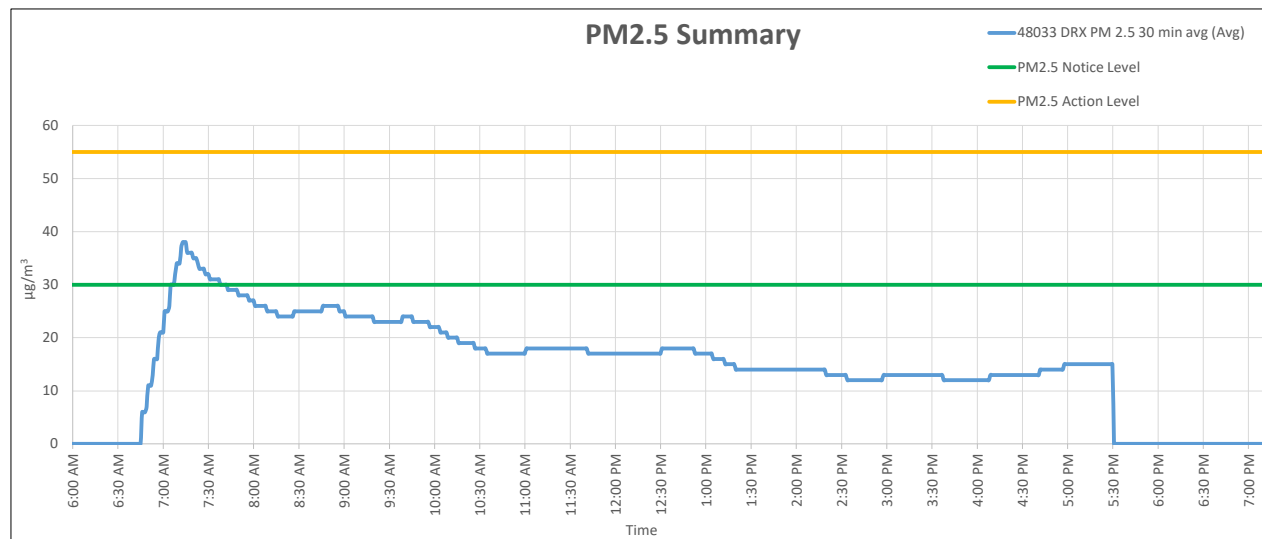
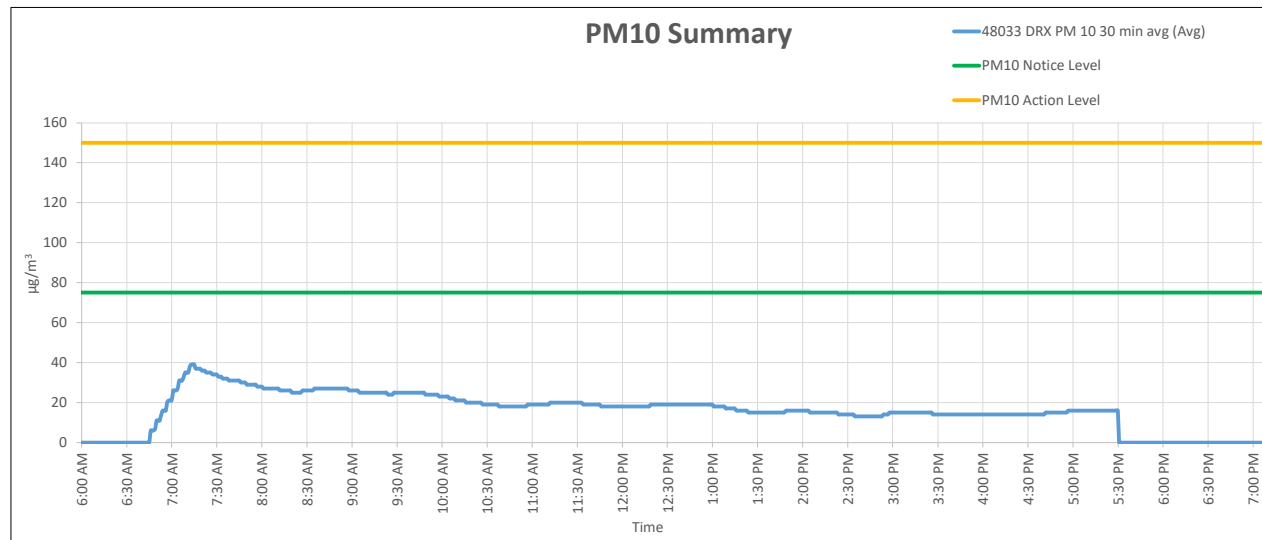
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 28, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
47161	6:42 AM	5:30 PM	17.61	37.00	17.10	37.00



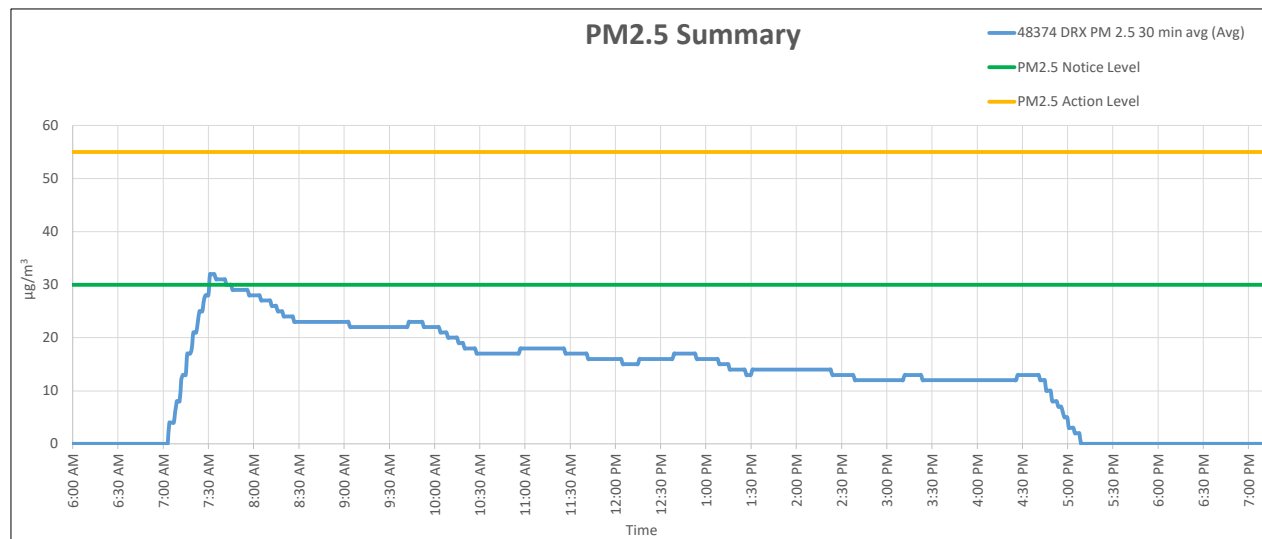
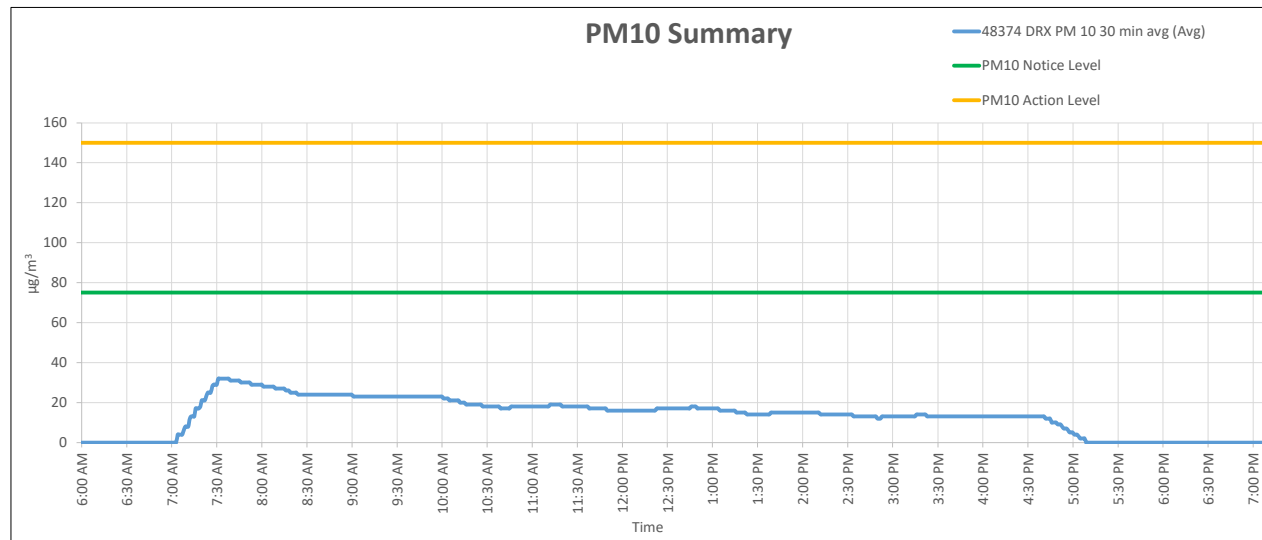
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 28, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48033	6:46 AM	5:30 PM	19.64	39.00	18.35	38.00



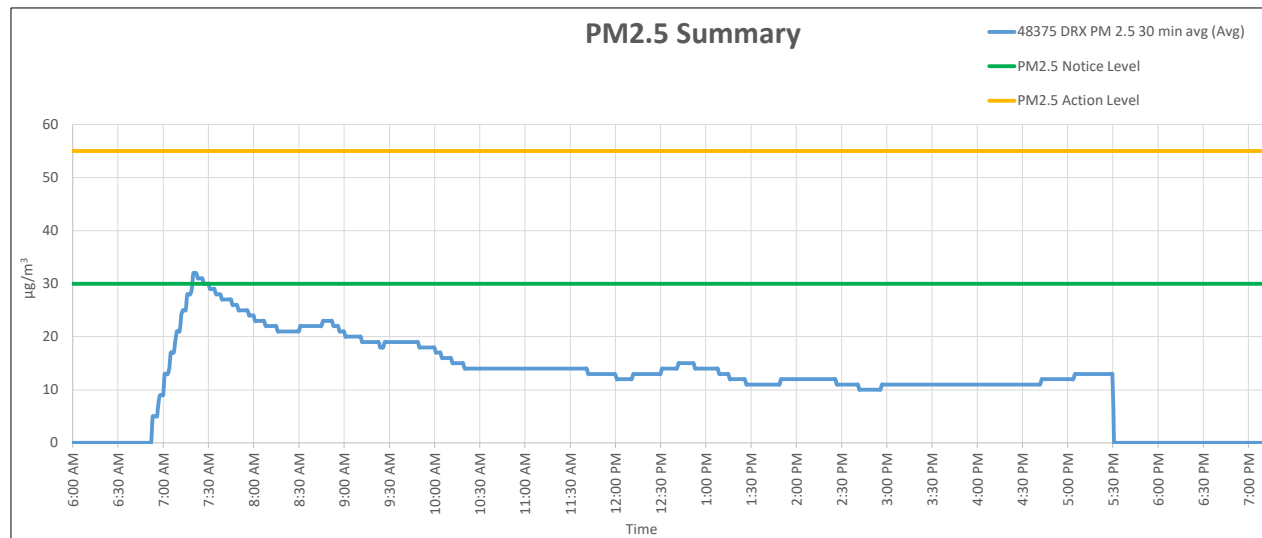
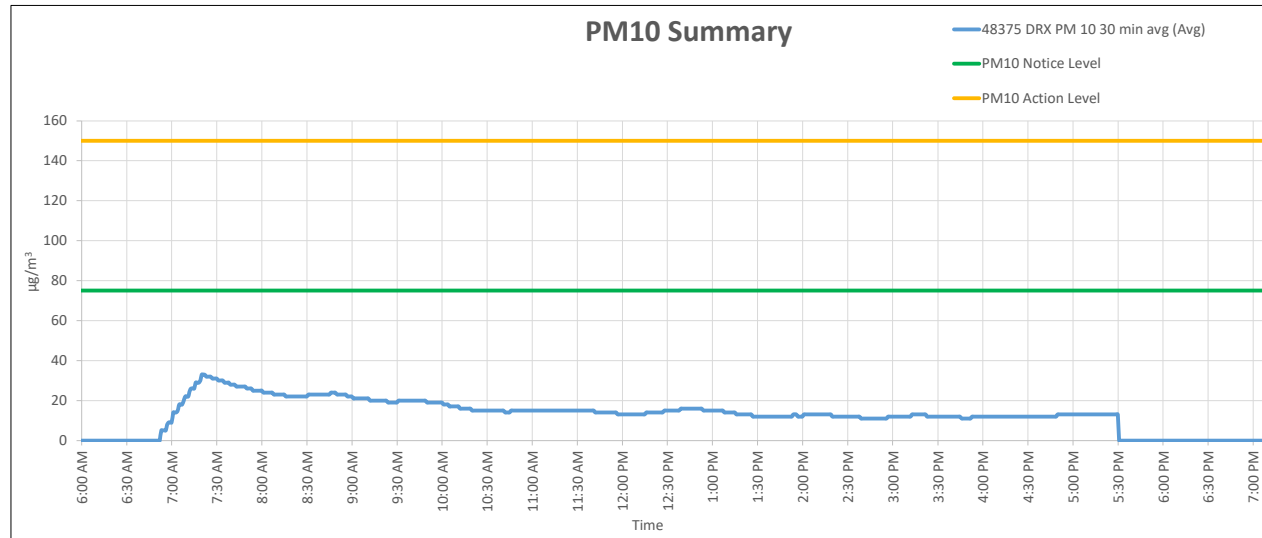
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 28, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48374	7:04 AM	5:08 PM	17.62	32.00	16.98	32.00



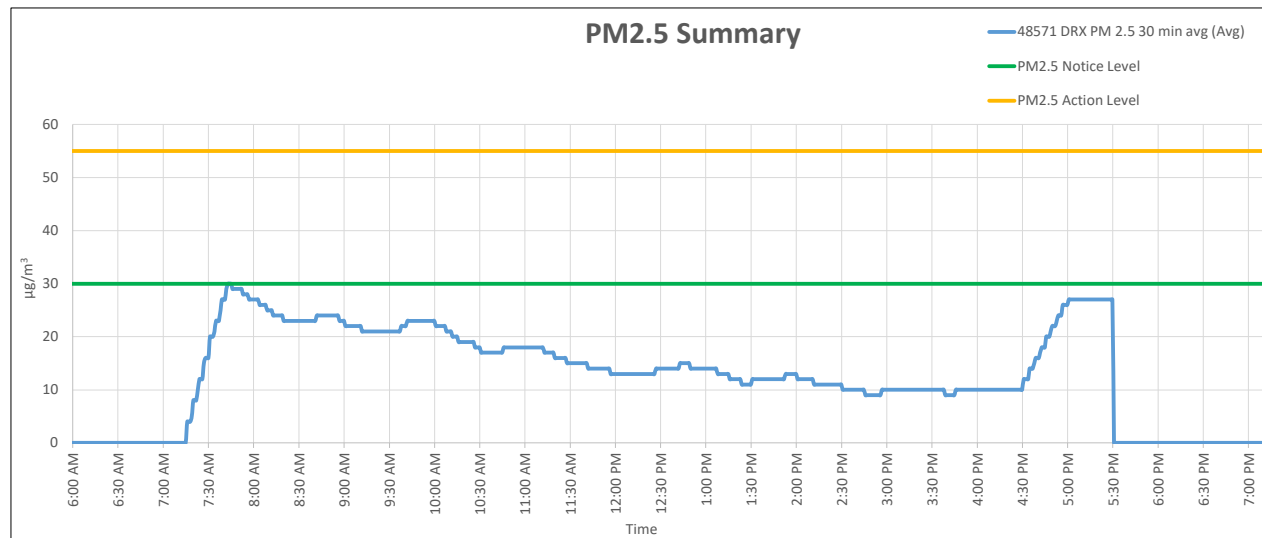
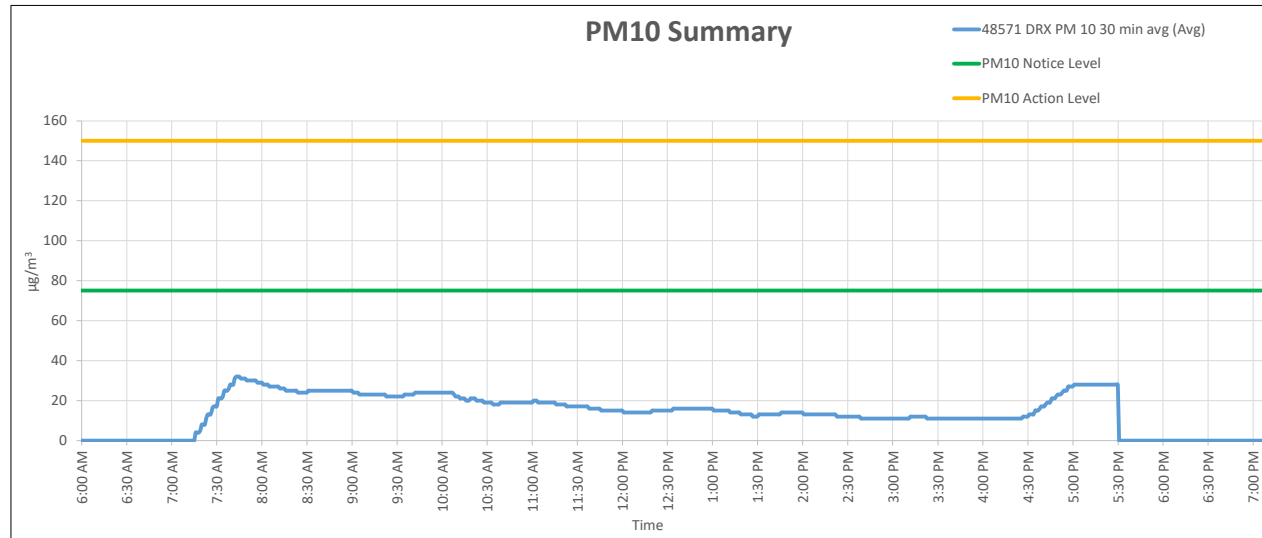
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 28, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48375	6:53 AM	5:30 PM	16.02	33.00	15.14	32.00



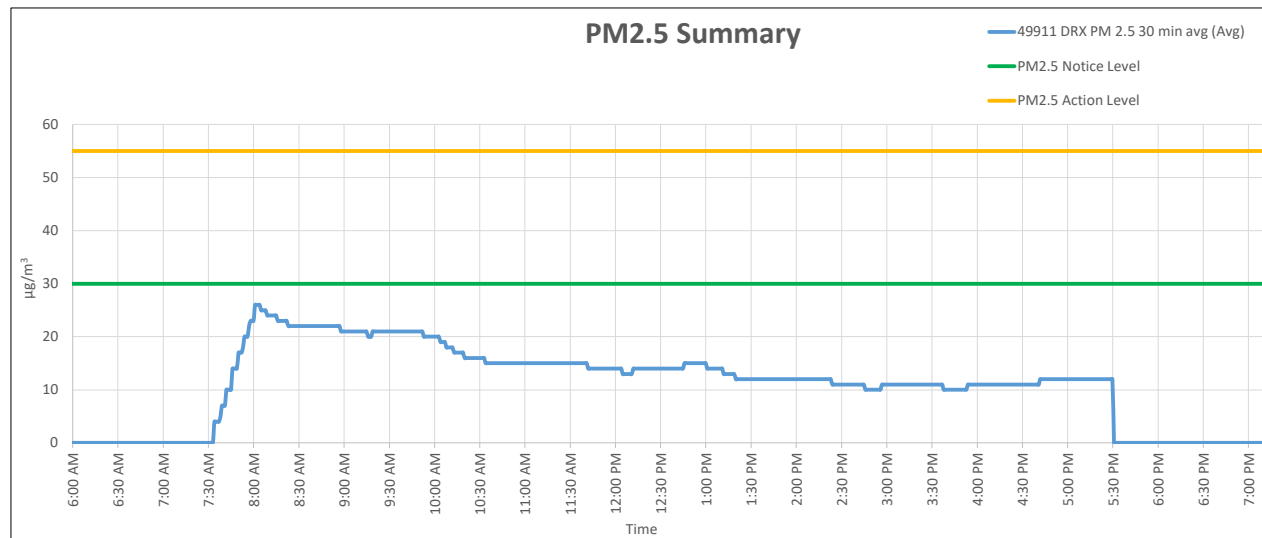
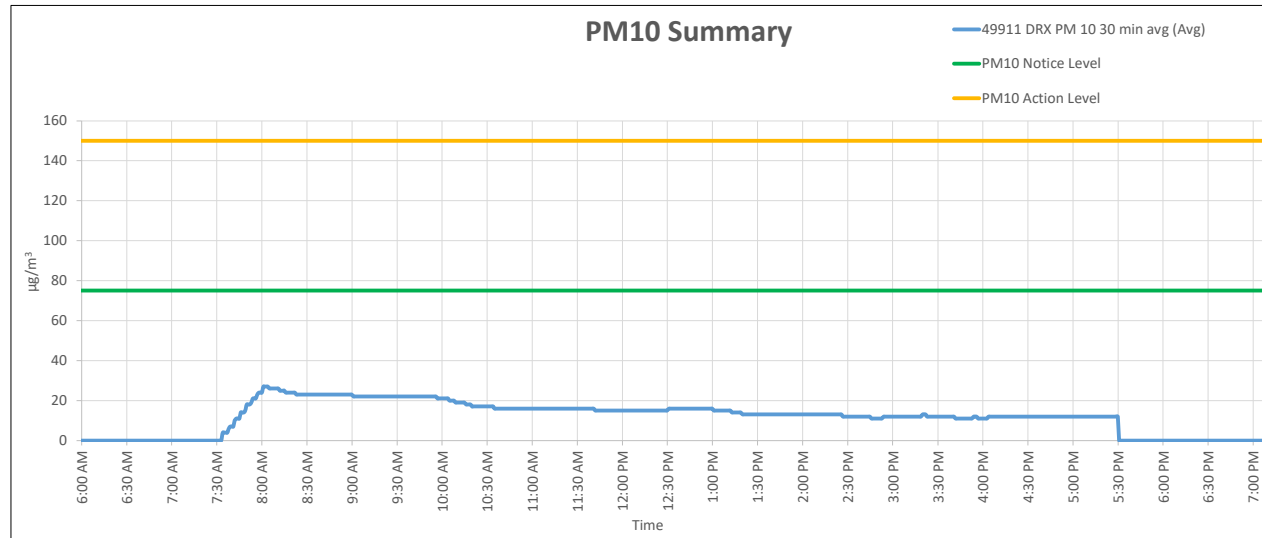
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 28, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
48571	7:16 AM	5:30 PM	17.95	32.00	16.62	30.00



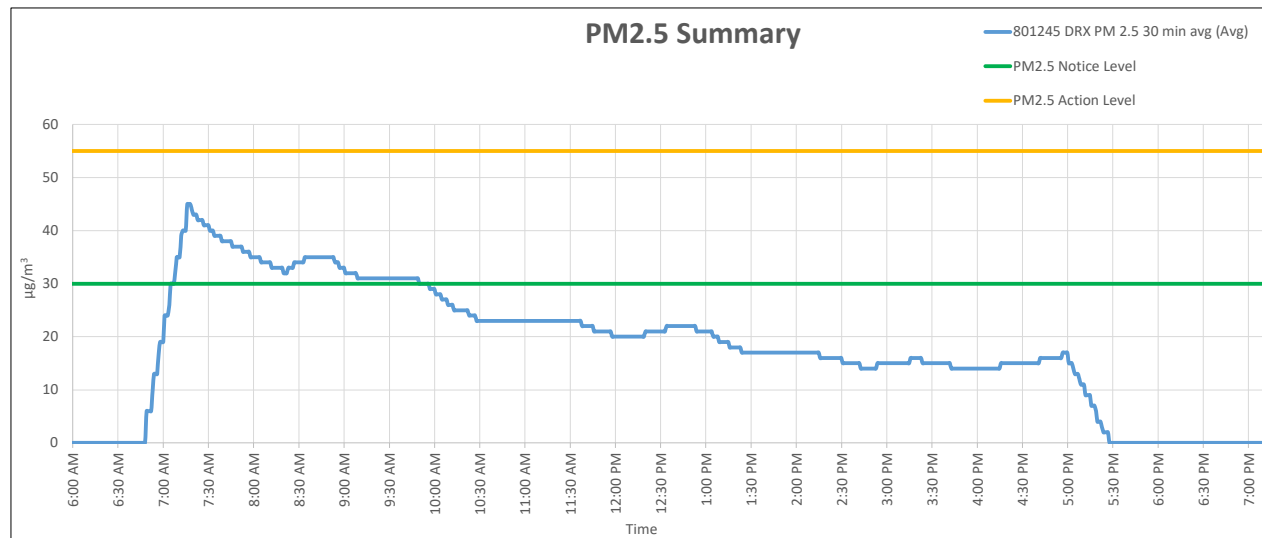
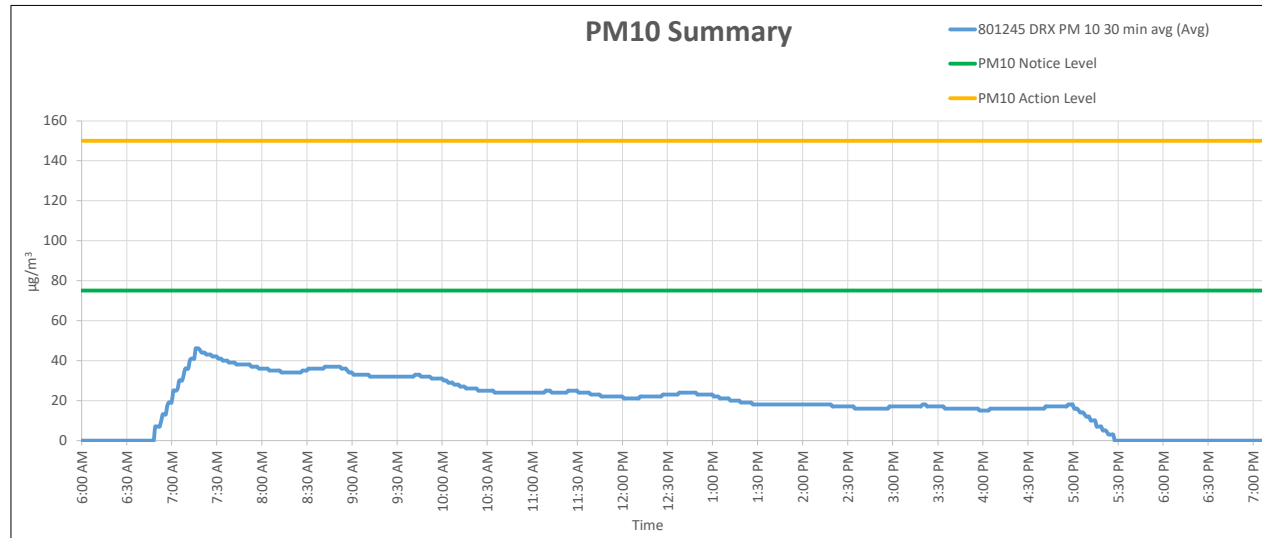
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 28, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
49911	7:34 AM	5:30 PM	15.69	27.00	14.71	26.00



Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
Friday, June 28, 2024

Monitor Number	Start	Stop	Daily PM ₁₀ Average ($\mu\text{g}/\text{m}^3$)	Daily PM ₁₀ Maximum ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Average ($\mu\text{g}/\text{m}^3$)	Daily PM _{2.5} Maximum ($\mu\text{g}/\text{m}^3$)
801245	6:49 AM	5:27 PM	23.77	46.00	22.50	45.00



SECTION 3 RESULTS 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.

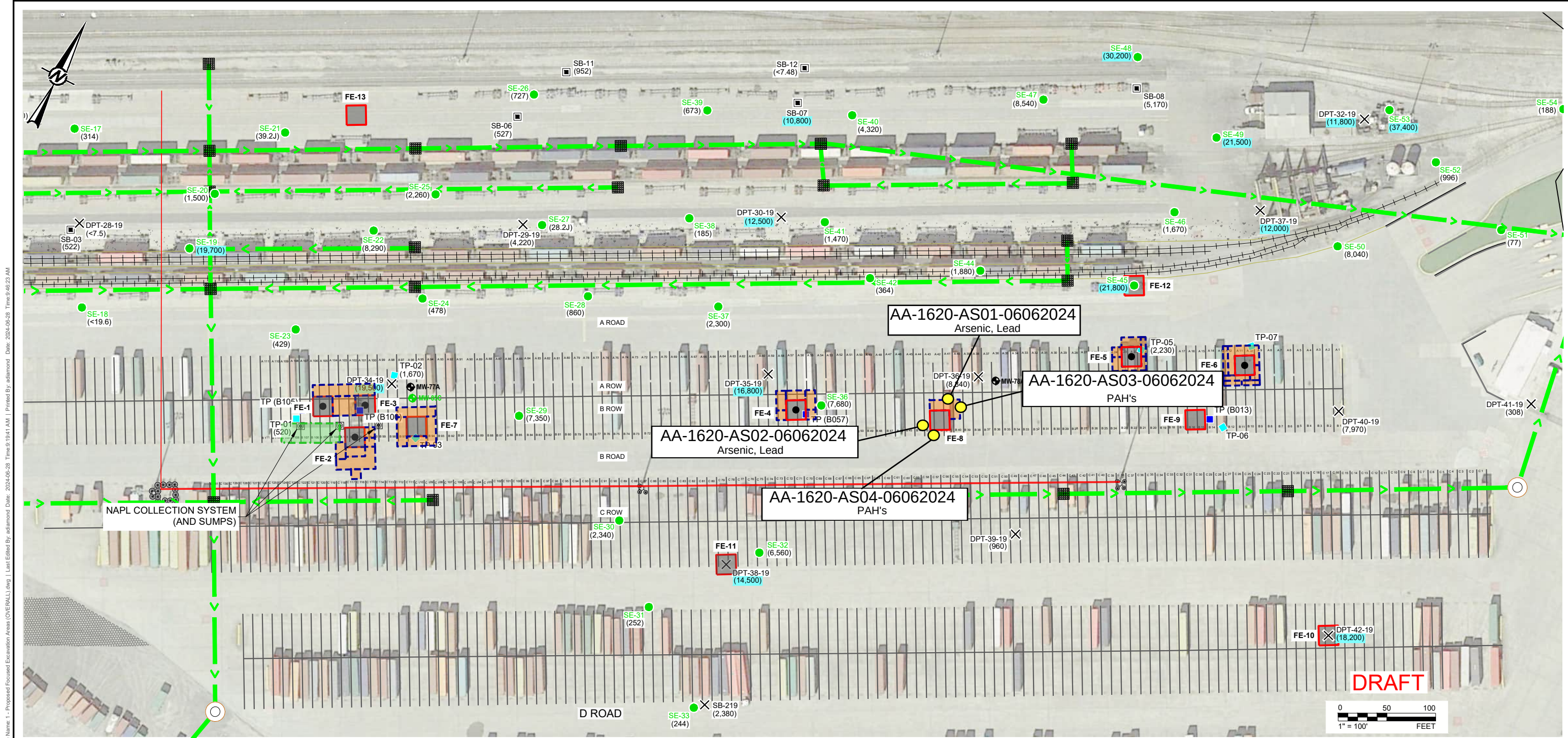
Table 5 – TCEQ AMCV for Arsenic and PAH Union Pacific Houston Wood Preserving Works		
Houston, Texas		
Analyte	Short-Term AMCV ($\mu\text{g}/\text{m}^3$)	Long-Term AMCV ($\mu\text{g}/\text{m}^3$)
Arsenic	3	0.067
Acenaphthene	100	10
Acenaphthylene	100	10
Anthracene	1	0.067
Benzo(a)anthracene	0.5	0.05
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

SECTION 3

Table 5 – TCEQ AMCV for Arsenic and PAH Union Pacific Houston Wood Preserving Works		
Houston, Texas		
Analyte	Short-Term AMCV ($\mu\text{g}/\text{m}^3$)	Long-Term AMCV ($\mu\text{g}/\text{m}^3$)
Phenanthrene	8	0.8
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 $0.15 \mu\text{g}/\text{m}^3$ as a 3-month average concentration.

Integrated air samples were taken each week during the month of June. An additional sample was taken on June 7th because air samples were not taken during the week of May 27th due to the holiday and weather onsite. At the time of this report only result for the Week of June 3rd and June 10th are available. The remaining lab results will be presented in the July monthly report.



LEGEND

EXISTING CONCRETE

EXISTING ASPHALT

EXISTING RAIL SPURS

EXISTING PARKING STALL STRIPE

B100

EXISTING PARKING STALL LABELS

EXISTING 2 in ELECTRICAL CONDUIT
(PVC SCH 80 OR HDPE OF EQUIVALENT THICKNESS)

EXISTING LIGHT POLE

EXISTING BOLLARD

STORMWATER DRAIN LINE

ORIGINAL FOCUSED EXCAVATION AREA

EXTENDED FOCUSED EXCAVATION AREA

PLANNED FOCUSED EXCAVATION EXTENSION AREA

EXISTING NAPL COLLECTION SUMP

A-TZ MONITORING WELL LOCATION

C-TZ MONITORING WELL LOCATION

EXISTING NAPL COLLECTION SYSTEM
(CONSTRUCTED FEB. 2019)

NAPL SEEP LOCATION (OBSERVED IN 2021)

TEST PIT LOCATION (2019)

TEST PIT LOCATION (JULY 2020)

2013 SOIL BORING LOCATION

TPH (TX1005) SOIL SAMPLE LOCATION (2019-2020)

PHASE 3 SOIL EVALUATION SOIL BORING LOCATION (2023)

TOTAL TPH (TX1005) CONCENTRATION (mg/kg)

AIR SAMPLE LOCATION

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, DATED 02-23-2019

NOTE(S)

- UNDERGROUND UTILITIES SHOW HEREON ARE APPROXIMATE BASED ON A RIGHT-OF-WAY AND TRACK MAP PROVIDED FOR INFORMATION. ALWAYS CALL 811 BEFORE YOU DIG.
- TOTAL TPH CONCENTRATIONS GREATER THAN 10,000 mg/kg (TIER 1 SOIL_{Res} PCL) ARE HIGHLIGHTED BLUE.

CLIENT
UNION PACIFIC RAILROAD CO

PROJECT
HOUSTON WOOD PRESERVING WORKS
ENGLEWOOD INTERMODAL YARD

TITLE
**PROPOSED FOCUSED EXCAVATION AREAS
(AS OF JUNE 28, 2024)**

CONSULTANT	YYYY-MM-DD	2024-06-28
	DESIGNED	AJD
	PREPARED	AJD
	REVIEWED	ECM/KG
	APPROVED	RLB

PROJECT NO. 31406585.016	REV. 0	FIGURE 1
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Path: \\gdrive.gbl.com\projects\offices\Houston\Projects - Round Rock\2019\19112022 - HWP\Map\2024-01\1 - Proposed Focused Excavation Areas (OVERALL).dwg | File Name: 1 - Proposed Focused Excavation Areas (OVERALL).dwg | Last Edited By: adiamond | Date: 2024-06-28 | Time: 9:42:23 AM

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

**Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
June 3, 2024 to June 7, 2024**

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F1380-03	June 6, 2024	8:22 AM	4:22 PM	See Map

Field Sample	Analyte	Results	Reporting Level	Short Term AMCV	Long-Term AMCV
AA.1620-AS03-06062024	Acenaphthene	0.12 µg/m3	0.11 µg/m3	100 µg/m ³	10 µg/m ³
	Acenaphthylene	ND	0.11 µg/m3	100 µg/m ³	10 µg/m ³
	Anthracene	ND	0.11 µg/m3	1 µg/m ³	0.067 µg/m ³
	Benzo(a)anthracene	ND	0.11 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(a)pyrene	ND	0.11 µg/m3	NE	0.017 µg/m ³
	Benzo(b)fluoranthene	ND	0.11 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(e)pyrene	ND	0.11 µg/m3	NE	NE
	Benzo(g,h,i)perylene	ND	0.11 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(k)fluoranthene	ND	0.11 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Chrysene	ND	0.11 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Dibenz(a,h)anthracene	ND	0.11 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluoranthene	ND	0.11 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluorene	ND	0.11 µg/m3	10 µg/m ³	1 µg/m ³
	Indeno(1,2,3-cd)pyrene	ND	0.11 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	1-Methylnaphthalene	ND	0.11 µg/m3	NE	NE
	2-Methylnaphthalene	0.20 µg/m3	0.11 µg/m3	NE	NE
	Naphthalene	0.57 µg/m3	0.27 µg/m3	500 µg/m ³	50 µg/m ³
	Perylene	ND	0.11 µg/m3	NE	NE
	Phenanthrene	0.15 µg/m3	0.11 µg/m3	8 µg/m ³	0.8 µg/m ³
	Pyrene	ND	0.11 µg/m3	0.5 µg/m ³	0.05 µg/m ³

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F1380-04	June 6, 2024	8:22 AM	4:22 PM	See Map

Field Sample	Analyte	Results	Reporting Level	Short Term AMCV	Long-Term AMCV
AA.1620-AS04-06062024	Acenaphthene	0.16 µg/m3	0.10 µg/m3	100 µg/m ³	10 µg/m ³
	Acenaphthylene	ND	0.10 µg/m3	100 µg/m ³	10 µg/m ³
	Anthracene	ND	0.10 µg/m3	1 µg/m ³	0.067 µg/m ³
	Benzo(a)anthracene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(a)pyrene	ND	0.10 µg/m3	NE	0.017 µg/m ³
	Benzo(b)fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(e)pyrene	ND	0.10 µg/m3	NE	NE
	Benzo(g,h,i)perylene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(k)fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Chrysene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Dibenz(a,h)anthracene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluorene	0.24 µg/m3	0.10 µg/m3	10 µg/m ³	1 µg/m ³
	Indeno(1,2,3-cd)pyrene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	1-Methylnaphthalene	0.19 µg/m3	0.10 µg/m3	NE	NE
	2-Methylnaphthalene	0.47 µg/m3	0.10 µg/m3	NE	NE
	Naphthalene	0.62 µg/m3	0.26 µg/m3	500 µg/m ³	50 µg/m ³
	Perylene	ND	0.10 µg/m3	NE	NE
	Phenanthrene	0.20 µg/m3	0.10 µg/m3	8 µg/m ³	0.8 µg/m ³
	Pyrene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³

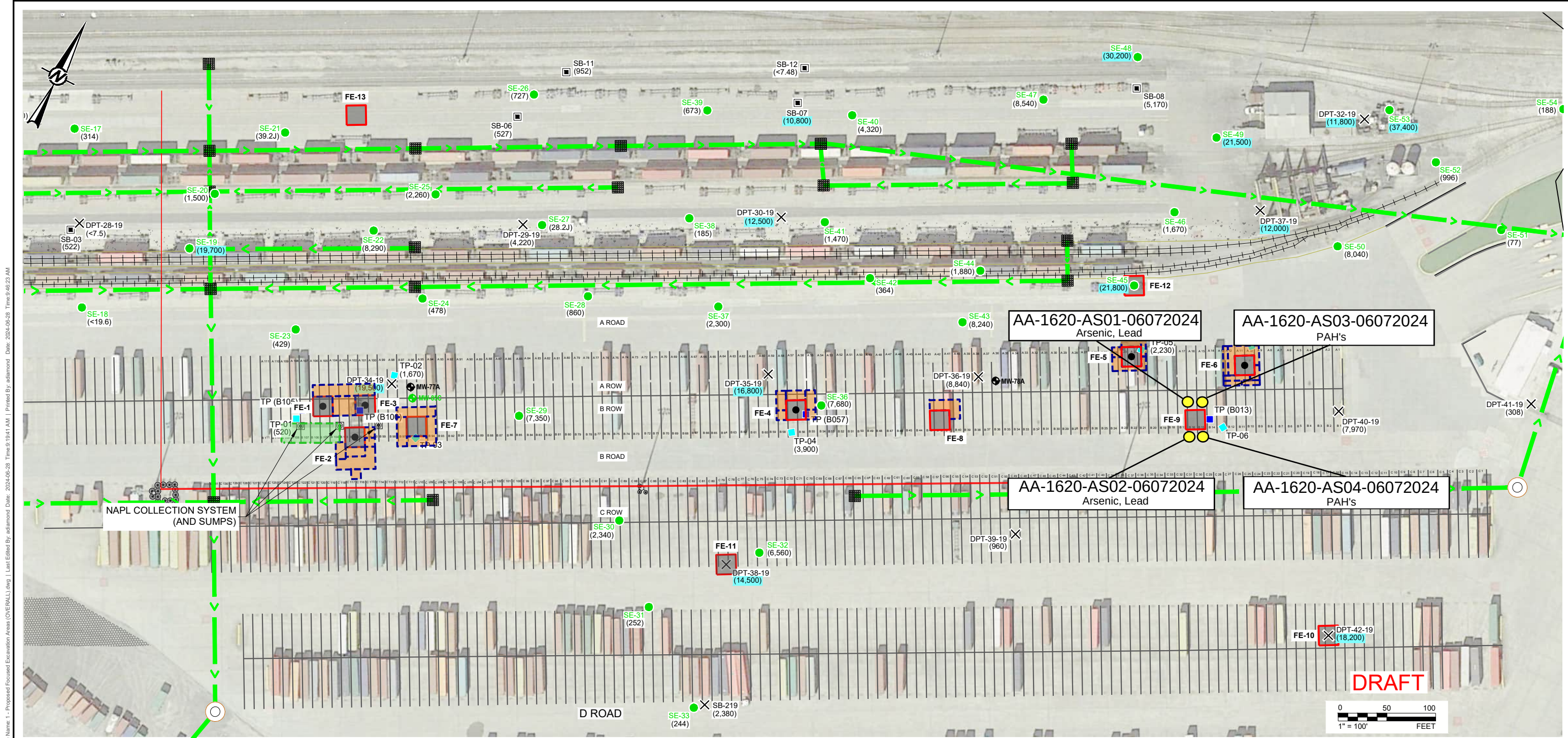
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
June 3, 2024 to June 7, 2024

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F1380-01	June 6, 2024	8:22 AM	4:22 PM	See Map

Field Sample	Analyte	Results	Reporting Level
AA.1620-AS01-06062024	Arsenic	ND	1.3 µg/m3
	Lead	ND	1.3 µg/m3

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F1380-02	June 6, 2024	8:22 AM	4:22 PM	See Map

Field Sample	Analyte	Results	Reporting Level
AA.1620-AS02-06062024	Arsenic	ND	1.2 µg/m3
	Lead	ND	1.2 µg/m3



LEGEND

EXISTING CONCRETE

EXISTING ASPHALT

EXISTING RAIL SPURS

EXISTING PARKING STALL STRIPE

B100

EXISTING PARKING STALL LABELS

EXISTING 2 in ELECTRICAL CONDUIT
(PVC SCH 80 OR HDPE OF EQUIVALENT THICKNESS)

EXISTING LIGHT POLE

EXISTING BOLLARD

STORMWATER DRAIN LINE

ORIGINAL FOCUSED EXCAVATION AREA

EXTENDED FOCUSED EXCAVATION AREA

PLANNED FOCUSED EXCAVATION EXTENSION AREA

EXISTING NAPL COLLECTION SUMP

A-TZ MONITORING WELL LOCATION

C-TZ MONITORING WELL LOCATION

EXISTING NAPL COLLECTION SYSTEM
(CONSTRUCTED FEB. 2019)

NAPL SEEP LOCATION (OBSERVED IN 2021)

TEST PIT LOCATION (2019)

TEST PIT LOCATION (JULY 2020)

2013 SOIL BORING LOCATION

TPH (TX1005) SOIL SAMPLE LOCATION (2019-2020)

PHASE 3 SOIL EVALUATION SOIL BORING LOCATION (2023)

TOTAL TPH (TX1005) CONCENTRATION (mg/kg)

AIR SAMPLE LOCATION

REFERENCE(S)
BASE MAP TAKEN FROM GOOGLE EARTH, DATED 02-23-2019

- NOTE(S)**
- UNDERGROUND UTILITIES SHOW HEREON ARE APPROXIMATE BASED ON A RIGHT-OF-WAY AND TRACK MAP PROVIDED FOR INFORMATION. ALWAYS CALL 811 BEFORE YOU DIG.
 - TOTAL TPH CONCENTRATIONS GREATER THAN 10,000 mg/kg (TIER 1 SOIL_{Res} PCL) ARE HIGHLIGHTED BLUE.

CLIENT
UNION PACIFIC RAILROAD CO

PROJECT
HOUSTON WOOD PRESERVING WORKS
ENGLEWOOD INTERMODAL YARD

TITLE
**PROPOSED FOCUSED EXCAVATION AREAS
(AS OF JUNE 28, 2024)**

CONSULTANT	YYYY-MM-DD	2024-06-28
	DESIGNED	AJD
	PREPARED	AJD
	REVIEWED	ECM/KKG
	APPROVED	RLB

PROJECT NO.	REV.	FIGURE
31406585.016	0	1

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Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
June 3, 2024 to June 7, 2024

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F1370-03	June 7, 2024	7:57 AM	3:57 PM	See Map

Field Sample	Analyte	Results	Reporting Level	Short Term AMCV	Long-Term AMCV
AA.1620-AS03-06072024	Acenaphthene	ND	0.10 µg/m3	100 µg/m ³	10 µg/m ³
	Acenaphthylene	ND	0.10 µg/m3	100 µg/m ³	10 µg/m ³
	Anthracene	ND	0.10 µg/m3	1 µg/m ³	0.067 µg/m ³
	Benzo(a)anthracene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(a)pyrene	ND	0.10 µg/m3	NE	0.017 µg/m ³
	Benzo(b)fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(e)pyrene	ND	0.10 µg/m3	NE	NE
	Benzo(g,h,i)perylene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(k)fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Chrysene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Dibenz(a,h)anthracene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluorene	ND	0.10 µg/m3	10 µg/m ³	1 µg/m ³
	Indeno(1,2,3-cd)pyrene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	1-Methylnaphthalene	ND	0.10 µg/m3	NE	NE
	2-Methylnaphthalene	ND	0.10 µg/m3	NE	NE
	Naphthalene	0.26 µg/m3	0.26 µg/m3	500 µg/m ³	50 µg/m ³
	Perylene	ND	0.10 µg/m3	NE	NE
	Phenanthrene	ND	0.10 µg/m3	8 µg/m ³	0.8 µg/m ³
	Pyrene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F1370-04	June 7, 2024	7:57 AM	4:00 PM	See Map

Field Sample	Analyte	Results	Reporting Level	Short Term AMCV	Long-Term AMCV
AA.1620-AS04-06072024	Acenaphthene	ND	0.10 µg/m3	100 µg/m ³	10 µg/m ³
	Acenaphthylene	ND	0.10 µg/m3	100 µg/m ³	10 µg/m ³
	Anthracene	ND	0.10 µg/m3	1 µg/m ³	0.067 µg/m ³
	Benzo(a)anthracene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(a)pyrene	ND	0.10 µg/m3	NE	0.017 µg/m ³
	Benzo(b)fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(e)pyrene	ND	0.10 µg/m3	NE	NE
	Benzo(g,h,i)perylene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(k)fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Chrysene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Dibenz(a,h)anthracene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluorene	ND	0.10 µg/m3	10 µg/m ³	1 µg/m ³
	Indeno(1,2,3-cd)pyrene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	1-Methylnaphthalene	ND	0.10 µg/m3	NE	NE
	2-Methylnaphthalene	0.12 µg/m3	0.10 µg/m3	NE	NE
	Naphthalene	0.27 µg/m3	0.25 µg/m3	500 µg/m ³	50 µg/m ³
	Perylene	ND	0.10 µg/m3	NE	NE
	Phenanthrene	ND	0.10 µg/m3	8 µg/m ³	0.8 µg/m ³
	Pyrene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³

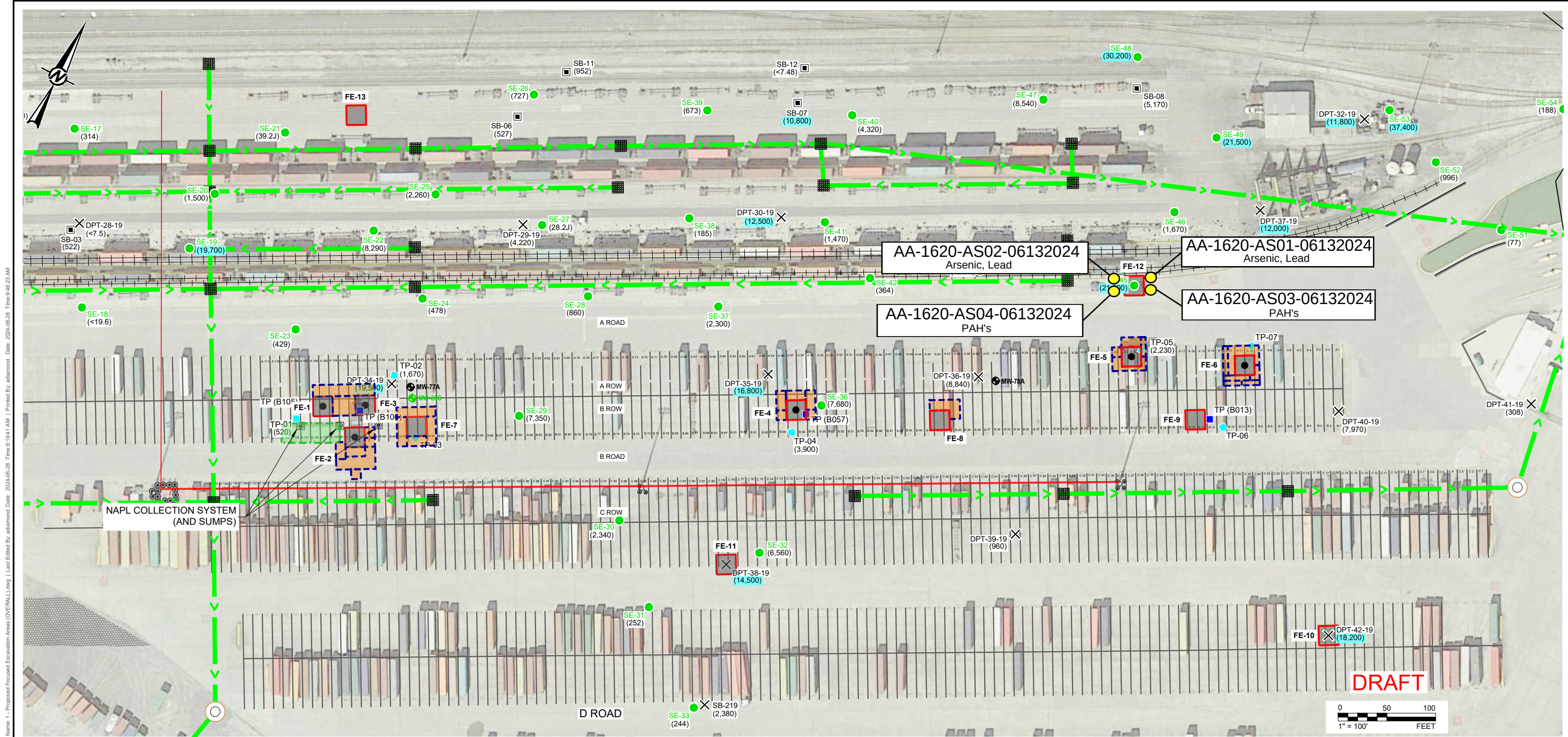
Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
June 3, 2024 to June 7, 2024

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F1370-01	June 7, 2024	7:57 AM	3:57 PM	See Map

Field Sample	Analyte	Results	Reporting Level
AA.1620-AS01-06062024	Arsenic	ND	1.3 µg/m3
	Lead	ND	1.3 µg/m3

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F1370-02	June 7, 2024	7:57 AM	4:00 PM	See Map

Field Sample	Analyte	Results	Reporting Level
AA.1620-AS02-06062024	Arsenic	ND	1.2 µg/m3
	Lead	ND	1.2 µg/m3



Path: \\gdrive.gbl.com\projects\offices\Houston\Projects - Round Rock\2019\1911\2022 - HWP\Map\2024-01\1 - Proposed Focused Excavation Areas (OVERALL).dwg | File Name: 1 - Proposed Focused Excavation Areas (OVERALL).dwg | Last Edited By: adiamond | Date: 2024-06-28 | Time: 9:42:23 AM

LEGEND

	EXISTING CONCRETE		EXISTING NAPL COLLECTION SUMP
	EXISTING ASPHALT		A-TZ MONITORING WELL LOCATION
	EXISTING RAIL SPURS		C-TZ MONITORING WELL LOCATION
	EXISTING PARKING STALL STRIPE		EXISTING NAPL COLLECTION SYSTEM (CONSTRUCTED FEB. 2019)
	EXISTING PARKING STALL LABELS		NAPL SEEP LOCATION (OBSERVED IN 2021)
	EXISTING 2 in ELECTRICAL CONDUIT (PVC SCH 80 OR HDPE OF EQUIVALENT THICKNESS)		TEST PIT LOCATION (2019)
	EXISTING LIGHT POLE		TEST PIT LOCATION (JULY 2020)
	EXISTING BOLLARD		2013 SOIL BORING LOCATION
	STORMWATER DRAIN LINE		TPH (TX1005) SOIL SAMPLE LOCATION (2019-2020)
	ORIGINAL FOCUSED EXCAVATION AREA		PHASE 3 SOIL EVALUATION SOIL BORING LOCATION (2023)
	EXTENDED FOCUSED EXCAVATION AREA		TOTAL TPH (TX1005) CONCENTRATION (mg/kg)
	PLANNED FOCUSED EXCAVATION EXTENSION AREA		

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, DATED 02-23-2019

NOTE(S)

- UNDERGROUND UTILITIES SHOW HEREON ARE APPROXIMATE BASED ON A RIGHT-OF-WAY AND TRACK MAP PROVIDED FOR INFORMATION. ALWAYS CALL 811 BEFORE YOU DIG.
- TOTAL TPH CONCENTRATIONS GREATER THAN 10,000 mg/kg (TIER 1 SOIL_{Res} PCL) ARE HIGHLIGHTED BLUE.

AIR SAMPLE LOCATION

CLIENT
UNION PACIFIC RAILROAD CO

PROJECT
HOUSTON WOOD PRESERVING WORKS
ENGLEWOOD INTERMODAL YARD

TITLE
**PROPOSED FOCUSED EXCAVATION AREAS
(AS OF JUNE 28, 2024)**

CONSULTANT	YYYY-MM-DD	2024-06-28
DESIGNED	AJD	
PREPARED	AJD	
REVIEWED	ECM/KG	
APPROVED	RLB	

PROJECT NO.
31406585.016

REV.
0

FIGURE
1

DRAFT

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

**Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
June 10, 2024 to June 14, 2024**

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F2362-03	June 13, 2024	8:27 AM	4:46 PM	See Map

Field Sample	Analyte	Results	Reporting Level	Short Term AMCV	Long-Term AMCV
AA.1620-AS03-06132024	Acenaphthene	ND	0.10 µg/m3	100 µg/m ³	10 µg/m ³
	Acenaphthylene	ND	0.10 µg/m3	100 µg/m ³	10 µg/m ³
	Anthracene	ND	0.10 µg/m3	1 µg/m ³	0.067 µg/m ³
	Benzo(a)anthracene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(a)pyrene	ND	0.10 µg/m3	NE	0.017 µg/m ³
	Benzo(b)fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(e)pyrene	ND	0.10 µg/m3	NE	NE
	Benzo(g,h,i)perylene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(k)fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Chrysene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Dibenz(a,h)anthracene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluorene	ND	0.10 µg/m3	10 µg/m ³	1 µg/m ³
	Indeno(1,2,3-cd)pyrene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	1-Methylnaphthalene	0.15 µg/m3	0.10 µg/m3	NE	NE
	2-Methylnaphthalene	0.27 µg/m3	0.10 µg/m3	NE	NE
	Naphthalene	0.48 µg/m3	0.25 µg/m3	500 µg/m ³	50 µg/m ³
	Perylene	ND	0.10 µg/m3	NE	NE
	Phenanthrene	ND	0.10 µg/m3	8 µg/m ³	0.8 µg/m ³
	Pyrene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F2362-04	June 13, 2024	8:29 AM	4:35 PM	See Map

Field Sample	Analyte	Results	Reporting Level	Short Term AMCV	Long-Term AMCV
AA.1620-AS04-06132024	Acenaphthene	0.10 µg/m3	0.10 µg/m3	100 µg/m ³	10 µg/m ³
	Acenaphthylene	ND	0.10 µg/m3	100 µg/m ³	10 µg/m ³
	Anthracene	ND	0.10 µg/m3	1 µg/m ³	0.067 µg/m ³
	Benzo(a)anthracene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(a)pyrene	ND	0.10 µg/m3	NE	0.017 µg/m ³
	Benzo(b)fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(e)pyrene	ND	0.10 µg/m3	NE	NE
	Benzo(g,h,i)perylene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Benzo(k)fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Chrysene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Dibenz(a,h)anthracene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluoranthene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	Fluorene	ND	0.10 µg/m3	10 µg/m ³	1 µg/m ³
	Indeno(1,2,3-cd)pyrene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³
	1-Methylnaphthalene	0.22 µg/m3	0.10 µg/m3	NE	NE
	2-Methylnaphthalene	0.39 µg/m3	0.10 µg/m3	NE	NE
	Naphthalene	0.76 µg/m3	0.25 µg/m3	500 µg/m ³	50 µg/m ³
	Perylene	ND	0.10 µg/m3	NE	NE
	Phenanthrene	0.10 µg/m3	0.10 µg/m3	8 µg/m ³	0.8 µg/m ³
	Pyrene	ND	0.10 µg/m3	0.5 µg/m ³	0.05 µg/m ³

Union Pacific Railroad
Houston Wood Preserving Works Site
Houston Texas
Air Monitoring Values
June 10, 2024 to June 14, 2024

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F2362-01	June 13, 2024	7:57 AM	8:27 AM	4:46 PM

Field Sample	Analyte	Results	Reporting Level
AA.1620-AS01-06062024	Arsenic	ND	1.3 µg/m3
	Lead	ND	1.3 µg/m3

Sample ID	Sample Date	Start Time	End Time	Sample Location
24F2362-02	June 13, 2024	8:29 AM	4:35 PM	See Map

Field Sample	Analyte	Results	Reporting Level
AA.1620-AS02-06062024	Arsenic	ND	1.3 µg/m3
	Lead	ND	1.3 µg/m3



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.